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TO: Michael Luciani

CONTRACT NO.: NFG FM100 Project

FROM: Theresa Albanese

PURCHASE ORDER NO: N/A

DATE: 20200203

TASK: Permit Application Approval

SUBJECT: NFG FM100 Project Incompleteness Notification

X For Review	☐ Please Comment	☐ For Approval	☐ For Signature
☐ Urgent	☐ As Requested	☐ Approved as Noted	☐ Please Reply

MESSAGE:

Dear Mr. Luciani,

Enclosed you will find one CD containing the following materials pertaining to the National Fuel Gas Supply Corporations' FM100 Project:

- The response to the incompleteness notification dated 12/24/2019 for the JPA Chapter 105 Permit
- The response to the incompleteness notification dated 12/24/2019 for the ESCGP-3 permit.

Please let me know if you have any questions or if there is anything else I can do to assist you.

Regards,

Douglas Gibbons

CC: PROJECT FILE

This document outlines National Fuel Gas Supply Corporation's response to the Pennsylvania Department of Environmental Protection Incompleteness Review letter issued for the FM100 Project on December 24, 2019. Each comment has been reproduced and a corresponding answer provided. Where applicable National Fuel has updated plans and/or drawings and have noted the updates to those documents herein. Revised versions of these documents are being provided in digital format as part of this response.

Comment PW-1

A screening of the Pennsylvania Natural Diversity Inventory (PNDI) has revealed potential conflicts with ecological resources of special concern. Please provide a copy of a letter from the referenced agency, indicating that the conflict is resolved. [25 Pa Code §105.13(e)(1)(x)]

Response:

Correspondence with the Pennsylvania Fish and Boat Commission date 10/8/2019 was provided in section 1-06B-00 "PNDI Correspondence" of the ESCGP-3 permit submission. In the 10/8/2019 correspondence, Ken Anderson reviews species of concern identified in the FM100 Project and concurs with mitigation measures proposed by National Fuel Gas Supply Corporation. It was ultimately determined by the Pennsylvania Fish and Boat Commission that the Project was not expected to have an adverse impact on any species of concern, provided NFG followed the outlined mitigation measures.

Comment PW-2

Please provide copies of the municipal and county return receipts. [25 Pa Code §105.13a(a)]

Response:

Municipal and County return receipts are provided here as Attachment A.

Comment PW-3

A review of Appendix A found that the table references those streams identified as naturally reproducing trout (wild trout) waters as listed by the PA Fish and Boat Commission. The table also lists whether in-stream work restrictions (based on wild trout spawn periods) are applicable in the specified water bodies. In the Clearfield County section of the table, several streams are identified as "Yes/NRT", but under the "In-Stream Work Restrictions" column those same streams have the word "None", indicating no in-stream work restrictions will be required in those streams that are designated as naturally reproducing wild trout. This is incorrect. A quick scan of the table found the same inconsistencies in other counties as well.

Response:

A revised version of the waterbodies table in Appendix A has been included as Attachment B.

Comment Clinton-1-a:

Completeness Review Checklist Item "General": Notice of Intent (NOI) is not considered to be fully complete.

Comment Clinton-1-a.i:

Page 2 of NOI, Primary Location block (County/Municipality) refers to Attachment A. Attachment A could not be located. Please clarify that the "Attachment A" reference should be "Attachment 1", or please provide Attachment A.

Response:

The NOI has been revised to reference Attachment 1. An updated NOI has been included as part of this submission as Attachment C.

Comment Clinton-1-a.ii:

Page 6 of NOI, Receiving Waters does not appear to include the watershed in Clinton County or the applicable Chapter 93 Designated Use/Existing Use.

Response:

The NOI has been revised to include the watershed in Clinton County impacted by the Project (Drury Run) and the watershed's Chapter 93 Designated Use (EV). An updated NOI has been included as part of this submission as Attachment C.

Comment Clinton-1-a.iii:

Regarding Tamarack Compressor Station, Pages 12-24 of the NOI appear to combine information or omit information. Please clarify or adjust as needed.

Response:

The Tamarack Compressor site discharges into two separate tributaries of Drury Run. Therefore, two separate PCSM calculations were performed to demonstrate that there will not be an increase in runoff volume or rate into either of these tributaries. The information in the NOI Section H, Item e provides information for each watershed separately (North and South). The information in the NOI Section H, Item f provides information for both watersheds for the entire site.

Comment Clinton-2

There are Project Site / Limit of Disturbance (LOD) inconsistencies with the project in Clinton County. [25 PA Code §102.8(b)]

Response:

The E&S Narrative is correct in stating the total limits of disturbance area to be 15.6 acres. The Clinton County E&S Application form has been revised and is included as Attachment D of this submission. Additionally, a check has been provided to PADEP based on 15.6 acres of disturbance (mailed by NFG).

Comment Clinton-3

Regarding Project Site: Page 12 of the ESCGP-3 Narrative refers to 546.3 acres, Clinton County E&S Application Form refers to 547 acres, the NOI refers to 555.8 acres. Please revise for consistency throughout the submission. [25 PA Code §102.8(b)]

Response:

The correct area for the total limits of disturbance is 556.0 acres. The NOI, Clinton County E&S Application, and the ESCGP-3 Narrative (Attachments C, D, and E of this submission, respectively) have each been updated.

Comment Clinton-4

Regarding LOD in Clinton County: Clinton County E&S Application Form refers to 6.6 acres, but the E&S Narrative refers to 15.6 acres. Please revise for consistency throughout the submission. [25 PA Code §102.8(b)]

Response:

The Tamarack Compressor Station E&S Narrative is correct in stating the total limits of disturbance area to be 15.6 acres. The Clinton County E&S Application form has been revised and an additional check has been provided (mailed by NFG) based on 15.6 acres of disturbance. The E&S Application form as well as the Fee Calculations for Clinton County are provided as Attachment D of this submission.

Comment McKean-1

NOI, Section C. Site Information - Please check the appropriate box indicating if the site has a 911 address or not. [25 PA Code §102.6(1)]

Response:

The NOI has been revised to include the Project 911 address. The NOI is included as Attachment C of this submission.

Comment McKean-2

NOI, Section E. Project Information, #1 - The Total Project Area and Disturbed Acreage are the same. Only the LOD is shown on the plan drawings. It is recommended that the Total Project Area be greater than the Disturbed Acreage indicated on the plan drawings by separate boundary lines for the LOD and the Permit boundary. [25 PA Code §102.6(1)]

Response:

The limits of disturbance being shown on the E&S plans is the ESCGP boundary and includes all proposed earthmoving activities, E&S BMPs, and PCSM BMPs. The previous legend item titled "Limits of disturbance" has been renamed "Limits of Disturbance/ESCGP Boundary" for clarification. A revised “Index Sheet” for each E&S and Site Restoration drawing package is included in this submission as Attachment F.

Comment McKean-3

NOI, page 8, d. Thermal Impacts Analysis does not address compressor station information and NOI, page 11 c. Thermal Impacts Analysis only addresses PCSM site facilities and does not reference and pipeline work. [25 PA Code §102.6(1)]

Response:

The NOI has been revised to include compressor stations and other facilities on page 8 Item d, and pipeline work has been added to NOI page 11 Item c. The NOI is included as Attachment C of this submission.

Comment McKean-4

NOI, page 12, Summary Table For Calculation and Measurement Data - Please provide a watershed name. [25 PA Code §102.6(1)]

Response:

The NOI has been revised to include the watershed name for each facility. The NOI is included as Attachment C of this submission. Additionally, a table including all watersheds crossed by the Project has been included as Attachment G of this submission.

Comment McKean-5

Location Map does not include the name of the appropriate 1:24,000 scale USGS 7.5-minute series quadrangle maps where the project is located. [25 PA Code §102.4(b)(5)(i); 25 PA Code §102.8(f)(1)]

Response:

Previously, Figure 1-1.1 was provided as an overview map. In addition to that overview map, a USGS mapbook has been provided for the Project at 1:24,000 scale for the entire project limits as Attachment H of this submission.

Below is the list of all USGS quad map names for coverage of the entire project limits:

- Clearfield County: Huntley, Penfield
- Elk County: Driftwood, Dents Run, Weedville, The Knobs, Huntley
- Cameron County: Wharton, First Fork, Cameron, Sinnemahoning, Driftwood
- Potter County: Wharton, Ellisburg, Oswayo, Shinglehouse, Sweden Valley, Coudersport, Roulette
- McKean County: Roulette, Port Allegany, Smethport, Keating Summit, Norwich, Crosby, Hazel Hurst
- Clinton County: Tamarack

Comment McKean-6

Earth Disturbance Activity does not include county-specific earth disturbance acreages. Site-specific details for each county are not clearly stated. A list of

proposed structures is listed but specific earth disturbance information is not broken out by county. [25 PA Code §102.4(b)(4); 25 PA Code §102.4(b)(5)(iii)]

Response:

Section 1.1 of the ESCGP-3 Narrative has been revised to include a breakdown of earth disturbance by county. The ESCGP-3 Narrative has been provided as Attachment E of this submission.

Comment Cameron-1

The Erosion and Sedimentation Control Plan does not identify the names of the appropriate USGS 1:24,000 scale USGS 7.5-minute series quadrangle maps in which the project is located. [25 PA Code §102.4(a)(5)]

Response:

Previously, Figure 1-1.1 was provided as an overview map. In addition to that overview map, a USGS mapbook has been provided for the Project at 1:24,000 scale for the entire project limits as Attachment H of this submission

Below is the list of all USGS quad map names for coverage of the entire project limits:

- Clearfield County: Huntley, Penfield
- Elk County: Driftwood, Dents Run, Weedville, The Knobs, Huntley
- Cameron County: Wharton, First Fork, Cameron, Sinnemahoning, Driftwood
- Potter County: Wharton, Ellisburg, Oswayo, Shinglehouse, Sweden Valley, Coudersport, Roulette
- McKean County: Roulette, Port Allegany, Smethport, Keating Summit, Norwich, Crosby, Hazel Hurst
- Clinton County: Tamarack

Comment Cameron-2

The Erosion and Sedimentation Control Plan does not identify riparian forest buffers impacted by the SR 120 North Access. Plan drawings show an access road being constructed along Johnson Run, Chapter 93 designated use HQ-CWF MF, existing use EV. This access road is described as being 0.4 mi. long with 1.4 acre of earth disturbance (appendix E, Geologic Units Crossed). On the plan drawings, the edge of the limit of disturbance is shown to be located at a distance varying from 10 feet to approximately 75 feet from the top of the stream bank. The area of earth disturbance of the proposed access road is located in its entirety within the riparian buffer, which is an existing riparian forest buffer, except for the first 200 feet of the access road which is through a yard. [25 PA Code §102.4(b)(5)(xv)]

Response:

The stream that runs parallel to access road SR 120 North Access is outside of the Project study corridor, and therefore was not surveyed. The stream was added from

USGS NHD data set in order to develop a riparian buffer to quantify forested riparian impacts. The revised total riparian disturbance and forested riparian disturbance is 1.4 acres and 1.2 acres, respectively.

Additionally, a Forested Riparian Impact mapbook (Attachment I) has been created and included as part of the resubmission to more clearly demonstrate the Project's riparian and forested riparian impacts. The E&S and Site Restoration drawings have a note within the legend that references the Forested Riparian Impact mapbook, as riparian buffers are not shown on the E&S drawings for clarity purposes.

Comment Cameron-3

In the Notice of Intent, Item 10 in Section E. Project Information, it is incorrectly stated that the project is not located in a watershed of impaired surface water where the cause of the impairment is identified as siltation. The portion of the project located in Cameron County is located in the Chesapeake Bay Watershed for which there is a TMDL for siltation impairment. [25 PA Code §102.6(a)(1)]

Response:

Using the TMDL search found on the PA DEP's website (https://www.ahs.dep.pa.gov/TMDL/), no siltation impaired watersheds were found in Cameron County. Based on the URL listed, the only causes of impairment identified in Cameron County are pH and metals.

Comment Cameron-4

The Post Construction Stormwater Management Plan drawings fail to identify the names of the USGS quadrangle maps in which the project is located. [25 PA Code §102.8(f)(1)]

Response:

No PCSM plans were submitted in Cameron County as this is an abandonment line and no facilities are being proposed. Please refer to the response to comment Cameron-1 above.

Comment Clearfield-1

Show the proposed ESCGP boundary on the plan map(s) (page 398 in the E&SPC Manual). This must include all proposed earthmoving as well as all proposed E&S BMPs and all structural PCSM BMPs. [25 PA Code §102.11(a)(1)]

Response:

The limits of disturbance being shown on the E&S plans is the ESCGP boundary and includes all proposed earthmoving activities, E&S BMPs, and PCSM BMPs. The previous legend item titled "Limits of disturbance" has been renamed "Limits of Disturbance/ESCGP Boundary" for clarification.

Comment Clearfield-2

Show the proposed limits of construction on the plan maps. All proposed earthmoving (including E&S BMPs and structural PCSM BMPs) must be within the limits of construction (Item 3 on page 2 and page 398 in the E&SPC Manual). [25 PA Code §102.11(a)(1)]

Response:

The limits of disturbance have been shown on all of the plan drawings provided. Please note that earthwork is not proposed on all sheets of the abandonment drawing packages. However, the limits of disturbance are shown on applicable sheets, as shown in the legend.

Attachment A

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Attachment B

Table 2.2-1A: Waterbodies Crossed by the Project

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[8]
Line YM58										
McKean	Stream 006	0.9	3.0	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 007	1.2	4.0	Minor	UNT to Wernwag Hollow	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 008	1.4	6.5	Minor	Wernwag Hollow	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 011	1.5	3.0	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 012	1.6	6.5	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 014	1.6	1.0	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 017	1.8	3.0	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 019	2.2	2.5	Minor	UNT to Browns Mill Hollow Run	IT	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 020	2.2	2.5	Minor	UNT to Browns Mill Hollow Run	IT	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 026	3.0	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 027	3.3	3.0	Minor	UNT to Robbins Brook	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Robbins Brook	3.4	27.0	Intermediate	Robbins Brook	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Donley Fork	3.6	7.0	Minor	Donley Fork	P	HQ-CWF	No	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 160	4.2	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 030	4.9	3.0	Minor	UNT to Robbins Brook	E	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Ditch 02	6.1	3.0	Minor	--	D	--	--	Open Cut	None

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[8]
McKean	Ditch 03	6.5	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 05	6.5	5.0	Minor	--	D	--	--	Open Cut	None
McKean	Stream 037	6.6	26.2	Intermediate	UNT to Potato Creek	P	TSF	No/TSW	Dam and Pump/Flume	10/01 – 12/31
McKean	Potato Creek	6.8	205.16	Major	Potato Creek	P	TSF	No/TSW	HDD	3/1 – 6/15
McKean	Stream 038	7.1	5.0	Minor	UNT to Potato Creek	P	TSF	No/TSW	Dam and Pump/Flume	3/1 – 6/15
McKean	Stream 039	7.1	4.0	Minor	UNT to Potato Creek	IT	CWF	No	Dam and Pump/Flume	None
McKean	Stream 159	7.2	30	Intermediate	UNT to Potato Creek	E	CWF	No	Dam and Pump/Flume	None
McKean	Stream 040	7.9	3.00	Minor	UNT to Walcott Brook	E	CWF	No	Dam and Pump/Flume	None
McKean	Stream 041	7.9	9.44	Minor	UNT to Walcott Brook	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 043	8.0	16.71	Intermediate	UNT to Walcott Brook	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 054	10.4	8.50	Minor	Coalbed Hollow	P	HQ-CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 122	11.2	5.0	Minor	UNT to Bemis Hollow	E	HQ-CWF	No	Dam and Pump/Flume	None
McKean	Stream 055	11.2	20.18	Intermediate	Bemis Hollow	P	HQ-CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 056	11.3	3.0	Minor	UNT to Bemis Hollow	P	HQ-CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 08	13.3	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 09	13.3	6.5	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 10	13.4	6.0	Minor	--	D	--	--	Open Cut	None
McKean	Stream 066	13.6	3.00	Minor	UNT to Allegheny Portage Creek	E	CWF	No	Dam and Pump/Flume	None
McKean	Ditch 11	13.7	6.5	Minor	--	D	--	--	Open Cut	None

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[8]
McKean	Ditch 12	13.7	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 13	13.7	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Allegheny Portage Creek	14.1	129.25	Major	Allegheny Portage Creek	P	TSF	Yes[5]/TSW	HDD	3/1 – 6/15
McKean	Stream 067	14.1	3.0	Minor	UNT to Allegheny Portage Creek	IT	CWF	No	Dam and Pump/Flume	None
McKean	Stream 068	14.2	6.5	Minor	UNT to Allegheny Portage Creek	E	CWF	No	Dam and Pump/Flume	None
McKean	Stream 070	14.3	6.5	Minor	UNT to Allegheny Portage Creek	IT	CWF	No	Dam and Pump/Flume	None
McKean	Stream 071	14.5	3.0	Minor	UNT to Allegheny River	E	CWF	No	Dam and Pump/Flume	None
McKean	Stream 073	14.6	3.0	Minor	UNT to Allegheny River	E	CWF	No	Dam and Pump/Flume	None
McKean	Stream 074	14.7	3.0	Minor	UNT to Allegheny River	E	CWF	No	Dam and Pump/Flume	None
McKean	Stream 075	14.7	2.0	Minor	UNT to Allegheny River	IT	CWF	No	Dam and Pump/Flume	None
McKean	Allegheny River	14.8	169.61	Major	Allegheny River	P	CWF	No	HDD	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 16	14.9	10.0	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 17	14.9	6.5	Minor	--	D	--	--	Open Cut	None
McKean	Stream 077	15.0	17.80	Intermediate	UNT to Benson Hollow	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 078	15.4	3.50	Minor	UNT to Allegheny River	IT	CWF	No	Dam and Pump/Flume	None
McKean	Coleman Creek	15.7	16.15	Intermediate	Coleman Creek	IT	CWF	No	Dam and Pump/Flume	None
McKean	Ditch 18-1	17.5	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Stream 089	18.1	3.0	Minor	UNT to Jordan Hollow	IT	CWF	No	Dam and Pump/Flume	None
Potter	Stream 091	18.1	3.0	Minor	UNT to Jordan Hollow	IT	CWF	No	Dam and Pump/Flume	None

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[8]
Potter	Stream 092	18.1	1.0	Minor	UNT to Jordan Hollow	IT	CWF	No	Dam and Pump/Flume	None
Potter	Stream 090	18.1	18.14	Intermediate	Jordan Hollow	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 093	18.9	37.74	Intermediate	Ernst Hollow	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 094	19.1	27.98	Intermediate	UNT to Sartwell Creek	IT	CWF	No	Dam and Pump/Flume	None
Potter	Sartwell Creek	19.2	28.49	Intermediate	Sartwell Creek	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 096	19.6	33.00	Intermediate	UNT to Sartwell Creek	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 098	19.7	6.0	Minor	UNT to Sartwell Creek	E	CWF	No	Dam and Pump/Flume	None
Potter	Stream 099	21.8	21.50	Intermediate	Baker Hollow	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 156	23.0	37.38	Intermediate	Fishing Creek	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 151	25.0	3.0	Minor	UNT to East Branch Fishing Creek	IT	HQ-CWF	No	Dam and Pump/Flume	None
Potter	Stream 116	26.7	3.0	Minor	East Branch Fishing Creek	P	HQ-CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Whitney Creek	27.4	3.0	Minor	Whitney Creek	E	EV	No	Dam and Pump/Flume	None
Potter	Stream 102	27.8	3.0	Minor	UNT to Whitney Creek	E	EV	No	Dam and Pump/Flume	None
Potter	Stream 103	28.7	4.0	Minor	UNT to Whitney Creek	E	EV	No	Dam and Pump/Flume	None
Line YM58 Access Roads										
McKean	Stream 021	PAR-3	3.0	Minor	UNT to Red Mill Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 022	PAR-3	3.0	Minor	UNT to Red Mill Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[8]
McKean	Stream 023	PAR-3	3.0	Minor	UNT to Red Mill Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 025	PAR-3	3.0	Minor	UNT to Red Mill Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 024	TAR-4	3.0	Minor	UNT to Red Mill Brook	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 109	PAR-5	3.0	Minor	UNT to Irons Hollow	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 110	PAR-5	3.0	Minor	UNT to Irons Hollow	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 111	PAR-5	3.0	Minor	UNT to Irons Hollow	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 112	PAR-5	1.0	Minor	UNT to Irons Hollow	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 113	PAR-5	3.5	Minor	UNT to Irons Hollow	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 114	PAR-5	3.5	Minor	UNT to Irons Hollow	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 030	TAR-6	3.0	Minor	UNT to Robbins Brook	E	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 032	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 033	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 034	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 035	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 036	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Ditch 01	TAR-6	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Stream 044	TAR-10	3.0	Minor	UNT to Walcott Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 045	PAR-12	3.0	Minor	UNT to Walcott Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[8]
McKean	Stream 198	TAR-10	3.0	Minor	UNT to Walcott Brook	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 046	PAR-12	3.0	Minor	UNT to Walcott Brook	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 047	PAR-12	9.00	Minor	UNT to Walcott Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 048	PAR-12	1.00	Minor	UNT to Walcott Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 049	PAR-12	3.0	Minor	UNT to Walcott Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 050	PAR-12	3.0	Minor	UNT to Walcott Brook	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Ditch 06 - JUR	PAR-12	2.5	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Stream 051	TAR-13	3.0	Minor	UNT to Walcott Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 052	TAR-13	6.5	Minor	UNT to Walcott Brook	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 053	TAR-13	2.5	Minor	UNT to Walcott Brook	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 057	PAR-14	3.0	Minor	UNT to Bemis Hollow	E	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 058	PAR-14	3.0	Minor	UNT to Bemis Hollow	E	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 118	PAR-14	6.5	Minor	UNT to Bemis Hollow	P	HQ-CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 059	PAR-14	3.0	Minor	UNT to Bemis Hollow	E	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 060	PAR-14	3.0	Minor	UNT to Bemis Hollow	P	HQ-CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 061	PAR-14	3.0	Minor	UNT to Bemis Hollow	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 062	PAR-14	6.5	Minor	Bemis Hollow	P	HQ-CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[8]
McKean	Stream 063	PAR-14	3.0	Minor	UNT to Bemis Hollow	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 064	PAR-14	3.0	Minor	UNT to Bemis Hollow	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 080	PAR-25	3.0	Minor	UNT to Benson Hollow	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 081	PAR-25	10.0	Minor	UNT to Benson Hollow	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Coleman Creek	PAR-25	10.0	Minor	Coleman Creek	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 082	PAR-25	3.0	Minor	UNT to Coleman Creek	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 083	PAR-25	3.0	Minor	UNT to Coleman Creek	IT	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 084	PAR-25	3.0	Minor	UNT to Coleman Creek	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 085	PAR-25	3.0	Minor	UNT to Coleman Creek	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 196	PAR-25	3.0	Minor	UNT to Coleman Creek	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 086	TAR-28	3.0	Minor	UNT to Coleman Creek	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Ditch 18-2	TAR-28	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Stream 085c	TAR-26	3.0	Minor	UNT to Jordan Hollow	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 085b	TAR-26	3.0	Minor	UNT to Jordan Hollow	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 085a	TAR-26	3.0	Minor	UNT to Jordan Hollow	E	CWF	No	Existing Road, No Improvements Proposed	None
McKean	Ditch 18-3	TAR-26	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Stream 195	SA-7	7.0	Minor	UNT to Potato Creek	E	CWF	No	Existing Road, install temporary bridge	None
Potter	Stream 155	PAR-31	13.5	Intermediate	UNT to Fishing Creek	P	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[8]
Potter	Stream 153	PAR-31	1.5	Minor	UNT to Fishing Creek	IT	CWF	No	Existing Road, No Improvements Proposed	None
Potter	Stream 154	PAR-31	1.0	Minor	UNT to Fishing Creek	IT	CWF	No	Existing Road, No Improvements Proposed	None
Potter	Ditch 29	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 30	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 31	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 32	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 33	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 34	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 35	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 36	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 37	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 38	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 39	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 40	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 41	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 42	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 43	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 44	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[8]
Potter	Ditch 53	PAR-36	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Ditch 58 – JUR	PAR-14	3.0	Minor	--	E	--	--	Existing Road, No Improvements Proposed	None
McKean	Ditch 59 - JUR	TAR-11	3.0	Minor	--	E	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 28	PAR-32	1.5	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Stream 150	PAR-33	3.0	Minor	UNT to Fishing Creek	IT	CWF	No	Existing Road, No Improvements Proposed	None
Potter	Ditch 20	PAR-33	2.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 21	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 24	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 22	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 23	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 25	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 26	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 27	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 21a	PAR-36	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Marvindale Compressor Station Access Roads										
McKean	Stream 001	PAR-31	4.0	Minor	UNT to Warner Brook	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None
McKean	Stream 005	PAR-31	4.0	Minor	UNT to Warner Brook	IT	HQ-CWF	No	Existing Road, No Improvements Proposed	None

Notes:

[1] Crossing length is the bank-to-bank width of the stream at the pipeline or access road centerline crossing.

[2] Flow regime based on onsite field review. IT – Intermittent; E – Ephemeral; and P – Perennial. As classified by PA Code Title 25 Chapter 93.

[3] As classified by PA Code Title 25 Chapter 93.9 Designated Use shapefile. WWF – Warm Water Fishes; CWF – Cold Water Fishes; MF – Migratory Fishes; TSF – Trout Stocked Fishery; HQ – High Quality; and EV – Exceptional Value.

[4] As classified by PA Code Title 25 Chapter 93 Existing Use and Existing Use Migratory Fish shapefiles. WWF – Warm Water Fishes; CWF – Cold Water Fishes; MF – Migratory Fishes; TSF – Trout Stocked Fishery; HQ – High Quality; and EV – Exceptional Value.

[5] Regional listings of Approved Trout Waters are provided by the PFBC website: http://pfbc.pa.gov/fishpubs/summaryad/troutwaters.html. Accessed May 2018. Waterbodies within 0.5-mile of a confluence with an Approved Trout Water and within the upper and lower section(s) are also considered Approved Trout Waters.

[6] As classified under PA Code Title 58, Chapters 57.4 and 57.11 as a Class A Wild Trout Water, Wild Trout Water, or Wilderness Trout Water. In-stream work restrictions for Wild Trout Waters are in effect between October 1 and December 31. All streams classified as Wilderness Trout Waters qualify as EV resources; consultation with PFBC is required to obtain information regarding in-stream construction restriction periods.

[7] Stream is designated a wild trout stream because it is located upstream of a naturally reproducing wild trout stream.

[8] If it is determined in the field during construction that either dam or pump or flume pipe methods are not possible; a wet trench method may be utilized. Open-cut methods will be evaluated at the time of construction to be used for streams if no flow is present.

Attachment C

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF WATER PROGRAMS
OFFICE OF OIL AND GAS MANAGEMENT

OFFICIAL USE ONLY
ID #
Date Received
AUTH
SITE
CLNT
APS
Fee
Check No.
Check Date

NOTICE OF INTENT (NOI) FOR COVERAGE UNDER THE EROSION AND SEDIMENT CONTROL GENERAL PERMIT (ESCGP-3) FOR EARTH DISTURBANCE ASSOCIATED WITH OIL AND GAS EXPLORATION, PRODUCTION, PROCESSING, OR TREATMENT OPERATIONS OR TRANSMISSION FACILITIES

READ THE INSTRUCTIONS PROVIDED IN THIS PERMIT APPLICATION PACKAGE BEFORE COMPLETING THIS FORM. PLEASE PRINT OR TYPE INFORMATION IN BLACK OR BLUE INK.

SECTION A. APPLICATION TYPE

Check one:

NEW ☒ **RENEWAL** ☐ **MAJOR MODIFICATIONS (Provide ESCGP number)** ☐

PHASED ☐ (check only if applicable; *note: Most projects are not submitted as phased projects*)

Check one: EXPEDITED ☐ **STANDARD** ☒

If an Expedited Review Process being requested, be advised that the Expedited Review is not available for all projects. Refer to Section D - Expedited Review Process of the ESCGP-3 NOI Instructions to determine if the project is eligible.

SECTION B. CLIENT INFORMATION

Applicant's Last Name (If applicable)	First Name	MI	Telephone No.
Kittka	Jeffery		(814)871-8625

Organization Name or Registered Fictitious Name	Telephone No.
National Fuel Gas Supply Corporation	

DEP Client ID No. 74892

Headquarters Mailing Address	City	State	ZIP Code
6363 Main Street	Williamsville	NY	14221

Email Address kittkaj@natfuel.com

Co-Applicant's Last Name (If applicable)	First Name	MI	Telephone No.

Organization Name or Registered Fictitious Name	Telephone No.

Address	City	State	ZIP Code

Email Address

SECTION C. SITE INFORMATION

Is there an existing ESCGP associated with this site? ☐ Yes ☒ No If yes, Permit No. _____

Has a well permit application been submitted for this site? ☐ Yes ☒ No If yes, Permit No. _____

Does this site have a 911 address? ☒ Yes ☐ No If yes, provide site location address. 128 Kin Foks Lane Mount Jewett, PA 16740

Site Name
FM100 Modernization Project / Abandonment Project

Site Location	Site No. (if another permit has been issued for the site)
See Section 1-4 of this ESCGP-3 Application	

Site Location – City	State	ZIP Code
See Section 1-4 of this ESCGP-3 Application		

Detailed Written Directions to Site

Line KL/Line YM58 Begin (Sergeant Twp, McKean County): Take Grand Army of the Republic - Route 6 to Clermont Rd. Head south on Clermont Rd for ~3 miles to Kin Foks Ln.

Line YM224 Begin (Hebron Twp, Potter County): Take State Route 44 N to South Branch Rd. Follow South Branch Rd ~2 miles to Carmer Ln.

Existing Line FM100 Abandonment Begin (Huston Twp, Clearfield County): Access driveway via Bennetts Valley Hwy 255 (~1 mile NE of crossing with State Park Rd 153.

Tamarack Compressor Station (Leidy Twp, Clinton County): Take Tamarack Rd 144 to Stewart Hill Rd. Follow Stewart Hill Rd ~1.5 miles NE to access driveway.

Primary Location	County	Municipality	City	Boro	Twp.
	See Attachment 1	See Attachment 1	☐	☒	☒

SECTION D. EXPEDITED REVIEW

I. Expedited Review Eligibility

1. Is any part of the project in the watershed of a surface water with an existing or designated use of exceptional value or high quality pursuant to Chapter 93 (relating to water quality standards), in an exceptional value wetland in accordance with 25 Pa. Code § 105.17, or in the watershed of an impaired surface water where the cause of the impairment is identified as siltation?	☒ Yes ☐ No
2. Will the project in which the well pad will be constructed be in or on a floodplain?	☐ Yes ☒ No
3. Is any earth disturbance located or proposed to be located on land known to be contaminated by the release of regulated substances as defined in Section 103 of Act 2, 35 P.S. § 6026.103?	☐ Yes ☒ No
4. Will naturally occurring geologic formations or soil conditions provide hazards to the project or surrounding environment or have the potential to cause or contribute to pollution when disturbed?	☒ Yes ☐ No
5. Do any unresolved non-compliance issues exist with the applicant or the facility?	☐ Yes ☒ No
6. Is the project a transmission project?	☒ Yes ☐ No

If yes to any of the above questions the project is not eligible for Expedited Review; If the project is eligible for Expedited Review, all the following items must be completed.	
II. Expedited Review Process	
1. Is the technically and administratively complete and accurate NOI package prepared and certified by a licensed professional?	☐ Yes ☐ No
2. Are E&S and PCSM/Site Restoration Plan drawings and narrative prepared and sealed by a licensed professional? *(Include interim restoration details when needed)*	☐ Yes ☐ No
3. Include a Resource Delineation Report and answer the following questions: (If the answer to question a. is "Yes" then skip to #4. If the answer to a. is "No" the applicant must answer "Yes" to at least one of the questions, b. through d. to be eligible for expedited review.)	
a. Were all wetland resources delineated during the growing season?	☐ Yes ☐ No
b. If not during the growing season, was a follow-up visit conducted during the growing season to verify/adjust boundaries and look for potentially missed resources?	☐ Yes ☐ No
c. Was a quality assurance field review conducted at a later date by an independent qualified wetland professional to verify boundaries and look for potentially missed resources? (If yes, attach Quality Assurance Field Review Report)	☐ Yes ☐ No
d. Was a Jurisdictional Determination (JD) or Preliminary JD conducted by the US Army Corps of Engineers on the whole project? (If yes, attach Preliminary or Jurisdictional Determination Report)	☐ Yes ☐ No
4. If applicable, have you included PNDI clearance letters or other documentation from applicable resource agencies?	☐ Yes ☐ No
5. If the project site contains, is along, or within 100 feet of a river, stream, creek, lake, pond or reservoir, will you establish new or preserve existing riparian forest buffer at least 100 feet in width between the top of streambank or normal pool elevation of a lake, pond or reservoir and areas of earth disturbances. If no, will a waiver be obtained? ☐ Yes ☐ No	☐ Yes ☐ No
6. Name of Licensed Professional Company	
Address	
Phone	

SECTION E. PROJECT INFORMATION

1. Total Project Area/Project Site (Ac):	556.0	Total Disturbed Area (Ac):	556.0
Increased disturbed acreage *(for permit modification only)*			
Fee: ***(For additional information regarding fees, refer to NOI Instructions #3 Permit NOI Filing Fees.)***			$ See Section 1-3 of this ESCGP-3 Application

2. Project Name: FM100 Modernization Project / Abandonment Project

3. Project Type (Check all that apply)

- ☐ Oil/Gas Well [1]
- ☐ Gathering Facility
- ☐ Treatment Facility
- ☒ Compressor Station
- ☒ Pipeline
- ☐ Storage Field Facility
- ☐ Other
- ☒ Transmission Facility
- ☐ Processing Facility
- ☐ Well Development Impoundment
- ☐ Non-FERC regulated Transmission Facility
- ☐ Ground/Surface Water Withdrawal Site

[1] If Oil/Gas Well; is the well conventional or unconventional? ☐ Conventional ☐ Unconventional

Project Description

See Section 2-1 of this ESCGP-3 Application

Provide the date of pre-application meeting (if conducted with the Department)

4. Provide the latitude and longitude coordinates for the center of the project. The coordinates should be in Decimal degrees and North American Datum 1983. The coordinates must meet the current DEP policy regarding locational accuracy. For linear projects provide the project's termini.

Line KL Begin / End: 41.703, -78.500 / 41.705, -78.494
Line YM58 Begin / End: 41.702, -78.499 / 41.857, -78.017
Line YM 224 Begin / End: 41.878, -77.975 / 41.886, -77.950
Existing Line FM100 Abandonment Begin / End: 41.220, -78.559 / 41.590, -78.058
Tamarack Compressor Station: 41.436, -77.836

Horizontal Collection Method: ☒ GPS ☐ Interpolated from U.S.G.S. Topographic Map ☐ DEP's eMAP

5. U.S.G.S. 7.5 min. topographic quadrangle Name (*Include a copy of the project area on the 7.5 min quad map)* See Section 1-4 of this ESCGP-3 Application

6. Will the project be conducted as a phased permit project? ☐ Yes ☒ No
If Yes, Include Master Site Plan Estimated Timetable for Phased Projects. ☐ Additional sheet(s) attached.

Phase No. or Name	Description	Total Area	Disturbed Area	Start Date	End Date

7.	List existing and previous land use for a minimum of the previous 5 years. See Section 2-1 of this ESCGP-3 Application
8.	Other Pollutants: Will the stormwater discharge contain pollutional substances other than sediment? ☐ Yes ☒ No If yes, explain and provide any available quantitative data.
9.	Will fuels, chemicals, solvents, other hazardous waste or materials be used or stored on site during earth disturbance activities or will Horizontal Directional Drilling (HDD) activities be conducted? Yes ☒ No ☐ ***(If yes, Preparedness, Prevention and Contingency (PPC) Plan must be maintained on site during earth disturbance. See NOI Instructions, E.9 PPC Plan Guidance for further information.)***
10.	Is the project in the watershed of an impaired surface water where the cause of the impairment is identified as siltation? Yes ☐ No ☒ ***(If yes, show how the project will not result in a net change in volume, rate or water quality. See section I below, and E.10 of NOI instructions.)***
11.	Are there potentially hazardous naturally occurring geological or soil conditions in any portion of the project or surrounding area? Yes ☒ No ☐ If yes, do the potentially hazardous geologic or soil conditions have the potential to cause or contribute to pollution as a result of the proposed earth disturbance activities? No. If no, provide an explanation. See Section 2-1 of this ESCGP-3 Application. If yes, Geologic Hazard Mitigation Plan must be attached and explain where in this application details are provided.
12.	Has the Act 14 Municipal Notification and proof of receipt of notification been attached to the NOI? Yes ☒ No ☐ ***(If not, the NOI is not complete, see E.12 and #4 Municipal Notification in the NOI Instructions for additional guidance.)***
13.	Has the PNDI receipt been attached to the NOI? Yes ☒ No ☐ ***(If not, the NOI is not complete, see E.13 and #5 PNHP in the NOI Instructions for additional guidance.)***
14.	Have the E&S Plan and PCSM/SR Plan been planned and designed to be consistent? Yes ☒ No ☐
15.	Have existing and/or proposed Riparian Forest Buffers been identified? Yes ☒ N/A ☐ ***(If yes, they must be shown on the E&S Plan as well as the PCSM/SR Plans.)***
16.	Have antidegradation implementation requirements for special protection waters been addressed? Yes ☒ No ☐ N/A ☐ ***(If yes, antidegradation requirements must be included in the plan.)***
17.	Has the seasonal high groundwater level been identified and 20-inch separation established at all excavation locations for pits for conventional operations and Well Development Impoundments for unconventional operations? Yes ☐ No ☐ N/A ☒

18. Receiving Waters	Chapter 93, Designated Use Stream Classification	Chapter 93, Existing Use Stream Classification
Watersheds crossed (See ESCGP-3 Section 2-2A and 2-2B for locations in plan view): Allegheny Portage Creek (TSF), Allegheny River (CWF), Baker Hollow (CWF), Bear Creek (CWF), Bemis Hollow (HQ), Bennett Branch Sinnemahoning Creek (CWF), Bennett Branch Sinnemahoning Creek (WWF), Benson Hollow (CWF), Berge Run (EV), Boyer Brook (HQ), Browns Mill Hollow (CWF), Coalbed Hollow (HQ), Coleman Hollow (CWF), Combs Creek (CWF), Deloy Hollow (EV), Donley Fork (HQ), Driftwood Branch Sinnemahoning Cr. (EV), Drury Run (EV), Dry Hollow (CWF), East Branch Fishing Creek (HQ), Ernst Hollow (CWF), First Fork Sinnemahoning Creek (EV), Fishing Creek (CWF), Fishing Creek (CWF), Fisk Hollow (CWF), Gifford Hollow (CWF), Green Hollow (CWF), Grove Run (HQ-CWF), Irons Hollow (CWF), Johnson Run (EV), Jordan Hollow (CWF), Lamb Hollow (CWF), Larson Hollow (CWF), Laurel Run (HQ-CWF), Lick Island Run (EV), Little Bailey Run (HQ), Medix Run (HQ-CWF), Mix Run (HQ-CWF), Oswayo Creek (CWF), Potato Creek (TSF), Red Mill Brook (CWF), Right Fork Big Run (EV), Right Fork Brooks Run (EV), Robbins Brook (HQ), Sartwell Creek (CWF), Saunders Run (HQ-CWF), Skinner Creek (HQ), South Branch Oswayo Creek (EV), Sullivan Run (HQ), Walcott Brook (CWF), Warner Brook (HQ), Wernwag Hollow (HQ), White Hollow (CWF), Whitney Creek (EV), Wiemer Hollow (CWF), Young Hollow (EV) See ESCGP-3 Section 2-1 for full list of receiving waters crossed by the Project	☒ HQ ☒ EV ☒ Other TSF, CWF ☐ Siltation-impaired ☐ HQ ☐ EV ☐ Other _____ ☐ Siltation-impaired ☐ HQ ☐ EV ☐ Other _____ ☐ Siltation-impaired ☐ HQ ☐ EV ☐ Other _____ ☐ Siltation-impaired	☐ HQ ☒ EV ☐ Other _____ ☐ Siltation-impaired ☐ HQ ☐ EV ☐ Other _____ ☐ Siltation-impaired ☐ HQ ☐ EV ☐ Other _____ ☐ Siltation-impaired ☐ HQ ☐ EV ☐ Other _____ ☐ Siltation-impaired
Secondary Receiving Water	Secondary Chapter 93, Designated Use	Secondary Existing Use

Name of Municipal or Private Separate Storm Sewer Operator, if applicable.

N/A

Non-Surface Receiving Water: (include off-site discharges)

N/A

SECTION F. EROSION AND SEDIMENT CONTROL (E&S) PLAN

See the attached Instructions for additional guidance with E&S Plans

Erosion and Sediment Control Plan BMPs should be designed to minimize accelerated erosion and sedimentation through limiting the extent and duration of earth disturbance, protection of existing drainage and vegetation, limiting soil compaction and controlling the generation of increased runoff. The Department recommends the use of the *Pennsylvania Erosion & Sedimentation Pollution Control Program Manual (E&S Manual)* (363-2134-008) to achieve this goal. The E&S Plan must meet the requirements of Pa. Code § 102.4(b) and submitted with the NOI. Also, see section 2. of the NOI instruction for detailed information on completing the E&S plan and additional requirements.

a. E&S Plan Summary

Provide a summary of proposed E&S BMPs and their performance to manage E&S for the project.

Typical pipeline BMPs that are proposed include waterbars, trench plugs, sediment barriers (compost filter socks), rock filter outlets, erosion control blanket, rock construction entrances, temporary equipment bridges, timber mats, mulch, and seed. An appropriate sediment removal device (filter bag, dewatering structure) and well-vegetated area will be utilized for trench and hydrostatic test dewatering. Antidegradation Best Available Combination of Technolgies (ABACT) BMPs, including compost filter socks and extended rock construction entrances with daily maintenance, will be utilized in HQ/EV watersheds. Additional information about the proposed BMPs are discussed in the Erosion and Sediment Control Plan.

b. E&S Plan BMP Design

Check those that apply:

☒ E&S Plan is designed using BMPs in the *E&S Manual*.

☒ E&S Plan is designed using an alternative BMP or design standard approved by DEP.

Note: NOI packages submitted with alternate BMPs not approved by the Department will be returned to the Applicant.

c. Do you have any information regarding riparian buffer which differs from Section G, Riparian Buffer?

Yes ☐ No ☒

Explain:

d. Thermal Impacts Analysis

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Pipeline

Clearing and grading associated with the pipeline construction may result in temporary loss of tree canopy and riparian vegetation along surface waters and wetlands, potentially resulting in thermal impacts from the loss of shading. However, the thermal impacts will be minimized by limiting the construction ROW to 75 feet, where possible, at wetlands and limiting the maintained permanent ROW to 10 feet at wetlands.

In streams and wetlands, trees and brush will be cut just above or to ground level, leaving the stumps and root systems intact. Tree stumps will be preserved to the maximum extent practicable and will be removed only over the trenchline and where the stumps present a safety hazard for construction. Leaving stumps and root systems in this manner will promote re-growth in some species.

Facilities

Clearing and grading associated with the site development for aboveground facilities was limited to the least amount of space required for safe construction. Runoff from the site will flow over long stretches of vegetated areas before reaching receiving streams, which will provide for additional cooling and infiltration. Additionally, shade areas will be preserved to the greatest extent possible.

e. Off-Site Discharge Analysis

Does the activity propose any off-site discharges to areas other than surface waters? ☐ Yes ☒ No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge to neighboring properties.

The applicant must provide a demonstration in both E&S and PCSM/SR plans that the discharge will not cause erosion, damage, or a nuisance to off-site properties.

SECTION G. RIPARIAN BUFFER

1. Will you be protecting, converting or establishing a voluntary riparian forest buffer as part of this project? ☐ Yes ☒ No
   If yes, as part of the PCSM/SR Plan, provide a Buffer Management Plan.

2. Will proposed earth disturbance activities be conducted in an EV or HQ watershed AND within 150 feet of a perennial or intermittent river, stream, or creek, or lake, pond, or reservoir? ☒ Yes ☐ No

   If no, proceed to the next section/module.

3. Does this project qualify for an exception (see § 102.14(d)(1))? ☐ Yes ☒ No

   If yes, indicate below the type of project for which the exception applies by marking the appropriate box.

   ☐ Oil and gas activities for which site reclamation or restoration is part of the permit authorization in Chapter 78 and 78a.

   ☐ Road maintenance activities.

   ☐ The repair or maintenance of existing pipelines and utilities.

   ☐ Other (see §102.14(d)(1))

   If exceptions are checked, explain how existing riparian buffer will be undisturbed to the extent practicable. Provide a demonstration that the requirements of §102.14(b) are met, or provide the necessary information to request a riparian buffer waiver.

4. Are you requesting a riparian buffer waiver for this project (see § 102.14(d)(2))? ☒ Yes ☐ No

   If yes, indicate below the type of project for which you are requesting a waiver by marking the appropriate box.

   ☒ Linear project that may include pipelines, public roadways, rail lines, or utility lines.

   ☐ Project is of a temporary nature where the site will be fully restored to its preexisting conditions during the ESCGP permit term.

   ☐ Project where compliance with mandatory riparian buffers is not appropriate or feasible due to site characteristics or existing structures at the project site.

   ☐ Other (see §102.14(d)(2)):

   If waivers are checked, explain how existing riparian buffers will be undisturbed to the extent practicable.

   Note: If "Yes" to #2 **AND** "No" to #3 and #4, provide an attachment to demonstrate how the requirements of §102.14 are met.

   Please refer to Section 2-1 of this ESCGP-3 Application for Riparian Buffer Waiver Request

SECTION H. POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) AND/OR SITE RESTORATION(SR) PLAN

See NOI Instructions for additional guidance with PCSM Plans

PCSM/SR BMPs should be designed to use natural measures to eliminate pollution, infiltrate runoff, not require extensive construction/maintenance, promote pollutant reduction, and preserve the integrity of stream channels. All PCSM/SR BMPs proposed in the PCSM/SR Plan must be designed in accordance with Ch. 102, Ch. 78a for unconventional operations, Ch. 78 for conventional operations and the *Pennsylvania Stormwater Best Management Practices Manual (Stormwater BMP Manual)* (363-0300-002). If alternate design criteria are utilized for the proposed project, they must have prior approval by the Department, or the NOI Application will be returned to the Applicant.

After construction is completed, how much of the entire disturbed area will be restored to meadow in good condition or better, or existing conditions? ☐ All ☒ Partial ☐ None

Include PCSM narrative and drawings for remaining impervious area. Also include a map showing the proposed contours of the site restoration plan.

If there are additional stages of the project prior to permit termination or expiration, list the stages and provide the documents required by subsection 'a' to section 'g' for each stage (e.g. partial restoration or changes to the amount of compacted areas, gravel, and/or impervious areas). Upload a narrative for each additional stage in addition to the drawings.

EXAMPLE

Stage No	Stage Name	PCSM Plan	SR Plan
Stage 1		☐	☐
Stage 2		☐	☐
Stage 3		☐	☐
Stage 4		☐	☐

Act 167 Consistency. Check those that apply.

Is there an Act 167 Plan? ☒ Yes ☐ No

☒ The attached PCSM/SR Plan is consistent with an applicable approved Act 167 Plan.

Complete the following for all approved Act 167 Stormwater Management Plans. (Use additional sheets if necessary)

Act 167 Plan Name	Date Adopted	Consistency Letter Included ☐
McKean County Act 167 Stormwater Management Plan	June 2010	Verification Report Included ☒
Potter County Act 167 Stormwater Management Plan	May 2010	

Note: A consistency letter is not required if a verification report is provided. See NOI Instructions. The PCSM/SR Plan must satisfy either sub paragraph 1, 2, or 3 below. Check those that apply.

1. ☒ Act 167 Plan approvals on or after January 2005 – The attached PCSM/SR Plan, in its entirety, is consistent with all requirements pertaining to rate, volume, and water quality from an Act 167 Stormwater Management Plan approved by DEP on or after January 2005. Box 1 must be checked if a current, DEP approved Act 167 plan exists.

2. ☒ The PCSM/SR Plan meets the standard design criteria from sections 102.8(g)(2) and (3) and the *Stormwater BMP Manual*. For projects involving oil and gas activities authorized by a permit issued under Chapter 78 or Chapter 78a (well pads) or pipelines and other similar utility infrastructure, post construction stormwater management requirements are met for all areas that are restored to preconstruction conditions or to a condition of meadow in good condition or better. *[Note: PCSM plans must meet both the volume and rate requirements in the regulations, which are provided in the 2 sections mentioned in this paragraph].*

3. ☐ Alternative Design Standard – The attached PCSM/SR Plan was developed using approaches as provided in 102.8(g)(2)(iv) and 102.8(g)(3)(iii). Demonstrate/explain in the space provided below how this standard will be either more protective than what is required in 102.8(g)(2) and 102.8(g)(3) or will maintain and protect existing water quality and existing and designated uses.

PCSM/SR BMP Alternative Standards:

Has the alternative BMP or design standard been approved by the Department? NOT APPLICABLE

☐ Yes

☐ No – Do not submit the ESCGP-3 application and see Section (H) of the NOI Instructions concerning the alternative BMP approval process.

Water Quality Compliance:

Does the PCSM/SR plan comply with requirements for volume control? ☒ Yes ☐ No

If yes, is at least 90% of the disturbed area controlled by a PCSM BMP? ☒ Yes ☐ No

If yes, do you have the Standard PCSM Worksheet # 10 attached to show water quality compliance has achieved?
☒ Yes ☐ No

If no, attach Standard PCSM Worksheets # 12 and #13 to show water quality compliance has achieved.

If PCSM/SR plan is not complying with the requirements for volume control, attach Standard PCSM Worksheets # 11, # 12 and #13 to show water quality compliance has achieved.

a. PCSM/SR Plan Summary

Provide a summary of proposed BMPs and their performance to manage PCSM/SR for the project.

Along the mainline pipeline, typical E&S BMPs such as permanent waterbars and erosion control blanket will be left in place as part of site restoration for the project. At the aboveground facility sites, typical PCSM BMPs such as infiltration trenches, infiltration berms, retentive berms, and wet ponds will be used and left in place as part of site restoration for facility sites. refer to the PCSM/SR Plans for additional information.

Check all that apply ☒ PCSM BMPs ☒ SR BMPs

b. Do you have any information regarding riparian buffer which differs from what was submitted in the Section G, Riparian Buffer?

☐ Yes ☒ No

Explain:

c. Thermal Impacts Analysis

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Aboveground Facilities

Infiltration of runoff collected in the PCSM facilities will mitigate thermal impacts from post construction stormwater. Further, it is not expected that runoff collected in stormwater infiltration basins and discharged overland to the receiving water will be retained for more than 24 hours, thus providing additional mitigation of potential thermal impacts of discharge from the PCSM facilities. Existing shade trees will be preserved to the greatest extent possible, and excessive riprapping and installation of concrete channels is avoided, which will minimize the transfer of heat to the runoff.

Pipeline

Once pipeline construction activities are complete, disturbed areas will be restored to pre-construction contours and seeded as described in the E&SCP. Temporary workspace disturbed for construction will be allowed to re-establish with woody and herbaceous vegetation species.

d. Off-Site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? ☐ Yes ☒ No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge to neighboring properties.

The Applicant must provide a demonstration in both the E&S and PCSM/SR Plans that the discharge will not cause erosion, damage, or a nuisance to off-site properties.

Carpenter Hollow OPP

e. Summary Table for Supporting Calculation and Measurement Data
(See NOI Instructions for additional guidance with this section)

The remainder of this section (Summary Table for Calculation and Measurement Data) does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 or Chapter 78a (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name: South Branch Oswayo Creek

Volume Control design storm frequency 2-year Rainfall amount 2.41 inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0.000	0.000	+0.000
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.061	0.085	+0.024
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.000	-0.061
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	0.765 cfs	0.000 cfs	-0.765 cfs
2) 10-Year/24-Hour	1.563 cfs	0.036 cfs	-1.527 cfs
3) 50-year/24-Hour	2.762 cfs	0.745 cfs	-2.017 cfs
4) 100-year/24-Hour	3.466 cfs	2.085 cfs	-1.381 cfs

f. Summary Description of PCSM/SR BMPs

In the lists below, check the BMPs identified in the PCSM Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the PCSM/SR Plan is not listed below, describe it in the space provided after "Other". A summary table with infiltration testing information (Attachment E, included in the NOI Instructions) must be submitted for all Bio-infiltration BMPs included in PCSM/SR plan.

For Rate control provide the volume of stormwater treated and acres treated for the 100-year/24-hour storm event.

For volume control and water quality provide the volume of stormwater treated and acres treated for the 2-year/24-hour storm event.

Key for BMP purpose(s): VC = Volume Control; RC = Rate Control; and WQ = Water Quality

BMP	Function(s)	Purpose(s)	Volume of stormwater treated	Acres treated
Site Restoration ONLY ☐ Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	☐ VC ☐ RC ☐ WQ	_____	_____
Bio-infiltration areas ☒ Infiltration Trench ☐ Infiltration Bed ☐ Infiltration Basin ☐ Rain Garden/ Bioretention ☐ Infiltration Berm	Infiltration/Recharge	☒ VC ☒ RC ☒ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ	3,778 cf _____ _____ _____ _____	1.109 _____ _____ _____

Natural Area Conservation	Infiltration/Recharge			
☐ Streamside Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wetland Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Sensitive Area Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Pre-Construction Drainage Pattern Intact		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Retention	Detention/Retention			
☐ Constructed Wetlands		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wet Ponds		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Retention Basin		☐ VC ☐ RC ☐ WQ	_____	_____
Sediment and Pollutant Removal	Water Quality Treatment			
☐ Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Compost Filter Sock		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Detention Basins		☐ VC ☐ RC ☐ WQ	_____	_____
Access Road Design	Infiltration/Recharge			
☐ Road Crowning		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Ditches		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Turnouts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Culverts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Roadside Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Energy Dissipaters	Infiltration/Recharge			
☐ Level Spreaders		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Riprap Aprons		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Upslope Diversions		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Other_____		☐ VC ☐ RC ☐ WQ	_____	_____

g. Critical PCSM Plan stages

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

1. Engineer shall inspect the subsurface infiltration facilities prior to backfilling.
2. Engineer shall inspect final stabilization prior to removal of temporary measures.

Marvindale Interconnect

e. Summary Table for Supporting Calculation and Measurement Data
(See NOI Instructions for additional guidance with this section)

The remainder of this section (Summary Table for Calculation and Measurement Data) does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 or Chapter 78a (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name: Warner Brook

Volume Control design storm frequency 2-year Rainfall amount 2.50 inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0.000	0.040	+0.040
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.036	0.041	+0.005
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.001	-0.035
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	0.615 cfs	0.000 cfs	-0.615 cfs
2) 10-Year/24-Hour	1.129 cfs	0.035 cfs	-1.094 cfs
3) 50-year/24-Hour	1.782 cfs	0.754 cfs	-1.028 cfs
4) 100-year/24-Hour	2.106 cfs	1.743 cfs	-0.363 cfs

f. Summary Description of PCSM/SR BMPs

In the lists below, check the BMPs identified in the PCSM Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the PCSM/SR Plan is not listed below, describe it in the space provided after "Other". A summary table with infiltration testing information (Attachment E, included in the NOI Instructions) must be submitted for all Bio-infiltration BMPs included in PCSM/SR plan.

For Rate control provide the volume of stormwater treated and acres treated for the 100-year/24-hour storm event.

For volume control and water quality provide the volume of stormwater treated and acres treated for the 2-year/24-hour storm event.

Key for BMP purpose(s): VC = Volume Control; RC = Rate Control; and WQ = Water Quality

BMP	Function(s)	Purpose(s)	Volume of stormwater treated	Acres treated
Site Restoration ONLY ☐ Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	☐ VC ☐ RC ☐ WQ	_____	_____
Bio-infiltration areas ☒ Infiltration Trench ☐ Infiltration Bed ☐ Infiltration Basin ☐ Rain Garden/ Bioretention ☐ Infiltration Berm	Infiltration/Recharge	☒ VC ☒ RC ☒ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ	1,706 cf _____ _____ _____ _____	0.43 _____ _____ _____

Natural Area Conservation	Infiltration/Recharge			
☐ Streamside Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wetland Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Sensitive Area Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Pre-Construction Drainage Pattern Intact		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Retention	Detention/Retention			
☐ Constructed Wetlands		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wet Ponds		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Retention Basin		☐ VC ☐ RC ☐ WQ	_____	_____
Sediment and Pollutant Removal	Water Quality Treatment			
☐ Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Compost Filter Sock		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Detention Basins		☐ VC ☐ RC ☐ WQ	_____	_____
Access Road Design	Infiltration/Recharge			
☐ Road Crowning		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Ditches		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Turnouts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Culverts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Roadside Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Energy Dissipaters	Infiltration/Recharge			
☐ Level Spreaders		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Riprap Aprons		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Upslope Diversions		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Other_____		☐ VC ☐ RC ☐ WQ	_____	_____

g. Critical PCSM Plan stages

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

1. Engineer shall inspect the subsurface infiltration facilities prior to backfilling.
2. Engineer shall inspect final stabilization prior to removal of temporary measures.

MLV-1

e. Summary Table for Supporting Calculation and Measurement Data
(See NOI Instructions for additional guidance with this section)

The remainder of this section (Summary Table for Calculation and Measurement Data) does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 or Chapter 78a (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name: White Hollow

Volume Control design storm frequency 2-year Rainfall amount 2.4 inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0.000	0.040	+0.040
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.006	0.155	+0.149
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.000	-0.006
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	0.841 cfs	0.654 cfs	-0.187 cfs
2) 10-Year/24-Hour	1.594 cfs	1.233 cfs	-0.361 cfs
3) 50-year/24-Hour	2.591 cfs	1.997 cfs	-0.594 cfs
4) 100-year/24-Hour	3.101 cfs	2.739 cfs	-0.362 cfs

f. Summary Description of PCSM/SR BMPs

In the lists below, check the BMPs identified in the PCSM Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the PCSM/SR Plan is not listed below, describe it in the space provided after "Other". A summary table with infiltration testing information (Attachment E, included in the NOI Instructions) must be submitted for all Bio-infiltration BMPs included in PCSM/SR plan.

For Rate control provide the volume of stormwater treated and acres treated for the 100-year/24-hour storm event.

For volume control and water quality provide the volume of stormwater treated and acres treated for the 2-year/24-hour storm event.

Key for BMP purpose(s): VC = Volume Control; RC = Rate Control; and WQ = Water Quality

BMP	Function(s)	Purpose(s)	Volume of stormwater treated	Acres treated
Site Restoration ONLY ☐ Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	☐ VC ☐ RC ☐ WQ	_____	_____
Bio-infiltration areas ☒ Infiltration Trench ☐ Infiltration Bed ☐ Infiltration Basin ☐ Rain Garden/ Bioretention ☐ Infiltration Berm	Infiltration/Recharge	☒ VC ☒ RC ☒ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ	467 cf _____ _____ _____ _____	0.073 _____ _____ _____

Natural Area Conservation	Infiltration/Recharge			
☐ Streamside Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wetland Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Sensitive Area Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Pre-Construction Drainage Pattern Intact		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Retention	Detention/Retention			
☐ Constructed Wetlands		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wet Ponds		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Retention Basin		☐ VC ☐ RC ☐ WQ	_____	_____
Sediment and Pollutant Removal	Water Quality Treatment			
☐ Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Compost Filter Sock		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Detention Basins		☐ VC ☐ RC ☐ WQ	_____	_____
Access Road Design	Infiltration/Recharge			
☐ Road Crowning		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Ditches		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Turnouts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Culverts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Roadside Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Energy Dissipaters	Infiltration/Recharge			
☐ Level Spreaders		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Riprap Aprons		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Upslope Diversions		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Other_____		☐ VC ☐ RC ☐ WQ	_____	_____

g. Critical PCSM Plan stages

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

1. Engineer shall inspect the subsurface infiltration facilities prior to backfilling.
2. Engineer shall inspect final stabilization prior to removal of temporary measures.

MLV-2

e. Summary Table for Supporting Calculation and Measurement Data
(See NOI Instructions for additional guidance with this section)

The remainder of this section (Summary Table for Calculation and Measurement Data) does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 or Chapter 78a (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name: Allegheny River

Volume Control design storm frequency 2-year Rainfall amount 2.43 inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0.000	0.040	+0.040
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.000	0.009	+0.009
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.000	+0.000
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	0.260 cfs	0.221 cfs	-0.039 cfs
2) 10-Year/24-Hour	0.832 cfs	0.682 cfs	-0.150 cfs
3) 50-year/24-Hour	1.720 cfs	1.389 cfs	-0.331 cfs
4) 100-year/24-Hour	2.207 cfs	1.776 cfs	-0.431 cfs

f. Summary Description of PCSM/SR BMPs

In the lists below, check the BMPs identified in the PCSM Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the PCSM/SR Plan is not listed below, describe it in the space provided after "Other". A summary table with infiltration testing information (Attachment E, included in the NOI Instructions) must be submitted for all Bio-infiltration BMPs included in PCSM/SR plan.

For Rate control provide the volume of stormwater treated and acres treated for the 100-year/24-hour storm event.

For volume control and water quality provide the volume of stormwater treated and acres treated for the 2-year/24-hour storm event.

Key for BMP purpose(s): VC = Volume Control; RC = Rate Control; and WQ = Water Quality

BMP	Function(s)	Purpose(s)	Volume of stormwater treated	Acres treated
Site Restoration ONLY ☐ Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	☐ VC ☐ RC ☐ WQ	_____	_____
Bio-infiltration areas ☒ Infiltration Trench ☐ Infiltration Bed ☐ Infiltration Basin ☐ Rain Garden/ Bioretention ☐ Infiltration Berm	Infiltration/Recharge	☒ VC ☒ RC ☒ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ	467 cf _____ _____ _____ _____	0.07 _____ _____ _____ _____

Natural Area Conservation	Infiltration/Recharge			
☐ Streamside Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wetland Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Sensitive Area Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Pre-Construction Drainage Pattern Intact		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Retention	Detention/Retention			
☐ Constructed Wetlands		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wet Ponds		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Retention Basin		☐ VC ☐ RC ☐ WQ	_____	_____
Sediment and Pollutant Removal	Water Quality Treatment			
☐ Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Compost Filter Sock		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Detention Basins		☐ VC ☐ RC ☐ WQ	_____	_____
Access Road Design	Infiltration/Recharge			
☐ Road Crowning		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Ditches		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Turnouts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Culverts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Roadside Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Energy Dissipaters	Infiltration/Recharge			
☐ Level Spreaders		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Riprap Aprons		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Upslope Diversions		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Other_____		☐ VC ☐ RC ☐ WQ	_____	_____

g. Critical PCSM Plan stages

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

1. Engineer shall inspect the subsurface infiltration facilities prior to backfilling.
2. Engineer shall inspect final stabilization prior to removal of temporary measures.

MLV-3

e. Summary Table for Supporting Calculation and Measurement Data
(See NOI Instructions for additional guidance with this section)

The remainder of this section (Summary Table for Calculation and Measurement Data) does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 or Chapter 78a (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name: South Branch Oswayo Creek

Volume Control design storm frequency 2-year Rainfall amount 2.39 inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0.000	0.014	+0.014
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.000	0.005	+0.005
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.000	+0.000
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	0.000 cfs	0.000 cfs	+0.000 cfs
2) 10-Year/24-Hour	0.000 cfs	0.000 cfs	+0.000 cfs
3) 50-year/24-Hour	0.000 cfs	0.000 cfs	+0.000 cfs
4) 100-year/24-Hour	0.000 cfs	0.003 cfs	+0.000 cfs

f. Summary Description of PCSM/SR BMPs

In the lists below, check the BMPs identified in the PCSM Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the PCSM/SR Plan is not listed below, describe it in the space provided after "Other". A summary table with infiltration testing information (Attachment E, included in the NOI Instructions) must be submitted for all Bio-infiltration BMPs included in PCSM/SR plan.

For Rate control provide the volume of stormwater treated and acres treated for the 100-year/24-hour storm event.

For volume control and water quality provide the volume of stormwater treated and acres treated for the 2-year/24-hour storm event.

Key for BMP purpose(s): VC = Volume Control; RC = Rate Control; and WQ = Water Quality

BMP	Function(s)	Purpose(s)	Volume of stormwater treated	Acres treated
Site Restoration ONLY ☐ Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	☐ VC ☐ RC ☐ WQ	_____	_____
Bio-infiltration areas ☒ Infiltration Trench ☐ Infiltration Bed ☐ Infiltration Basin ☐ Rain Garden/ Bioretention ☐ Infiltration Berm	Infiltration/Recharge	☒ VC ☒ RC ☒ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ	249 cf _____ _____ _____ _____	0.071 _____ _____ _____

Natural Area Conservation	Infiltration/Recharge			
☐ Streamside Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wetland Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Sensitive Area Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Pre-Construction Drainage Pattern Intact		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Retention	Detention/Retention			
☐ Constructed Wetlands		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wet Ponds		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Retention Basin		☐ VC ☐ RC ☐ WQ	_____	_____
Sediment and Pollutant Removal	Water Quality Treatment			
☐ Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Compost Filter Sock		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Detention Basins		☐ VC ☐ RC ☐ WQ	_____	_____
Access Road Design	Infiltration/Recharge			
☐ Road Crowning		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Ditches		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Turnouts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Culverts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Roadside Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Energy Dissipaters	Infiltration/Recharge			
☐ Level Spreaders		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Riprap Aprons		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Upslope Diversions		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Other_____		☐ VC ☐ RC ☐ WQ	_____	_____

g. Critical PCSM Plan stages

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

1. Engineer shall inspect the subsurface infiltration facilities prior to backfilling.
2. Engineer shall inspect final stabilization prior to removal of temporary measures.

MLV-4

e. Summary Table for Supporting Calculation and Measurement Data
(See NOI Instructions for additional guidance with this section)

The remainder of this section (Summary Table for Calculation and Measurement Data) does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 or Chapter 78a (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name: Oswayo Creek

Volume Control design storm frequency 2-year Rainfall amount 2.39 inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0.00	0.032	+0.032
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.011	0.019	+0.008
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.000	-0.011
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	0.100 cfs	0.077 cfs	-0.023 cfs
2) 10-Year/24-Hour	0.527 cfs	0.265 cfs	-0.262 cfs
3) 50-year/24-Hour	1.646 cfs	0.880 cfs	-0.078 cfs
4) 100-year/24-Hour	2.445 cfs	2.330 cfs	-0.115 cfs

f. Summary Description of PCSM/SR BMPs

In the lists below, check the BMPs identified in the PCSM Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the PCSM/SR Plan is not listed below, describe it in the space provided after "Other". A summary table with infiltration testing information (Attachment E, included in the NOI Instructions) must be submitted for all Bio-infiltration BMPs included in PCSM/SR plan.

For Rate control provide the volume of stormwater treated and acres treated for the 100-year/24-hour storm event.

For volume control and water quality provide the volume of stormwater treated and acres treated for the 2-year/24-hour storm event.

Key for BMP purpose(s): VC = Volume Control; RC = Rate Control; and WQ = Water Quality

BMP	Function(s)	Purpose(s)	Volume of stormwater treated	Acres treated
Site Restoration ONLY ☐ Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	☐ VC ☐ RC ☐ WQ	_____	_____
Bio-infiltration areas ☒ Infiltration Trench ☐ Infiltration Bed ☐ Infiltration Basin ☐ Rain Garden/ Bioretention ☐ Infiltration Berm	Infiltration/Recharge	☒ VC ☒ RC ☒ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ	849 cf _____ _____ _____ _____	1.39 _____ _____ _____ _____

Natural Area Conservation	Infiltration/Recharge			
☐ Streamside Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wetland Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Sensitive Area Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Pre-Construction Drainage Pattern Intact		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Retention	Detention/Retention			
☐ Constructed Wetlands		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wet Ponds		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Retention Basin		☐ VC ☐ RC ☐ WQ	_____	_____
Sediment and Pollutant Removal	Water Quality Treatment			
☐ Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Compost Filter Sock		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Detention Basins		☐ VC ☐ RC ☐ WQ	_____	_____
Access Road Design	Infiltration/Recharge			
☐ Road Crowning		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Ditches		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Turnouts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Culverts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Roadside Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Energy Dissipaters	Infiltration/Recharge			
☐ Level Spreaders		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Riprap Aprons		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Upslope Diversions		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Other_____		☐ VC ☐ RC ☐ WQ	_____	_____

g. Critical PCSM Plan stages

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

1. Engineer shall inspect the subsurface infiltration facilities prior to backfilling.
2. Engineer shall inspect final stabilization prior to removal of temporary measures.

Marvindale Compressor Station

e. Summary Table for Supporting Calculation and Measurement Data
(See NOI Instructions for additional guidance with this section)

The remainder of this section (Summary Table for Calculation and Measurement Data) does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 or Chapter 78a (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name: Warner Brook

Volume Control design storm frequency 2-year Rainfall amount 2.50 inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0.58	4.81	+4.23
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.78	1.38	+0.60
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.78	0.00
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	0.03 cfs	0.00 cfs	-0.03 cfs
2) 10-Year/24-Hour	0.54 cfs	0.22 cfs	-0.33 cfs
3) 50-year/24-Hour	5.31 cfs	2.34 cfs	-2.96 cfs
4) 100-year/24-Hour	10.00 cfs	5.31 cfs	-4.69 cfs

f. Summary Description of PCSM/SR BMPs

In the lists below, check the BMPs identified in the PCSM Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the PCSM/SR Plan is not listed below, describe it in the space provided after "Other". A summary table with infiltration testing information (Attachment E, included in the NOI Instructions) must be submitted for all Bio-infiltration BMPs included in PCSM/SR plan.

For Rate control provide the volume of stormwater treated and acres treated for the 100-year/24-hour storm event.

For volume control and water quality provide the volume of stormwater treated and acres treated for the 2-year/24-hour storm event.

Key for BMP purpose(s): VC = Volume Control; RC = Rate Control; and WQ = Water Quality

BMP	Function(s)	Purpose(s)	Volume of stormwater treated	Acres treated
Site Restoration ONLY ☒ Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	☒ VC ☒ RC ☒ WQ	_____	4.6
Bio-infiltration areas ☐ Infiltration Trench ☐ Infiltration Bed ☐ Infiltration Basin ☐ Rain Garden/ Bioretention ☒ Infiltration Berm	Infiltration/Recharge	 ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☐ VC ☐ RC ☐ WQ ☒ VC ☒ RC ☒ WQ	 _____ _____ _____ _____ 26,196 cf	 _____ _____ _____ _____ 7.2

Natural Area Conservation	Infiltration/Recharge			
☐ Streamside Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wetland Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Sensitive Area Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Pre-Construction Drainage Pattern Intact		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Retention	Detention/Retention			
☐ Constructed Wetlands		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wet Ponds		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Retention Basin		☐ VC ☐ RC ☐ WQ	_____	_____
Sediment and Pollutant Removal	Water Quality Treatment			
☐ Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
☒ Compost Filter Sock		☐ VC ☐ RC ☒ WQ	_____	_____
☐ Detention Basins		☐ VC ☐ RC ☐ WQ	_____	_____
Access Road Design	Infiltration/Recharge			
☐ Road Crowning		☐ VC ☐ RC ☐ WQ	_____	_____
☒ Ditches		☐ VC ☐ RC ☐ WQ	_____	0.3
☐ Turnouts		☐ VC ☐ RC ☐ WQ	_____	_____
☒ Culverts		☐ VC ☐ RC ☐ WQ	_____	13.8
☐ Roadside Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Energy Dissipaters	Infiltration/Recharge			
☐ Level Spreaders		☐ VC ☐ RC ☐ WQ	_____	_____
☒ Riprap Aprons		☐ VC ☐ RC ☐ WQ	_____	14.1
☐ Upslope Diversions		☐ VC ☐ RC ☐ WQ	_____	_____
☒ Other Retentive Berm		☐ VC ☒ RC ☒ WQ	_____	0.5

g. Critical PCSM Plan stages

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

1. A licensed professional or designee shall be present on site during installation of bioretention sock infiltration/retention berms to verify that the BMP is being implemented in accordance with the approved plan.

2. Upon completion of construction, a licensed professional or designee shall complete an inspection to verify that BMPs are in place and functioning as designed.

3. After the first growing season, a licensed professional or designee shall perform an inspection to verify that BMPs continue to function as designed and verify that permanent vegetative stabilization has been established.

Tamarack Compressor Station

e. Summary Table for Supporting Calculation and Measurement Data
(See NOI Instructions for additional guidance with this section)

The remainder of this section (Summary Table for Calculation and Measurement Data) does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 or Chapter 78a (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name: Drury Run - North Watershed

Volume Control design storm frequency 2 year/24 hour Rainfall amount 2.50 inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0.00	0.40	0.40
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.11	0.17	0.17
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.03	-0.08
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	1.55	1.17	-0.38
2) 10-Year/24-Hour	5.17	3.75	-1.42
3) 50-year/24-Hour	11.18	8.21	-2.97
4) 100-year/24-Hour	14.60	10.77	-3.83

Watershed Name: Drury Run - South Watershed

Volume Control design storm frequency 2 year/24 hour Rainfall amount 2.50 inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0.00	4.97	4.97
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.57	1.24	0.67
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.48	-0.08
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour	6.34	4.49	-1.85
2) 10-Year/24-Hour	19.92	17.64	-2.28
3) 50-year/24-Hour	41.95	38.33	-3.62
4) 100-year/24-Hour	54.43	49.60	-4.83

f. Summary Description of PCSM/SR BMPs

In the lists below, check the BMPs identified in the PCSM Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the PCSM/SR Plan is not listed below, describe it in the space provided after "Other". A summary table with infiltration testing information (Attachment E, included in the NOI Instructions) must be submitted for all Bio-infiltration BMPs included in PCSM/SR plan.

For Rate control provide the volume of stormwater treated and acres treated for the 100-year/24-hour storm event.

For volume control and water quality provide the volume of stormwater treated and acres treated for the 2-year/24-hour storm event.

Key for BMP purpose(s): VC = Volume Control; RC = Rate Control; and WQ = Water Quality

BMP	Function(s)	Purpose(s)	Volume of stormwater treated	Acres treated
Site Restoration ONLY				
☒ Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	☒ VC ☒ RC ☒ WQ	_____	10.2
Bio-infiltration areas	Infiltration/Recharge			
☐ Infiltration Trench		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Infiltration Bed		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Infiltration Basin		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Rain Garden/ Bioretention		☐ VC ☐ RC ☐ WQ	_____	
☒ Infiltration Berm		☒ VC ☒ RC ☒ WQ	5,998 cf	2.5
Natural Area Conservation	Infiltration/Recharge			
☐ Streamside Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Wetland Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Sensitive Area Buffer Zone		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Pre-Construction Drainage Pattern Intact		☐ VC ☐ RC ☐ WQ	_____	_____
Stormwater Retention	Detention/Retention			
☐ Constructed Wetlands		☐ VC ☐ RC ☐ WQ	_____	_____
☒ Wet Ponds		☒ VC ☒ RC ☒ WQ	32,833 cf	8.0
☐ Retention Basin		☐ VC ☐ RC ☐ WQ	_____	_____
Sediment and Pollutant Removal	Water Quality Treatment			
☐ Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____
☒ Compost Filter Sock		☐ VC ☐ RC ☒ WQ	_____	_____
☐ Detention Basins		☐ VC ☐ RC ☐ WQ	_____	_____
Access Road Design	Infiltration/Recharge			
☐ Road Crowning		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Ditches		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Turnouts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Culverts		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Roadside Vegetated Filter Strips		☐ VC ☐ RC ☐ WQ	_____	_____

Stormwater Energy Dissipaters	Infiltration/Recharge			
☐ Level Spreaders		☐ VC ☐ RC ☐ WQ	_____	_____
☐ Riprap Aprons		☐ VC ☐ RC ☐ WQ	_____	_____
☒ Upslope Diversions		☐ VC ☐ RC ☒ WQ	_____	37.0
☐ Other_____		☐ VC ☐ RC ☐ WQ	_____	_____

g. Critical PCSM Plan stages

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

1. A licensed professional or designee shall be present on site during installation of the bioretention sock infiltration berm and the conversion of the sediment basin into a wet pond to verify that the BMPs are being implemented in accordance with the approved plan.

2. Upon completion of construction, a licensed professional or designee shall complete an inspection to verify that BMPs are in place and functioning as designed.

3. After the first growing season, a licensed professional or designee shall perform an inspection to verify that BMPs continue to function as designed and verify that permanent vegetative stabilization has been established.

SECTION I. ANTIDEGRADATION ANALYSIS

This section must be completed where earth disturbance activities will be conducted in the watershed of a surface water with an existing or designated use of exceptional value or high quality pursuant to Chapter 93 (relating to water quality standards), projects where any part is located in an exceptional value wetland in accordance with 25 Pa. Code § 105.17, and projects where any part is located in the watershed of an impaired surface water where the cause of impairment is identified as siltation.

Part 1 - NONDISCHARGE ALTERNATIVES EVALUATION

The applicant must consider and describe any and all non-discharge alternatives for the entire project area which are environmentally sound and will**:**

- Minimize accelerated erosion and sedimentation during the earth disturbance activity
- Achieve no net change from pre-development to post-development volume, rate and concentration of pollutants in water quality

E & S Plan	PCSM/SR Plan
Check off the environmentally sound nondischarge Best Management Practices (BMPs) listed below to be used prior to, during, and after earth disturbance activities that have been incorporated into your E & S Plan based on the site analysis. For non-discharge BMPs not checked, provide an explanation of why they were not utilized. Also for BMPs checked, provide an explanation of why they were utilized. (Provide the analysis and attach additional sheets if necessary)	Check off the environmentally sound nondischarge Best Management Practices (BMPs) listed below to be used after construction that have been incorporated into the PCSM/SR Plan based on your site analysis. For non-discharge BMPs not checked, provide an explanation of why they were not utilized. Also for BMPs checked, provide an explanation of why they were utilized. (Provide the analysis and attach additional sheets if necessary)
Nondischarge BMPs ☐ Alternative Siting ☐ Alternative location ☐ Alternative configuration ☐ Alternative location of discharge ☒ Limited Disturbed Area ☒ Limiting Extent & Duration of Disturbance (Phasing, Sequencing) ☐ Riparian Buffers (150 ft. min.) ☐ Riparian Forest Buffer (150 ft. min.) ☐ Other _____	**Nondischarge BMPs** ☐ Alternative Siting ☐ Alternative location ☐ Alternative configuration ☐ Alternative location of discharge ☐ Low Impact Development (LID / BSD) ☐ Riparian Buffers (150 ft. min.) ☐ Riparian Forest Buffer (150 ft. min.) ☒ Infiltration ☐ Water Reuse ☐ Other _____
Will the non-discharge alternative BMPs eliminate the net change in rate, volume and quality during construction? ☐ Yes ☒ No If yes, antidegradation analysis is complete. If no, proceed to Part 2.	Will the non-discharge alternative BMPs eliminate the net change in rate, volume and quality after construction? ☒ Yes ☐ No If yes, antidegradation analysis is complete. If no, proceed to Part 2.

PART 2 - ANTIDEGRADATION BEST AVAILABLE COMBINATION OF TECHNOLOGIES (ABACT)

If the net change in stormwater discharge from or after construction is not fully managed by nondischarge BMPs, the applicant must utilize ABACT BMPs to manage the difference. The Applicant must specify whether the discharge will occur during construction, post-construction or both, and identify the technologies that will be used to ensure that the discharge will be a non-degrading discharge. ABACT BMPs include but are not limited to:

E & S Plan

☒ **Treatment BMPs:**
- ☐ Sediment basin with skimmer
- ☐ Sediment basin ratio of 4:1 or greater (flow length to basin width)
- ☐ Sediment basin with 4-7 day detention
- ☐ Flocculants
- ☒ Compost Filter Socks
- ☐ Compost Filter Sock Sediment Basin
- ☐ RCE w/ Wash Rack

☒ **Land disposal:**
- ☐ Vegetated filters
- ☐ Riparian buffers <150ft.
- ☐ Riparian Forest Buffer <150ft.
- ☒ Immediate stabilization

☒ **Pollution prevention:**
- ☐ PPC Plans
- ☒ Street sweeping
- ☒ Channels, collectors and diversions lined with permanent vegetation, rock, geotextile or other non-erosive materials

☐ **Stormwater reuse technologies:**
- ☐ Sediment basin water for dust control
- ☐ Sediment basin water for irrigation

☒ **Other** 100-ft long rock construction entrances with street sweeping

Are the ABACT BMPs selected sufficient to minimize E&S discharges to the extent that existing or designated surface water uses are protected?

☒ Yes ☐ No

If yes, Antidegradation analysis is complete.
If no, NOI Application will be returned to the Applicant.

PCSM/SR Plan

☒ **Treatment BMPs:**
- ☒ Infiltration Practices
- ☒ Wet ponds
- ☐ Created wetland treatment systems
- ☐ Vegetated swales
- ☐ Manufactured devices
- ☐ Bio-retention/infiltration
- ☐ Green Roofs

☐ **Land disposal:**
- ☐ Vegetated filters
- ☐ Riparian Buffers <150ft.
- ☐ Riparian Forest Buffer <150ft.
- ☐ Disconnection of roof drainage
- ☐ Bio-retention/bio-infiltration

☒ **Pollution prevention:**
- ☐ Street sweeping
- ☐ Nutrient, pesticide, herbicide or other chemical application plan alternatives
- ☐ PPC Plans
- ☒ Non-structural Practices
- ☒ Restoration BMPs

☐ **Stormwater reuse technologies:**
- ☐ Divert rainwater into impoundment
- ☐ Underground storage

☐ Spray/Drip Irrigation

☐ **Other** _____

Are the ABACT BMPs selected sufficient to achieve no net change and assure that existing or designated surface water uses are protected?

☒ Yes ☐ No

If yes, Antidegradation analysis is complete.
If no, NOI Application will be returned to the Applicant.

SECTION J. COMPLIANCE HISTORY REVIEW

Is/was the applicant(s) in violation of any Department regulation, order, schedule of compliance or permit or in violation of any department regulated activities within the past five years?

☐ Yes ☒ No

If yes, provide the permit number or facility name, a brief description of the violation, the compliance schedule (including dates and steps to achieve compliance) and the current compliance status. (Attach additional information on a separate sheet, when necessary)

Permit Program or Activity: _____ **Permit Number (if applicable):** _____

Brief Description of non-compliance:

Steps taken to achieve compliance	Date(s) compliance achieved

Current Compliance Status: ☐ In-Compliance ☐ In Non-Compliance

If in non-compliance, attach schedule for achieving compliance.

PERSON PREPARING E&S PLANS

SECTION K. CERTIFICATION BY PERSON PREPARING E&S AND PCSM/SR PLANS

I do hereby certify to the best of my knowledge, information, and belief, that the Erosion and Sediment Control and PCSM/Site Restoration Plans are true and correct, represent actual field conditions, and are in accordance with the 25 Pa. Code Chapters 78/78a and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Print Name Michael DeNichilo	Signature	Professional Seal
Company Mott MacDonald		
Address 111 Wood Avenue South, Iselin, NJ 08830-4112		
Phone (973)379-3400		
Most Recent DEP Training Attended -	Location -	Date -
e-Mail Address michael.denichilo@mottmac.com		

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MICHAEL DENICHILO
ENGINEER
PE086513

10/25/2019

EXPEDITED REVIEW PROCESS

In addition to the certification required above, applicants using the expedited permit review process must attach an E&S and PCSM/Site Restoration Plans developed and sealed by a licensed professional engineer, surveyor or professional geologist. The plans shall contain the following certification:

I do hereby certify to the best of my knowledge, information, and belief, that the E & S Control and PCSM/SR BMPs are true and correct, represent actual field conditions and are in accordance with the 25 Pa. Code Chapters 78 / 78a and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SECTION L. APPLICANT CERTIFICATION

Applicant Certification

I certify under penalty of law, as provided by 18 Pa. C.S.A. § 4904, that this application and all related attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my own knowledge and on inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. The responsible official's signature also verifies that the activity is eligible to participate in the ESCGP, and that the applicant agrees to abide by the terms and conditions of the permit. BMP's, E&S Plan, PPC Plan, PCSM Plan, and other controls are being or will be, implemented to ensure that water quality standards and effluent limits are attained.

I grant permission to the agencies responsible for the permitting of this work, or their duly authorized representative to enter the project site for inspection purposes. I will abide by the conditions of the permit if issued and will not begin work prior to permit issuance.

(For individuals no indication of title is necessary, choose the box below. All others proceed to the next paragraph)

☐ **Individual; proceed to signature portion.**

I hereby certify under penalty of law, as provided by 18 Pa. C.S.A. § 4904, that I am the person who is responsible for decision-making regarding environmental compliance functions for Enter Entity name, the manager of one or more manufacturing, production, or operating facilities of the applicant and am authorized to make management decisions which govern the operation of regulated facility including having explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure the applicant's long term environmental compliance with environmental laws and regulations; and I am responsible for ensuring that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements.

PERSON PREPARING PCSM PLANS FOR MARVINDALE INTERCONNECT, CARPENTER HOLLOW OPP, MLV-1, MLV-2, MLV-3, MLV-4

SECTION K. CERTIFICATION BY PERSON PREPARING E&S AND PCSM/SR PLANS

I do hereby certify to the best of my knowledge, information, and belief, that the Erosion and Sediment Control and PCSM/Site Restoration Plans are true and correct, represent actual field conditions, and are in accordance with the 25 Pa. Code Chapters 78/78a and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Print Name W. Michael Clark	Signature	Professional Seal
Company Mott MacDonald		
Address 111 Wood Avenue South, Iselin, NJ 08830-4112		
Phone (973)379-3400		
Most Recent DEP Training Attended -	Location -	Date -
e-Mail Address michael.clark@mottmac.com		

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
W. MICHAEL CLARK
ENGINEER
PE082720

10/25/2019

EXPEDITED REVIEW PROCESS

In addition to the certification required above, applicants using the expedited permit review process must attach an E&S and PCSM/Site Restoration Plans developed and sealed by a licensed professional engineer, surveyor or professional geologist. The plans shall contain the following certification:

I do hereby certify to the best of my knowledge, information, and belief, that the E & S Control and PCSM/SR BMPs are true and correct, represent actual field conditions and are in accordance with the 25 Pa. Code Chapters 78 / 78a and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SECTION L. APPLICANT CERTIFICATION

Applicant Certification

I certify under penalty of law, as provided by 18 Pa. C.S.A. § 4904, that this application and all related attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my own knowledge and on inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. The responsible official's signature also verifies that the activity is eligible to participate in the ESCGP, and that the applicant agrees to abide by the terms and conditions of the permit. BMP's, E&S Plan, PPC Plan, PCSM Plan, and other controls are being or will be, implemented to ensure that water quality standards and effluent limits are attained.

I grant permission to the agencies responsible for the permitting of this work, or their duly authorized representative to enter the project site for inspection purposes. I will abide by the conditions of the permit if issued and will not begin work prior to permit issuance.

(For individuals no indication of title is necessary, choose the box below. All others proceed to the next paragraph)

☐ **Individual; proceed to signature portion.**

I hereby certify under penalty of law, as provided by 18 Pa. C.S.A. § 4904, that I am the person who is responsible for decision-making regarding environmental compliance functions for Enter Entity name, the manager of one or more manufacturing, production, or operating facilities of the applicant and am authorized to make management decisions which govern the operation of regulated facility including having explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure the applicant's long term environmental compliance with environmental laws and regulations; and I am responsible for ensuring that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements.

PERSON PREPARING E&S AND PCSM PLANS FOR MARVINDALE COMPRESSOR STATION AND TAMARACK COMPRESSOR STATION

SECTION K. CERTIFICATION BY PERSON PREPARING E&S AND PCSM/SR PLANS

I do hereby certify to the best of my knowledge, information, and belief, that the Erosion and Sediment Control and PCSM/Site Restoration Plans are true and correct, represent actual field conditions, and are in accordance with the 25 Pa. Code Chapters 78/78a and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Print Name Gregory Heilman, P.E.	Signature	Professional Seal
Company Michael Baker International		
Address 100 Airside Drive, Moon Township, PA 15108		
Phone 412-269-6096		
Most Recent DEP Training Attended	Location	Date
DEP Oil and Gas Training	Greentree, PA	12/2017
e-Mail Address gheilman@mbakerintl.com		

EXPEDITED REVIEW PROCESS

In addition to the certification required above, applicants using the expedited permit review process must attach an E&S and PCSM/Site Restoration Plans developed and sealed by a licensed professional engineer, surveyor or professional geologist. The plans shall contain the following certification:

I do hereby certify to the best of my knowledge, information, and belief, that the E & S Control and PCSM/SR BMPs are true and correct, represent actual field conditions and are in accordance with the 25 Pa. Code Chapters 78 / 78a and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SECTION L. APPLICANT CERTIFICATION

Applicant Certification

I certify under penalty of law, as provided by 18 Pa. C.S.A. § 4904, that this application and all related attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my own knowledge and on inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. The responsible official's signature also verifies that the activity is eligible to participate in the ESCGP, and that the applicant agrees to abide by the terms and conditions of the permit. BMP's, E&S Plan, PPC Plan, PCSM Plan, and other controls are being or will be, implemented to ensure that water quality standards and effluent limits are attained.

I grant permission to the agencies responsible for the permitting of this work, or their duly authorized representative to enter the project site for inspection purposes. I will abide by the conditions of the permit if issued and will not begin work prior to permit issuance.

(For individuals no indication of title is necessary, choose the box below. All others proceed to the next paragraph)

☐ **Individual; proceed to signature portion.**

I hereby certify under penalty of law, as provided by 18 Pa. C.S.A. § 4904, that I am the person who is responsible for decision-making regarding environmental compliance functions for National Fuel Supply Corporation, the manager of one or more manufacturing, production, or operating facilities of the applicant and am authorized to make management decisions which govern the operation of regulated facility including having explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure the applicant's long term environmental compliance with environmental laws and regulations; and I am responsible for ensuring that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements.

(choose one of the following; not applicable for individuals):

☐ The responsible corporate officer ☐ president ■ vice president ☐ secretary
☐ treasure of NATIONAL FUEL GAS SUPPLY (Corporation)/Company
Entity name

☐ The ☐ member or ☐ manager of _____ LLC
Entity name

☐ The general partner of _____ partnership/LP/LLP
Entity name

☐ The principal executive officer or ranking elected official of _____ Municipality/State/Federal/other public agency
Entity name

☐ Power of Attorney/delegation of contractual authority (documentation supporting delegation of contracting authority must be provided) for _____
Entity name

JEFFERY J. KITTKA, VICE PRESIDENT
Print Name and Title of Applicant

Signature of Applicant

11/5/19
Date Application Signed

Print Name and Title of Co-Applicant (if applicable)

Signature of Co-Applicant

Date Application Signed

Notarization

Sworn to and subscribed to before me this
5th day of November, 20 19

Jeannine M. Bacher
Notary Public

AFFIX SEAL

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Jeannine M. Bacher, Notary Public
City of Erie, Erie County
My Commission Expires Nov. 24, 2019
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Commonwealth of Pennsylvania
County of _____
My Commission expires _____

SECTION M. ADDITIONAL CONTACT INFORMATION				
Contact's Last Name Gibbons	First Name Douglas	MI	Phone (801) 571-6522 FAX	
Mailing Address 5295 S. Commerce Drive	City Murray		State UT	ZIP + 4 84107-4719
e-Mail Address douglas.gibbons@mottmac.com				

Summary of Bio-Infiltration BMPs														
	Infiltration Information					Drainage Information				BMP Information				
Proposed Structural bio-Infiltration BMPs (site specific)	Measured Infiltration Rate[1] (in./hr)	Factor of safety (min. of 2)	Design Infiltration rate (in./hr)	De-watering time[2] (hr)	Elevation of limiting zone-water table bedrock, etc.[3]	Total drainage area to BMP (sq. ft)	Total impervious drainage area to BMP (sq. ft)	Infiltration BMP Surface area (sq. ft)	Volume of runoff tributary to BMP during the 2yr/24 hr design storm[4] (cf)	Calculated removed volume (cf)	Maximum water surface elevation in BMP from 2yr storm[6]	Infiltration elevation bottom of bed/basin[6]	Elevation of infiltration test[7]	Elevation of E&S sediment basin bottom (if applies)
CARPENTER HALLOW OPP INFILTRATION TRENCH	0.125 IN/HR	2	0.063 IN/HR	19.20 HR	N/A	1.109 ACRES	0.356 ACRES	0.356 ACRES	3,699 CF	3,778 CF	2,268.91	2,268.30	2,269.00	N/A
MARVINDALE INTERCONNECT INFILTRATION TRENCH	0.38 IN/HR	2	0.19 IN/HR	39.40 HR	N/A	0.431 ACRES	0.107 ACRES	0.067 ACRES	1,766 CF	2,343 CF	2,090.56	2,089.10	2,092	N/A
MLV 1 INFILTRATION TRENCH	8.31 IN/HR	2	4.16 IN/HR	2.76 HR	N/A	0.155 ACRES	0.094 ACRES	0.036 ACRES	676 CF	896 CF	1,584.92	1,583.50	1,584	N/A
MLV 2 INFILTRATION TRENCH	10.28 IN/HR	2	5.14 IN/HR	11.94 HR	N/A	0.268 ACRES	0.048 ACRES	0.036 ACRES	382 CF	467 CF	1,512.24	1,511.50	1,511	N/A
MLV 3 INFILTRATION TRENCH	4.50 IN/HR	2	2.25 IN/HR	27.92 HR	N/A	0.517 ACRES	0.071 ACRES	0.071 ACRES	237 CF	249 CF	2,233.20	2,233	2,233.5	N/A
MLV 4 INFILTRATION TRENCH	3.00 IN/HR	2	1.50 IN/HR	6.20 HR	N/A	1.387 ACRES	0.090 ACRES	0.090 ACRES	840 CF	849 CF	2,271.04	2,270.50	2,274	N/A

All information should be based on the 2-yr/24-hr storm.
Provide page numbers from the stormwater narrative identifying the location of the above information.

[1]The infiltration testing information should be located on the plan view of the PCSM plan and should include infiltration test elevation and rate
[2]Can include active infiltration time-dewatering time should not exceed 72 hours after the 2-yr/24-hr storm
[3]Depth to limiting zone is recommended to be at least 2 ft below infiltration
[4]The value should be greater than or equal to the volume to be infiltrated or managed by the BMP
[6]A maximum of 2 ft hydraulic head is recommended
[7]Provide supporting field notes/documentation from soil evaluation

Any deviation from the recommendations above should be adequately justified by a qualified professional and included with the application.

Note: This chart is for summary purposes only and should be consistent with all design calculations and worksheets.

Summary of Bio-Infiltration BMPs														
	Infiltration Information					Drainage Information				BMP Information				
Proposed Structural bio-Infiltration BMPs (site specific)	Measured Infiltration Rate[1] (in./hr)	Factor of safety (min. of 2)	Design Infiltration rate (in./hr)	De-watering time[2] (hr)	Elevation of limiting zone-water table bedrock, etc.[3]	Total drainage area to BMP (sq. ft)	Total impervious drainage area to BMP (sq. ft)	Infiltration BMP Surface area (sq. ft)	Volume of runoff tributary to BMP during the 2yr/24 hr design storm[4] (cf)	Calculated removed volume (cf)	Maximum water surface elevation in BMP from 2yr storm[6]	Infiltration elevation bottom of bed/basin[6]	Elevation of infiltration test[7]	Elevation of E&S sediment basin bottom (if applies)
Infiltration Berm	***	***	***	***	***	111,513	12,632	7,055	5,998	5,998	1741.0	1739.0	***	N/A

All information should be based on the 2-yr/24-hr storm.
Provide page numbers from the stormwater narrative identifying the location of the above information.

[1]The infiltration testing information should be located on the plan view of the PCSM plan and should include infiltration test elevation and rate
[2]Can include active infiltration time-dewatering time should not exceed 72 hours after the 2-yr/24-hr storm
[3]Depth to limiting zone is recommended to be at least 2 ft below infiltration
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[6]A maximum of 2 ft hydraulic head is recommended
[7]Provide supporting field notes/documentation from soil evaluation

Any deviation from the recommendations above should be adequately justified by a qualified professional and included with the application.

Note: This chart is for summary purposes only and should be consistent with all design calculations and worksheets.

***** As per item 7 on Page 117 of the BMP Manual, since the proposed berms are located in existing woodlands, infiltration testing was not required.**

Summary of Bio-Infiltration BMPs														
	Infiltration Information					Drainage Information				BMP Information				
Proposed Structural bio-Infiltration BMPs (site specific)	Measured Infiltration Rate[1] (in./hr)	Factor of safety (min. of 2)	Design Infiltration rate (in./hr)	De-watering time[2] (hr)	Elevation of limiting zone-water table bedrock, etc.[3]	Total drainage area to BMP (sq. ft)	Total impervious drainage area to BMP (sq. ft)	Infiltration BMP Surface area (sq. ft)	Volume of runoff tributary to BMP during the 2yr/24 hr design storm[4] (cf)	Calculated removed volume (cf)	Maximum water surface elevation in BMP from 2yr storm[6]	Infiltration elevation bottom of bed/basin[6]	Elevation of infiltration test[7]	Elevation of E&S sediment basin bottom (if applies)
Infiltration Berm 1	***	***	***	***	***	190,916	131,867	10,213	18,060	18,060	2103.5	2101.0	***	N/A
Infiltration Berm 2	***	***	***	***	***	264,148	164,734	8,794	6,086	6,086	2098.2	2097.0	***	N/A
Infiltration Berm 3	***	***	***	***	***	313,404	167,343	9,371	2,050	2,050	2092.4	2092.0	***	N/A

All information should be based on the 2-yr/24-hr storm.
Provide page numbers from the stormwater narrative identifying the location of the above information.

[1]The infiltration testing information should be located on the plan view of the PCSM plan and should include infiltration test elevation and rate
[2]Can include active infiltration time-dewatering time should not exceed 72 hours after the 2-yr/24-hr storm
[3]Depth to limiting zone is recommended to be at least 2 ft below infiltration
[4]The value should be greater than or equal to the volume to be infiltrated or managed by the BMP
[6]A maximum of 2 ft hydraulic head is recommended
[7]Provide supporting field notes/documentation from soil evaluation

Any deviation from the recommendations above should be adequately justified by a qualified professional and included with the application.

Note: This chart is for summary purposes only and should be consistent with all design calculations and worksheets.

***** As per item 7 on Page 117 of the BMP Manual, since the proposed berms are located in existing woodlands, infiltration testing was not required.**

Attachment 1

Municipalities/Counties Impacted by Project

McKean County
Keating Twp
Liberty Twp
Norwich Twp
Sergeant Twp
Potter County
Allegany Twp
Clara Twp
Hebron Twp
Pleasant Valley Twp
Portage Twp
Roulette Twp
Sylvania Twp
Wharton Twp
Cameron County
Driftwood Boro
Gibson Twp
Grove Twp
Lumber Twp
Elk County
Benezette Twp
Clearfield County
Huston Twp
Lawrence Twp
Clinton County
Leidy Twp

Attachment D

CLINTON COUNTY CONSERVATION DISTRICT

45 COOPERATION LANE, MILL HALL, PA 17751
PHONE: (570) 726-3798
FAX: (570) 726-7977
conserve@clintoncountypa.com

APPLICATION FOR AN EROSION AND SEDIMENT POLLUTION CONTROL PLAN REVIEW

FOR DISTRICT USE ONLY
Date received

P#_____

This application must be completed by the applicant or his/her agent and submitted along with the other listed requirements before an Erosion and Sedimentation Pollution Control Plan review can begin.

Project Name FM100 Project *Application Date* 11/2019

*Project Type/Brief Description*_____

*Receiving Stream*_____ *Chapter 93 Classification* Choose One

Total Project Area (Acres) 556.0 *Total* ***Disturbed*** *Area (Acres)* 15.6 *Municipality* Leidy

Owner/Developer Information

Name Wayne Graham, National Fuel Gas Supply Corporation

Address 1100 State Street

City Erie

State/Zip PA, 16501

Phone (814) 871-8582

Email grahamw@natfuel.com

Plan Preparer Information **(If different than Owner)**

Name Michael DeNichilo, Mott MacDonald

Address 111 Wood Avenue South

City Iselin

State/Zip New Jersey, 08830

Phone (973) 379 - 3400

Email michael.denichilo@mottmac.com

Excavator Information

Name_____

Address_____

City_____

State/Zip_____

Phone_____

Email_____

APPLICATION CHECKLIST:

_____ One (1) copy E&S Plan (blue/green sheets)
_____ One (1) copy completed application form
_____ Check made payable to:
Clinton County Conservation District in the appropriate amount. (See attached fee schedule.)

Amount of check $_____ Check# _____

Received by _____

Chapter 105 Permit (GP) Attached?
☐ Yes ☐ No

Application for NPDES Permit?
☐ Yes ☐ No

CCCWF Ck#_____
Amt.$ _____
PACWF Ck# _____
Amt. $ _____

Fees and plans showing the required information are to be submitted with this application. Any additional plans or information required by the Clinton County Conservation District should be submitted promptly.

I, the undersigned, agree to comply with all the requirements of TITLE 25, Chapter 102 EROSION CONTROL RULES AND REGULATIONS set forth by the Pennsylvania Department of Environmental Protection and further agree to obtain all necessary Federal, State, County, and Local permits and approvals connected with subject project. The applicant also agrees to notify the District at least three (3) days prior to the start of the project; to maintain a copy of the approved Erosion and Sediment Pollution Control Plan on site at all times; to notify the District upon completion of the project; and to allow District Representatives to enter upon the project site at any time for inspection.

Wayne Graham ENVIRONMENTAL COMPLIANCE MANAGER 11/5/2019
Applicant's Signature/Title Date

Updated on 12/3/2013

Please make and keep a copy of this plan for yourself and your contractor!

Erosion and Sediment Pollution Control Plan

INFORMATION SHEET

This information will be used to determine whether a Low Hazard Erosion and Sediment Pollution Control Plan will be adequate for your earth disturbance project, according to newly mandated EPA regulations.

PLEASE PRINT. Only use black or blue pen or typewrite information. Please do not leave blank spaces. Incomplete information will cause a delay in processing and approval of paperwork. If you are unsure of specific information, please inquire before submitting this form to our office. It is not our responsibility to fill in information.

Landowner Name: _____

Project Name: _____

Project Location (Municipality): _____ Township/Boro/City

Have you contacted the municipality to discuss this project? _____

Is this parcel a portion of a larger development? If yes, please give name and phase of the development. If not, write N/A.

_____

Project Address or give **specific** directions for locating the project site. Include distances, landmarks, or special features. Also, attach a map if possible. Please make sure that property corners and proposed driveway entrance are staked/flagged out.

Project Address: _____

Specific Directions:

_____

_____

_____

Briefly describe your project and the extent of earthmoving.

_____

_____

_____

Is the earth disturbance in a known floodway, floodplain, or within 50 feet of a stream or waterway?

Yes ☐ No ☐

Return plan to:
CLINTON COUNTY CONSERVATION DISTRICT
45 COOPERATION LANE
MILL HALL, PA 17751
570.726.3798

Estimated dates for project start and completion.

START_____ END_____

List the name of the watershed (nearest receiving stream) and Chapter 93 classification in which the project is proposed._____

Project Acres (total lot size/parcel size where project is located) _____

Total Amount of **DISTURBED** Area:

	Total Length	x	Average Width	=	Area (Square Ft)
Access Roads/Driveways		x		=	0
Foundation/Building #1		x		=	0
Foundation/Building #2		x		=	0
Lawn/Landscape Area		x		=	0
Water/Sewer/Septic		x		=	0
Other (includes topsoil pile)		x		=	0

TOTAL AREA = 0 SQ.FT.

TOTAL AREA 0 SQ.FT. ÷ 43560 = 0.00 Acres Disturbed

- Are steep slopes in excess of 10% within your project boundaries, or in the immediate surrounding areas? Yes ☐ No ☐
- % Slope of proposed access road and/or driveway? _____
- Does off-site drainage exist? Yes ☐ No ☐
- What is the total square footage of **new impervious area (roof coverage, driveways, parking areas, and/or stoned surfaces)** on your site following the new construction? _____
- Are you aware of a ***point source discharge*** to ***surface waters of the Commonwealth*** which may occur from this construction site? Yes ☐ No ☐

Point Source Discharge – "any discernable, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure...from which pollutants are or may be discharged."

Surface Waters of the Commonwealth – "any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourse, storm sewers, lakes, dammed water, ponds, springs, wetlands and all other bodies or channels of conveyance of surface water...whether natural or artificial, within or on the boundaries of this Commonwealth."

FOR OFFICE USE ONLY:

Chapter 93 Designation _____ Wild Trout Stream? _____

Is there a point source discharge to surface waters of the Commonwealth? _____

Under 1 Acre of Disturbance _____

1 to 4.99 Acres of Disturbance _____

5 Acres or more of Disturbance _____

Is an NPDES permit needed? _____ Individual? _____ General? _____

LANDOWNER NAME_____

Earth Disturbance activities shall be planned and conducted to minimize the extent and duration of the disturbance. Please take this into account when planning and designing your earthmoving project.

PROJECT ADDRESS _____

The implementation and maintenance of erosion and sediment control BMPs (best management practices) are required to minimize the potential for accelerated erosion and sedimentation, including those activities which disturb less than 5,000 square feet. This means that, regardless if a plan is reviewed by the conservation district, best management practices (E&S controls) must be in place, operating properly, and maintained throughout the life of the project.

Temporary Controls

This section details any and all temporary erosion control practice best management practices (BMPs) that will be implemented in your project. Check each temporary control that will be used and show it on the plan drawing:

- ☐ Rock Construction Entrance
- ☐ Water Bar
- ☐ Filter Fabric Fence (Silt Fence)
- ☐ Culvert
- ☐ Straw Bale Barrier
- ☐ Crowned Roadway
- ☐ Rock Filters
- ☐ Open Top Culvert
- ☐ Silt Sock
- ☐ Road Side Ditch
- ☐ Temporary Seeding/Mulching (Required during non-growing season or on disturbed soil if work ceases for a period of 4 or more days)
- ☐ Temporary Swale
- ☐ Ditch Relief Culvert
- ☐ Vegetated Filter Strip
- ☐ E & S Blankets

Please check one:

- ☐ All items checked above will be to state specifications.
- ☐ Alternative controls and/or specifications are proposed and are attached.

LANDOWNER NAME_____

Also required is a **maintenance program** which provides for inspection of BMPs on a weekly basis and after each measurable rainfall event, including the repair of the BMPs to ensure effective and efficient operation. <u>If you agree to this, initial the space below.</u>

_____ *I agree to* inspect the BMPs *at a minimum* on a weekly basis and after each measurable rainfall event, and ensure the immediate required repair of any BMP that needs maintenance.

_____ I will provide an alternative plan for a BMP maintenance program which is included with this E&S plan and must be approved by the county conservation district.

<u>Permanent Controls</u>

Prior to the completion of the project, state law requires that completion of any stage or phase of the earth disturbance activity requires immediate seeding, mulching or other protection from accelerated erosion and sedimentation. Implementation and maintenance of BMPs (Best Management Practices) are required until the completion of permanent stabilization of the disturbed area. Types of permanent stabilization include: (1) uniform 70% perennial vegetative cover, with density capable of resisting erosion or (2) other acceptable BMPs that permanently minimize accelerated erosion and sedimentation.

All disturbed areas must be protected to prevent accelerated erosion. In other words, soil cannot be left exposed. Revegetating an area should include the seeding mixture, top soil applications, lime and fertilizer instructions.

Check one:

☐ Permanent vegetation will be established per the recommendations of this office or the Penn State Erosion Control & Conservation Plantings on Noncropland document.

☐ Alternative specifications have been developed for revegetation and are attached.

Please attach the completed "Erosion and Sediment Pollution Control Plan Information Cover Sheet" to this document before submission to the conservation district office.

☐ I agree to contact the Clinton County Conservation District at least three (3) days prior to the start of the project.

Signature_____

Date_____

SEQUENCE OF CONSTRUCTION

In order for an erosion and sediment control plan to be effective, all phases of construction must take place in an orderly sequence. Every effort should be made to minimize the amount of earth disturbance and limit the time disturbed earth is exposed to the forces of erosion. The first step in nearly all projects would be the installation of sediment barriers or traps below the project, and installation of any needed practices to handle run-off onto the project. The sequence should then describe the various construction steps necessary to complete the project, and end with removal of all temporary controls after final stabilization is complete. Please use the space below and label each step in numerical order.

Who will be responsible for the final seeding and mulching of the earth disturbance; the landowner or the contractor?_____

LANDOWNER NAME_____

PRELIMINARY

PLAN DRAWING FOR EROSION & SEDIMENT CONTROL PLAN

Landscape Features

Live Stream

Swale or Waterway

Slope or Grade 8%

Project Boundary

Topsoil Stockpile TS

Diversion Ditch

Silt Sock SS SS

Riprap/Rock-lined Ditch

Strawbale Barrier

Filter Fabric Fence FF FF

Rock Construction Entrance

Vegetated Filter Strip VFS

Water Bar

Culvert

E & S Blankets

Construction Sequence May Include the Following:

1) Installation of proposed best management practices (ie. silt sock, silt fence, rock construction entrance, etc...) downslope of proposed disturbance.

2) Excavation and installation of access road and/or driveway with proposed best management practices.

3) Clearing and grubbing of the site if necessary.

4) Excavation for proposed structures.

5) Placement of excavated soil stockpiles upslope of proposed best management practices.

6) Seed and mulch soil stockpile if necessary.

7) Construct proposed structures.

8) Install utility lines with trenching operation limited to the amount that can be excavated, installed and backfilled within one day.

9) Grade necessary areas, construct swales and/or drainage features and apply a permanent seed and mulch mixture.

10) Excess spoils associated with excavation must be permanently stabilized as backfill and grading purposes, or placed at a dump site approved by the Clinton County Conservation District.

11) Remove temporary best management practices once a 70% uniform vegetative cover has been established, or site is otherwise stabilized.

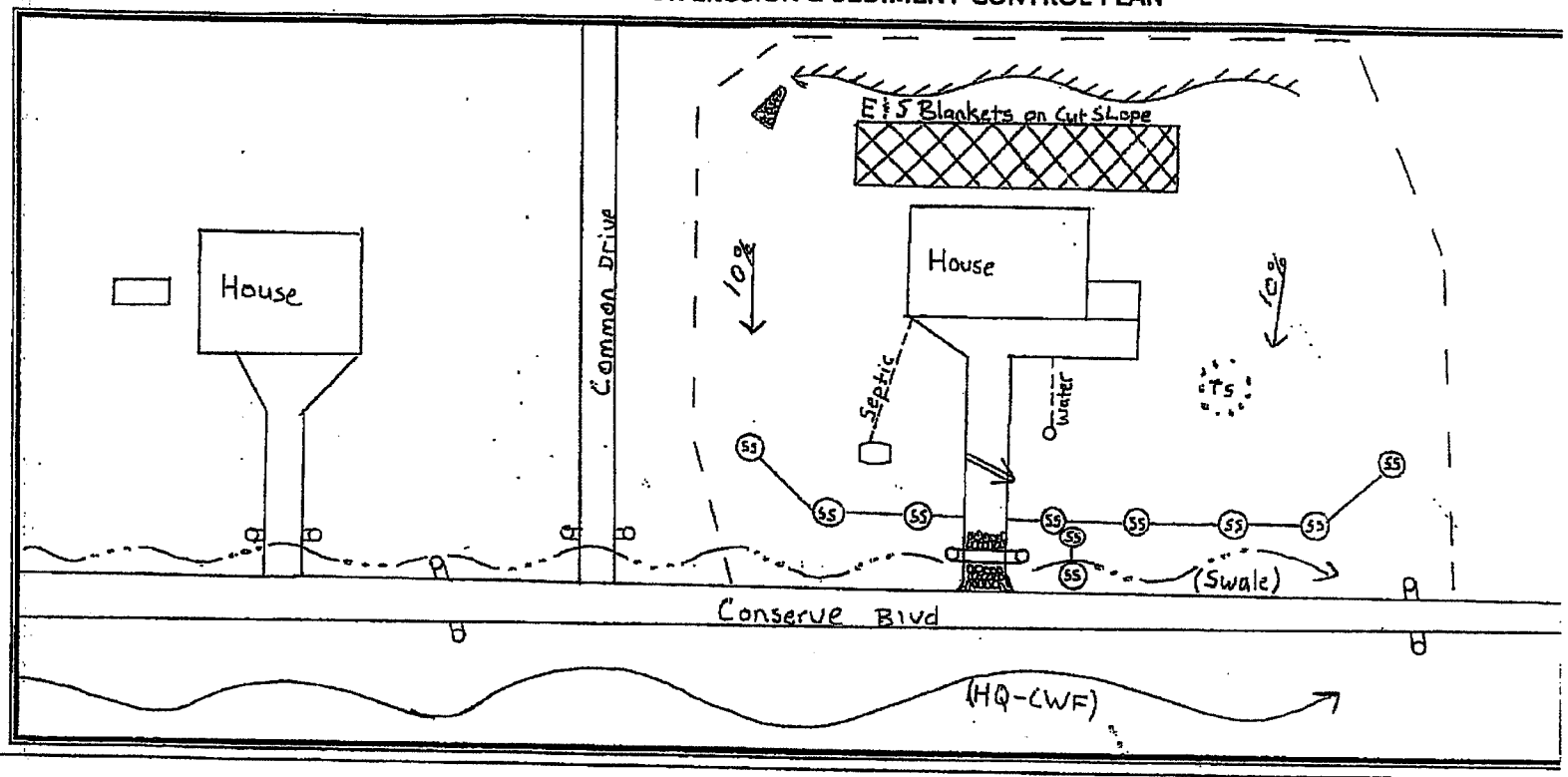
12) Permanently seed and mulch any remaining disturbed areas.

Sample

LANDOWNER NAME Example

PRELIMINARY

PLAN DRAWING FOR EROSION & SEDIMENT CONTROL PLAN



Landscape Features

Live Stream

Swale or Waterway

Slope or Grade 8%

Project Boundary

Topsoil Stockpile TS

Diversion Ditch

Silt Sock SS SS

Riprap/Rock-lined Ditch

Strawbale Barrier

Filter Fabric Fence FF FF

Rock Construction Entrance

Vegetated Filter Strip VFS

Water Bar

Culvert

E & S Blankets

Clinton County Conservation District
E&SPC Plan Review Fee Schedule

Effective Date: March 2013

The following fees will be charged by the Clinton County Conservation District for Erosion and Sediment Pollution Control (E&SPC) Plan reviews as authorized by Act 217—The Conservation District Law. Applications will not be accepted for review without the appropriate fee, a completed application form and the required plan.

RESIDENTIAL (SINGLE FAMILY HOME)

- **For use with Low Hazard E&SPC Plan**
- **Non-commercial/industrial**
- **No subdivisions**
- ***Not* for use with NPDES Permits**

0 – 0.25 acres disturbed	$65
0.26 – 0.99 acres disturbed	$120

RESIDENTIAL (WITH NPDES PERMIT)

1 – 2.99 acres disturbed	$200
3 – 4.99 acres disturbed	$300
5 acres and over disturbed	$350

Plus $25 per acre over 5 acres

CHARITABLE, RELIGIOUS, EDUCATIONAL, ENVIRONMENTAL ORGANIZATIONS, AND MUNICIPAL AUTHORITIES

- **Includes Private and Public**
- **Requires confirmation of status**

0 – 0.25 acres disturbed	$65
0.26 – 0.99 acres disturbed	$120

SAME STATUS (WITH NPDES PERMIT)

1 – 2.99 acres disturbed	$200
3 – 4.99 acres disturbed	$300
5 acres and over disturbed	$350

Plus $25 per acre over 5 acres

INDUSTRIAL/COMMERCIAL

- **Structural Activities**
- **Includes Subdivisions**
- **NO Low Hazard E&SPC Plan**

Less than 1 acre disturbed	$350

INDUSTRIAL/COMMERCIAL (WITH NPDES PERMIT)

1 – 2.5 acres disturbed	$500
2.51 – 4.99 acres disturbed	$700
5 – 9.99 acres disturbed	$1000
10 – 14.99 acres disturbed	$1250
15 – 24.99 acres disturbed	$1500
Over 25 acres disturbed	$1600

Plus $50 per acre over 25 acres

INDUSTRIAL/COMMERCIAL (NON-STRUCTURAL)

- **Only Non-structural Activities**
- **Minimal Fill Areas**
- **Non-Permitted Sites**

0 – 0.5 acres disturbed	$100
0.5 – 0.99 acres disturbed	$200

Not Applicable over 1 acre

TIMBER HARVESTING (Total TRACT Size)

0 – 99 acres	$100
100 – 199 acres	$150
200 – 299 acres	$200
300 – 399 acres	$250
400 – 499 acres	$300
500 or more acres	$350

plus $50 per 100 acres over 500 acres

AGRICULTURAL

0 – 0.25 acres disturbed	$100
0.26 – 0.99 acres disturbed	$200

AGRICULTRUAL WITH NPDES PERMIT

1 – 2.99 acres disturbed	$300
3 – 4.99 acres disturbed	$400
5 acres and over disturbed	$500

Plus $25 per acre over 5 acres

Chapter 105 General Permits (E&S Plan Reviews)

$0 per review per site per permit

Adopted Oct. 15, 2009 (Updated Feb. 2011 & Mar 2013)

National Pollutant Discharge Elimination System (NPDES) Permits

The Commonwealth of Pennsylvania, through mandates from Federal Law, requires a fee for construction activities based on the disturbed acreage of a project. These fees are separate from the Erosion and Sediment Pollution Control Plan Review Fees. These fees are based on the following criteria:

NPDES Permit Criteria	Permit Required	Fees
1 acre disturbance NOT in High Quality or Exceptional Value watersheds; or if project will not discharge pollutants or toxins	NPDES General Permit	**$500** – Payable to the Clinton County Clean Water Fund **$100 per disturbed acre** – Payable to the Commonwealth of PA Clean Water Fund (.5 acres or above round up, always round to the even hundred dollar)
1 acre disturbance and in High Quality or Exceptional Value watersheds, or if project will discharge pollutants or toxins	NPDES Individual Permit	**$1,500** – Payable to the Clinton County Clean Water Fund **$100 per disturbed acre** – Payable to the Commonwealth of PA Clean Water Fund (.5 acres or above round up, always round to the even hundred dollar)

General Permits

Under Section 17 of the Ch.105 Dam Safety Encroachments Act, the Pennsylvania Department of Environmental Protection has delegated its regulatory functions associated with General Permits 1 through 9 to the Clinton County Conservation District. The fees associated with these permits are determined by the Pennsylvania Department of Environmental Protection and should be made payable to the Clinton County Clean Water Fund.

GP-1	Fish Habitat Enhancement Structures	**$50**
GP-2	Small Docks and Boat Launching Ramps	**$175**
GP-3	Bank Rehabilitation, Bank Protection and Gravel Bar Removal	**$250**
GP-4	Intake and Outfall Structures	**$200**
GP-5	Utility Line Stream Crossings	**$250**
GP-6	Agricultural Crossing and Ramps	**$50**
GP-7	Minor Road Crossings	**$350**
GP-8	Temporary Road Crossings	**$175**
GP-9	Agricultural Activities	**$50**

Attachment E

FM100 Project

ESCGP-3 Permit Application Package

October 2019
Revised January 2020

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FM100 Project

ESCGP-3 Permit Application Package

October 2019
Revised January 2020

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	10/2019	D. Ward	K. Kibbe	M. DeNichilo	Issued for PADEP
B	01/2020	D. Ward	K. Kibbe	M. DeNichilo	Revised for PADEP

Document reference:

Information class: Standard

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We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

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1 Introduction

This ESCGP-3 permit application package has been developed to address control of accelerated erosion and sedimentation resulting from earth disturbance associated with the proposed FM100 Project (Project). The permit application package consists of this written narrative and the attached appendices and plan drawings. It was developed to be in accordance with the requirements of 25 PA Administrative Code Chapters 78 and 102, as well as the Clean Streams Law (35 P. S. §§ 691.1001), as amended, utilizing guidelines and Best Management Practice (BMP) information provided in the Pennsylvania Department of Environmental Protection (PADEP) Erosion and Sediment Pollution Control Program Manual dated March 2012 (PADEP E&S Manual) and Pennsylvania Stormwater BMP Manual dated December 2006 (PADEP BMP Manual). The attached Erosion and Sediment Control and Agricultural Mitigation Plan (ESCAMP or Plan) has been developed by National Fuel Gas Supply Corporation (National Fuel) to address federal, state and local requirements. The ESCAMP complements the Site Restoration Plan (SR Plan) /Post Construction Stormwater Management Plan (PCSM Plan) prepared for this project and was planned and designed to be consistent with the SR/PCSM Plan under PA Code § 102.8. An up to date copy of the ESCAMP (Appendix G) (including this application package and all appendices, and any subsequently granted variances to the Plan) shall be maintained and available at the Project site during all stages of earth disturbance activity. This application package was prepared under the direct supervision of a Pennsylvania licensed Professional Engineer trained and experienced in erosion and sediment (E&S) control methods and techniques applicable to the size and scope of the proposed project.

1.1 Project Purpose and Description

The primary purpose of the Project, as initially designed and pre-filed with Federal Energy Regulatory Commission (FERC) Docket No. PF17-10-000), is to modernize a portion of National Fuel's existing pipeline system. The Project will allow for the removal from service and abandonment of approximately 44.9 miles of vintage steel pipe. National Fuel's risk analysis has prioritized the replacement of these aging facilities. In order to continue to provide the existing transportation and storage services provided by the facilities proposed to be abandoned, approximately 29.5 miles of new 20-inch-diameter coated steel pipeline, 0.4 miles of 12-inch-diameter coated steel pipeline to be used as a suction/discharge header, and 4,055 horsepower (hp) of compression and related facilities at the proposed Marvindale Compressor Station will be installed. The Project will enhance the reliability and safety of the National Fuel system for transportation services, local distribution market needs, storage management purposes and local production collection and transportation. Line FM100 is National Fuel's only connecting pipeline between its western and eastern operating systems.

In addition to modernizing its existing system, National Fuel also proposes to construct additional facilities designed to create 330,000 Dekatherm/day of incremental transportation capacity ("Transportation Capacity") from the Sergeant Township area to Transco at Leidy, PA. These additional facilities include 11,110 hp at the proposed Marvindale Compressor Station, 22,220 hp at the proposed Tamarack Compressor Station, an increase in the Line YM58 pipe diameter to 20-inch, and measurement upgrades at National's interconnection with Transco at Leidy.

The Transportation Capacity, which is fully subscribed to Transco under a proposed capacity lease, will provide upstream gas supply from shale producing areas in central PA to Transco's "Leidy South Project" (Docket No. PF19-1-000) on behalf of Transco's foundation shipper. The companion projects will allow abundant, reliable, and economic gas supply to access the

interstate pipeline system grid where it can reach key consuming market centers in the northeastern United States via the Transco pipeline system.

Should the Commission grant the certificate of convenience and necessity for the Project and all other necessary permits be secured, it is anticipated that clearing and grading will commence in Q4 2020, with construction beginning in Q1 2021 and being complete by Q4 2021. The proposed in-service date for the completed Project is December 2021. A detailed construction plan by Project segment will be submitted with the Implementation Plan. This plan will address timeframes for pre-construction activities (e.g., environmental clearance surveys, staking, clearing/grading, construction, restoration, and commissioning).

The Project includes:

- Installation of approximately 29.5 miles of 20-inch-diameter steel pipeline (Line YM58) from the proposed Marvindale Interconnect near the proposed Marvindale Compressor Station site in Sergeant Township, McKean County, PA and extending to the proposed Carpenter Hollow OPP Station adjacent to existing Station HEP0 840T in Hebron Township, Potter County, PA. The proposed alignment generally parallels the existing Tennessee Gas Pipeline (TGP) 300 Lines.
- Installation of approximately 0.4 miles of 12-in-diameter steel pipeline (extension of existing Line KL).
- Installation of approximately 1.41 miles of 24-inch-diameter steel pipeline looping the existing National Fuel Line YM224 in Potter County, PA

Compressor Stations:

- Installation of the proposed 15,165 hp Marvindale Compressor Station in Sergeant Township, McKean County, PA
  - Install one natural gas fired Caterpillar G3516 (1,380 hp)
  - Install one natural gas fired Caterpillar G3608A4 (2,675 hp)
  - Install one natural gas fired Solar T-70 (11,110 hp)
- Installation of the proposed 22,220 hp Tamarack Compressor Station in Clinton County, PA
  - Install two natural gas fired Solar T-70 (11,110 hp each)

Interconnections/Stations:

- Proposed Marvindale Interconnect/meter station near the new Marvindale Compressor Station (Sergeant Township, McKean County, PA);
- New OPP Station, Carpenter Hollow OPP Station, adjacent to existing Station HEP0 840T, between Line YM50 and Line YM224 (Hebron Township, Potter County, PA); and
- Modification of existing Leidy Interconnect LDC 2245 with Transco at the Leidy M&R Station (Clinton County, PA); evaluated under FERC Docket PF19-1-000.

Mainline Valves:

- MLV-1 (Norwich Township, McKean County, PA)
- MLV-2 (Liberty Township, McKean County, PA)
- MLV-3 (Hebron Township, Potter County, PA)
- MLV-4 (Allegany Township, Potter County, PA)

Abandonments:

- Abandonment and removal of Costello Compressor Station (Potter County, PA);
- Abandonment in place of approximately 44.9 miles of Line FM100 12-inch steel and appurtenances (Cameron, Clearfield, Elk and Potter Counties, PA); and
- Abandonment and removal of meter Station WHP-MS-4317X (Wharton Township, Potter County, PA).

Project Disturbance:

- McKean County: 341.5 acres
- Potter County: 173.9 acres
- Clinton County: 15.6 acres
- Clearfield County: 2.7 acres
- Cameron County: 17.2 acres
- Elk County: 5.1 acres

The following criteria were used to select the proposed route and aboveground facility locations:

- use of existing utility corridors;
- avoiding environmental resources (e.g., waterbodies, fisheries, wetlands, threatened and endangered species/significant habitats, etc.) and cultural resources, geologic/topographic hazards, and existing residential structures to the extent possible;
- the presence of existing access roads to accommodate construction along the proposed route;
- land uses (both existing and planned); potential impacts (both positive and negative) to local communities and landowners;
- engineering constraints, construction feasibility, topography and cost, including consideration of route length and opportunities to use existing corridors; and
- hydraulic design.

1.2 Purpose of this Plan

The ESCAMP has been prepared for use by National Fuel and its contractors as a guidance manual for minimizing erosion of disturbed soils and transportation of sediments off the right-of-way (ROW) and into sensitive resources (wetlands, streams, and residential areas) during natural gas pipeline construction. The procedures developed in the ESCAMP, which represent the National Fuel's BMPs, are designed to accommodate varying field conditions while maintaining rigid minimum standards for the protection of environmentally sensitive areas.

This application package is designed to provide specifications for the installation and implementation of soil erosion and sediment control measures while permitting adequate flexibility to use the most appropriate measures based on site-specific conditions. The intent of this application package is to provide general information on the pipeline construction process and to describe specific measures that will be employed during and following construction to minimize impacts to the environment along the pipeline ROW.

The goal of these materials is to preserve the integrity of environmentally sensitive areas and to maintain existing water quality by implementing the following objectives:

- Minimize the extent and duration of disturbance;
- Protect exposed soil by diverting runoff to stabilized areas;
- Install temporary and permanent erosion control measures; and
- Establish an effective inspection and maintenance program.

1.3 Guidelines and Requirements

The measures described in the ESCAMP have been developed based on guidelines from the Federal Energy Regulatory Commission (FERC), the United States Army Corps of Engineers (USACE), the United States Fish and Wildlife Service (USFWS), the United States Department of Agriculture (USDA), the Pennsylvania Game Commission (PAGC), the PADEP, and the Pennsylvania County Conservation Districts, as well as National Fuel's standard construction practices.

1.4 Surveys, Permits, and Notifications

National Fuel shall perform the required environmental field surveys, conduct appropriate agency coordination, and acquire the necessary environmental permits prior to start of construction of the Project. National Fuel shall notify the appropriate federal and state agencies prior to, during, and/or subsequent to the construction of the Project.

1.5 Inquiries

Inquiries regarding this application package should be addressed to:

Mott MacDonald
Michael DeNichilo, P.E.
111 Wood Avenue South
Iselin, NJ 08830-4112
michael.denichilo@mottmac.com

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2 Existing Conditions

2.1 Existing Land Use and Land Cover

This section identifies land requirements for the Project and describes existing land use within the proposed Project areas. Land use data was calculated based on information obtained through field surveys, review of aerial photography and USDA National Agricultural Statistics Service (NASS) Cropland Data Layer (USDA-NASS, 2014). The land use characteristics are classified by primary vegetation cover type and/or predominant land use. For consistency, the land use and land cover classification system were derived from the FERC's *Guidance Manual for Environmental Report Preparation*, with the addition of a land use category for existing utility ROW. The Project will cross land use categories including agricultural pasture, cultivated cropland, forest and woodland areas, industrial/commercial land, open lands, open water, residential lands, and wetlands. Linear waterbodies less than 20-feet wide may have been classified within the adjacent land use categories. Land use types within the Project area classified into the following six categories:

- Agricultural Land - Pasture and/or hay fields, active cropland, orchards, and/or vineyards;
- Industrial/Commercial - Electric power or gas utility stations, manufacturing or industrial plants, landfills, mines, quarries, and commercial or retail facilities;
- Forest & Woodland - Tracts of upland or wetland forest or woodland that would be removed for the construction ROW or extra work or staging areas;
- Open Land - Non-forested lands, herbaceous and scrub-shrub wetlands, and maintained utility ROW;
- Open Water - Water crossings; and
- Residential Land - Residential yards and residential subdivisions.

National Fuel compared aerial photography from September 2013 available through Google Earth Pro and compared it to current aerial photography. There have been no significant changes to land use along the proposed pipeline alignment in the past five years.

Following construction, National Fuel will maintain a 50-foot-wide permanent ROW for operation and maintenance of the pipeline. Where the ROW crosses wetlands, National Fuel will maintain a 10-foot-wide permanent ROW for operation and maintenance. The construction footprint, excluding the above-ground facilities operational impacts and permanent access roads maintained for operations will be restored to pre-construction land use types.

National Fuel proposes to utilize 45 access roads for proposed construction activities and 18 existing access roads for abandonment activities (e.g., total of 63 project-wide). In general, only minor modifications are proposed at existing non-public access roads which may include the placement of rock construction entrances at road junctures. No improvements will occur at existing access roads beyond maintenance of the road throughout construction. Seventeen of the access roads will be maintained for operations and maintenance purposes.

The access roads may be temporarily maintained during construction, which may include selective tree limb cutting and temporary placement of gravel within the Project permit limits of disturbance. The Permanent access roads (PAR) will be maintained after construction for permanent access to the Project aboveground facilities. National Fuel plans to restore temporary access roads (TAR) to pre-construction conditions.

Seven contractor staging areas are proposed for use during construction.

There are no land uses fitting the following descriptions located within the Project area:

- Land for local historical or cultural significance (e.g., Native American religious sites, historic districts, etc.);
- Land used for landfills or hazardous waste sites; and
- National Scenic Rivers (i.e., designated or proposed candidate rivers on the Nationwide Rivers Inventory), state scenic rivers, and designated scenic areas or roads.

2.2 Receiving Waters

Field biologists conducted wetland and waterbody (e.g., streams, ponds, etc.) delineations were conducted between September 2017 to September 2018 along a 300-foot wide survey corridor centered on the pipeline and a 50-foot wide survey corridor centered on access roads. In July 2019 additional surveys were performed, along with a field review by PADEP of wetlands and waterbodies. All environmental resources identified during this investigation are shown in the ESCGP-3 drawings. A Wetland and Waterbody Delineation Report is included in the Section 404 / Chapter 105 General Permit submittal under separate cover for wetlands work completed in Pennsylvania.

Numerous waterbodies within various watersheds are crossed by the Project. Each watershed name and its associated PA Code, Title 25, Chapter 93 Designated or Existing Use crossed by the Project is shown in plan view on the application drawings.

Tables 2.2-1A thru 2.2-1D lists waterbodies, wetlands, and floodplains crossed by the Project, including information relevant to sensitive surface water resources, as shown in Appendix A. The table also identifies public wells and springs within 150 feet of the project work areas.

Pennsylvania Title 25 Chapter 93 sets forth water quality standards for surface waters. The provisions of Pennsylvania Title 25 Chapter 93 are issued under Sections 5 and 402 of the Clean Streams Law. Waterbodies in Pennsylvania are assigned one of the following aquatic life water quality classifications based upon Pennsylvania Title 25 Chapter 93: Cold Water Fishes (CWF), Warm Water Fishes (WWF), Migratory Fishes (MF), and Trout Stocked Fishery (TSF). Waterbodies in Pennsylvania may also be assigned one of the following special protection water quality classifications based upon Pennsylvania Title 25 Chapter 93: High Quality (HQ) or Exceptional Value (EV) waters. Waterbodies in Pennsylvania may also be assigned a water quality classification that combines aquatic life and special protection (i.e., HQ-WWF or HQ-CWF).

Pennsylvania Clean Streams Law (35 P.S. §691.1 et seq.) and regulations at Pennsylvania Code Title 25, including Chapters 91, 92, 93, 95, 96, 102, and 105 are also known as antidegradation rules. The basic concept of antidegradation is to promote the maintenance and protection of existing water quality for HQ and EV waters, and protection of existing uses for surface waters because it recognizes that existing water quality and uses have inherent value worthy of protection and preservation. Existing uses are protected when PADEP makes a final decision on any permit or approval for an activity that may affect a protected use (PADEP, 2013b). Existing water quality is also protected for HQ and EV waters through the antidegradation rules and there are also additional requirements, such as antidegradation performance standards for erosion and sediment control. Sensitive surface waters with an existing use classification that is special protection (HQ or EV) can be found in Table 2.2-1A, in Appendix A.

As shown in Table 2.2-1, in Appendix A, the Project does cross sensitive surface waters that are listed by the PFBC as a stream section that supports the natural reproduction of trout (NRT) or

are an UNT that contributes to the water quality of the naturally reproducing trout stream (PFBC 2019a). Pennsylvania Code Title 58, Chapters 57.4 and 57.11 defines Wild Trout Waters as: 1) Naturally Reproducing, 2) Class A, 3) Trout Stocked, or 4) Wilderness Trout waters. In-stream work restrictions for Wild Trout Waters follow:

- Naturally Reproducing Trout Waters: October 1 to December 31,
- Class A: October 1 to April 1, and
- Trout Stocked Waters (TSW): March 1 to June 15.

No streams crossed by the Project are listed on the PFBC website as being Class A wild trout streams or wilderness trout streams (PFBC 2019c and 2019d).

National Fuel will abide by these in-stream work restrictions as well as FERC published instream restrictions for cold water fisheries. National Fuel will abide by any in-stream work time of year restrictions.

The Project does not cross any scenic rivers (PADCNR, 2016). No National Wild and Scenic Rivers have been identified within the USGS eight-digit HUC watershed where the Project facilities are located (USGS 2016).

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2.3 Waterbodies with Regulated Riparian Areas

The Project alignment will cross riparian buffers regulated under PA Chapter 102. Specifically, these regulated areas include 150 feet from the top of bank of perennial and intermittent waters located within Exceptional Value and High-Quality watersheds. Anticipated waterbodies which will be crossed are delineated on the E&SCP alignment sheets.

National Fuel intends to obtain and comply with the applicable Pennsylvania permits required to authorize these disturbances.

2.4 Soil Characteristics

Important attributes of the soils map units crossed by the pipeline are presented on Drawing "SOILS." The "SOILS" drawing includes the soil use limitations from the PADEP E&S Manual Appendix E for all soils impacted by the Project in Pennsylvania. For all applicable soil use limitations, a resolution has been proposed. The locations of soil types crossed by the Project are shown on the E&SCP alignment sheets. These soil boundaries and associated information were obtained from the USDA SSURGO database.

The methods that will be utilized to minimize impacts on soils during construction include, but are not limited to:

- Minimize the area and duration of soil exposure;
- Protect critical areas by reducing the velocity of and controlling runoff;
- Install and maintain erosion and sediment control measures;
- Segregating and stockpiling topsoil on cultivated lands;
- Reestablish vegetation following final grading; and
- Inspect the ROW and maintain erosion and sediment controls, as necessary, until final stabilization is achieved.

2.5 Naturally Occurring Geologic Formations

This section provides a summary of the geological features present in the Project area, including physiography, topography, surficial and bedrock geology and mineral resources. The potential for geologic hazards to affect the Project is also discussed. Where appropriate, mitigation measures intended to reduce the impact of the Project on geologic resources or reduce the impact of geologic hazards on the facilities are included.

2.5.1 Physiography

The Project and its associated facilities are within the Appalachian Plateaus physiographic province (PADCNR, 2016a). The Appalachian Plateaus province is a highland that has been eroded by streams which have created deep valleys and hilly topography (PADCNR, 2014). Further divided, the Project crosses the High Plateau Section, Pittsburgh Low Plateau Section and the Deep Valleys Section (PADCNR, 2016a).

The High Plateau section has a dominant topographic form characterized by broad, rounded to flat uplands having deep, angular valleys. The local relief is moderate to high (ranging from 300 to 1,000 feet) with approximate elevation ranges from 980 to 2,360 feet AMSL. This section is dominated by a dendritic drainage pattern (PADCNR, 2016b and 2016e).

The Pittsburgh Low Plateau section has a dominant topographic form characterized by a smooth to irregular, undulating surface with narrow, relatively shallow valleys and strip mines and

reclaimed lands. The local relief is low to moderate (ranging from 100 to 600 feet) with approximate elevation ranges from 660 to 2,340 feet AMSL. The drainage pattern of this section is dendritic (PADCNR, 2016c and 2016e).

The Deep Valleys section has a dominant topographic form of very deep, angular valleys with some broad to narrow uplands. The local relief is moderate to very high (ranging from 300 to greater than 1,000 feet) with approximate elevation ranges from 560 to 2,560 feet AMSL. The drainage pattern of this section is angulate and rectangular (PADCNR, 2016d and 2016e).

2.5.2 Surficial Geology and Topography

The proposed pipelines are within a relatively simple geological location with generally near horizontally bedded sedimentary formations. The project intersects the following mapped geological formations (U.S. Geological Survey [USGS] descriptions quoted):

- Pottsville Formation – predominantly gray sandstone and conglomerate
- Catskill Formation – predominantly grayish-red sandstone, siltstone, shale and mudstone
- Senango and Oswayo Formation (Undivided) – predominantly greenish-gray, olive, and buff standstone and siltstone, and gray shale in varying proportions
- Huntley Mountain Formation – predominantly greenish-gray and light-olive-gray, flaggy, fine-grained sandstone, siltstone and a few red shale interbeds

Appendix E lists the geologic units crossed by the proposed pipeline routes (PADNCRd, 2018).

Publicly available LiDAR data was processed to evaluate the site topography. The data set was obtained from Pennsylvania Spatial Data Access (PASDA) PAMAP Program – 3.2ft digital elevation model (Pennsylvania State University 2006-2008).

For the proposed Line YM58 pipeline alignment, 6.8 miles are between 15% and 30% gradient and 3.2 miles are >30% gradient. For the proposed Line YM224 pipeline alignment, 0.18 miles are between 15% and 30% gradient and 0.05 miles are >30% gradient.

2.5.3 Blasting

Based on surface appearance, lack of outcrops, and proximity to existing utility lines, National Fuel does not anticipate that the need for blasting will be widespread. In areas with potential shallow bedrock conditions which cannot be avoided, efforts will be taken to minimize potential impacts during construction. National Fuel will utilize other rock excavation techniques including rock trenchers, hydraulic hoe hammers and ripper teeth in areas of shallow bedrock. National Fuel will adhere to blasting permit requirements within the PAFBC's permit for in-stream blasting, if required. Table 6.2-2 in Appendix E lists the locations by milepost along the proposed pipeline routes where the depth to bedrock is predicted to be within 60 inches (5 feet) of the soil surface (USDA- Natural Resource Conservation Service (NRCS) 2018).

2.5.4 Mineral Resources

Three non-active and restored mines and no active mining operations were identified within 0.25-mile of the Project. Project cumulative impacts to geologic resources related to mining activities are anticipated to be minimal to non-existent due to the current status (non-operational) and spatial distance of the mines from the Project.

This area has had significant oil and gas activity in the past. There are 17 abandoned wells, 204 active wells, and 42 inactive wells within 0.25-mile of the Project. Other oil and gas related projects include the YM28 and FM120 Modernization Project, National Fuel Northern

Access 2016 Project and Dominion Energy LN16 and LN20 Project. The Proposed project will not be in construction during the same time period as these projects; however, the YM28 and FM120 Modernization Project and Dominion Energy LN16 and LN20 Project will likely be in service at the time of construction. Care will be taken to avoid impacting these operational pipelines, particularly if blasting is required in the vicinity of these facilities. Blasting is not anticipated for the Project; however, if blasting does occur National Fuel has detailed preventative measures in this report as well as the attached Blasting Plan to prevent damage to nearby oil and gas resources; refer to Appendix H. The same measures would apply to water wells. Further, protection and minimization of impacts to geologic resources are anticipated through implementation of best management practices (BMP) outlined in the ESCAMP.

2.5.5 Potential Geologic Hazards and Mitigation

The Project alignment does not cross, nor are the proposed facilities located near active quaternary faults, or near seismically active areas according to the USGS fault map (USGS 2016a). Since 1970, there have been no earthquakes with a magnitude (M) of 2.0 or higher on the Richter scale that has occurred within 100 miles of the proposed Project (USGS 2016b).

The seismic hazard for Cameron, Clinton, Clearfield, Elk, McKean, and Potter Counties is between four and eight and is, therefore, generally regarded as low. This is based on a two percent probability of exceedance in 50 years of peak ground acceleration. The hazard rating system ranges from zero through 80+, where zero indicates the lowest hazard and 80+ indicates the highest hazard (USGS 2014). In addition, no known Quaternary faults (i.e., faults that are found at the Earth's surface and younger than 1.6 million years) have been found near the Project area (USGS 2016a).

The Project is located within an area with a less than one percent chance of damage from natural and induced earthquakes. Additionally, there are no mapped earthquake epicenters within the Project area (PADCNR 2004). Therefore, earthquakes are not anticipated to be a geologic hazard to the Project activities.

Karst features such as sinkholes, caves, and caverns can form as a result of the longterm action of groundwater on soluble carbonate rocks (e.g., limestone and dolostone). The Project is not located in an area with karst formations such as sinkholes or surface depressions (Kochanov 2015, PADCNR 2019); consistent with this analysis, no surficial karst features were identified during field surveys (e.g., sink holes, caves, surface depressions, etc.).

As part of National Fuel's pipeline integrity program, the pipeline ROW will be routinely inspected, including for subsidence activity. If subsidence is found, National Fuel will take the appropriate corrective measures to maintain the integrity of the pipeline. These measures include determining the allowable stresses on unsupported pipe spans, importing fill for pipe support, and evaluating whether recurrence is likely. If it is determined that recurrence is likely, National Fuel would evaluate the potential of relocating the pipelines, and/or facilities.

Due to the low incidence and likelihood of land subsidence and the absence of karst terrain within the Project area, there is no anticipated subsidence concerns related to construction and operation of the Project.

The presence of the existing adjacent pipelines provides a precedent that the construction and operation of a natural gas pipeline is feasible in this terrain. The project does not intersect any of the high hazard documented landslides on the USGS mapping such as Active landslide or Soil and rock susceptible to landsliding. The only USGS mapped landslide category which was intersected by project components was Old Landslides (4 locations) which are described as "…relatively stable…" by the USGS. Field inspections were performed which did not observe any recent, or actively occurring major slope movements.

Fossils are not common in Pennsylvania and are only found in Mesozoic-age rocks in the southeastern part of Pennsylvania. The Project area is underlain by Paleozoic sedimentary rocks which have low potential to contain fossils. Although fossil specimens may be encountered during construction activities, no impacts on sensitive paleontological resources are anticipated. Further, National Fuel will provide training to environmental inspection staff and the construction contractor prior to mobilizing to recognize sensitive paleontological resources. In the unlikely event that unique or significant fossil specimens are discovered during excavation activities, National Fuel would cease construction at the site and notify the appropriate landowner or state agency.

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3 Proposed Conditions

The amount of earth disturbed is to be minimized as much as possible. Planning of the construction sequencing is required to limit the amount and duration of open trench sections, as necessary, to prevent excessive erosion or sediment flow into environmental resource areas. Approximately 556.0 acres will be disturbed throughout the Project work limits in Pennsylvania. The disturbance along the pipeline ROW and within contractor staging yards is to be temporary. Disturbed areas are to be immediately seeded and mulched upon placement of the proposed pipeline and associated fill.

Earth disturbance is to be restricted to the Limit of Disturbance (LOD) delineated on the ESCGP-3 drawings. These drawings contain “Plan views” which depict proposed facilities and site features. This includes the limits of earth disturbance, the locations of existing roads, and the location of proposed BMPs.

3.1 Proposed Land Cover

During the initial construction stage of the project, much of the area will consist of exposed soils. Upon installation of the pipeline, the ROW is to be stabilized with vegetative cover as indicated on the E&SCP drawings. With the exception of long-term maintenance to trim woody vegetation and occasional mowing, no permanent topographic or land cover changes are proposed along the pipeline alignment aside from areas within the tree clearing limits.

Two compressor stations, one interconnect/meter station, one overpressure protection station, and four mainline valves will be constructed, described in Section 1.1, which will require minimal grading and cover change with the placement of stone. A post construction stormwater management (PCSM) design package is provided under separate cover.

3.2 Proposed Site Drainage Characteristics

An assessment of the Project site’s natural features was completed at the initial stage of Project planning. The proposed facilities have been sited to protect sensitive natural resources by avoiding these areas whenever possible. The site has also been planned and designed to maintain pre-development drainage patterns to the maximum extent practicable. A conscious effort has been made to maintain existing vegetation where possible and limit the extents of earth disturbance to the area necessary to construct the proposed facilities. Where possible, site drainage will be directed to previously established drainage features. No permanent changes to topography or drainage patterns are proposed for the pipeline aside from permanent waterbars to help prevent formation of rivulets. The location of the proposed drainage features is referenced on the E&SCP alignment sheets. As mentioned above, the facility site has a separate PCSM report and drawing package, which includes proposed site drainage.

3.3 Proposed Riparian Buffer

The proposed Project is an oil and gas activity for which site reclamation or restoration is part of the permit authorization in PA Code Chapters 78, 86-90 and 102. The proposed activities will leave existing riparian buffers undisturbed to the extent practicable. Riparian buffers within the Project area will be protected and maintained according to Pennsylvania regulations discussed in Section 2.3.

A riparian buffer mix will be used to restore riparian buffers within 150 feet of HQ/EV waterbodies and within 100 feet of other waterbodies. This seed mix will be used to revegetate the entire LOD in riparian areas where slopes are less than 10%.

As detailed in the Riparian Buffer Waiver Request (Section 8.1.5), National Fuel respectfully requests a riparian buffer waiver for impacts along the pipeline ROW in accordance with 25 PA Code §102.14(d)(2)(ii), for linear project impacts.

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4 Supervision and Inspection

To effectively mitigate Project-related impacts, the approved ESCAMP must be available on the site at all times and properly implemented in the field. Quick and appropriate decisions in the field regarding critical issues such as stream and wetland crossings, placement of erosion controls, trench dewatering, spoil containment, and other construction related items are essential.

The ESCAMP defines National Fuel's anticipated environmental inspection program (ESCAMP Section 2.1 & 2.2). The EI will have peer status with all other activity inspectors and will have the authority to stop activities that violate the environmental conditions of the FERC's Order (if applicable), other federal and state permits, or landowner requirements, and to order corrective action.

4.1 Responsibilities of the Environmental Inspectors

At a minimum, the EIs shall be responsible for the items addressed in Section 2.2 of the ESCAMP.

- Inspecting construction activities for compliance with the requirements of this E&SCP, the construction drawings, the environmental conditions of the FERC's Orders (if applicable), proposed mitigation measures, other federal or state environmental permits and approvals, and environmental requirements in landowner easement agreements;
- Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;
- Verifying that the limits of authorized construction work areas and locations of access roads are visibly marked before clearing, and maintained throughout construction;
- Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;
- Identifying erosion/sediment control and stabilization needs in all areas;
- Verifying that the location design of waterbars will not cause erosion or direct water into sensitive environmental resource areas, including cultural resources sites, wetlands, waterbodies, and sensitive species habitat;
- Verifying that dewatering activities are properly monitored and do not result in the deposition of sand, silt, and/or sediment into a sensitive environmental resource areas, including wetland or waterbody, cultural resource sites, and sensitive species habitats; stopping dewatering activities if such deposition is occurring and checking that the design of the discharge is changed to prevent reoccurrence; and verifying that dewatering structures are removed after completion of dewatering activities;
- Verifying that subsoil and topsoil are tested in agricultural areas to measure compaction and determine the need for corrective action;
- Advising the Chief Inspector when environmental conditions (such as wet weather or frozen soil) make it advisable to restrict or delay construction activities to avoid topsoil mixing or excessive compaction;
- Checking restoration of contours and topsoil;
- Verifying that the soils imported for agricultural or residential use have been certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner;

- Verifying that erosion controls are properly installed to prevent sediment flow into environmental resource (e.g., wetlands, waterbodies, cultural resource sites, and sensitive species habitats) and onto roads and determining the need for additional erosion control devices;
- Inspecting temporary erosion control measures at least:
  - On a daily basis in areas of active construction or equipment operation;
  - On a weekly basis in areas with no construction or equipment operation; and
  - Within 24 hours of each 0.5 inch of rainfall.
  - NOTE: This responsibility may be transferred to field operations after construction is complete but before restoration is successful;
- Checking the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this timeframe would result in greater environmental impacts;
- Identifying areas that should be given special attention to verify stabilization and restoration after the construction phase;
- Verifying that the Contractor implements and complies with National Fuel's Preparedness, Prevention, and Contingency (PPC) Plan;
- Keeping records of compliance with the environmental conditions of the FERC's Orders, proposed mitigation measures, and other Federal or state environmental permits during active construction and restoration; and
- Verifying that locations for any disposal of excess construction materials for beneficial reuse comply with Section 9.5.3.2 and 9.5.3.3 of this E&SCP.

4.2 Environmental Training for Construction

Environmental training will be given to both National Fuel personnel and contractor personnel whose activities will impact the environment during pipeline construction. The level of training will be commensurate with the type of duties of the personnel. All construction personnel from the chief inspectors, EIs, craft inspectors, contractor job superintendents to loggers, welders, equipment operators, and laborers will be given some form of environmental training. In addition to the EIs, all other construction personnel are expected to play an important role in maintaining strict compliance with all permit conditions to protect the environment during construction. Training will be given prior to the start of construction and throughout the construction process, as needed, and will cover the following issues:

- The specifics of the ESCAMP and the Spill Prevention and Response Plan (SPRP);
- Job or activity specific permit requirements;
- Company policies and commitments;
- Cultural resource procedures and restrictions;
- Threatened and endangered species restrictions; and
- Any other pertinent information related to the job.

Inspectors should be knowledgeable in the principles and practice of erosion and sediment controls and possess the skills to access conditions at the construction site that could impact stormwater quality and assess the effectiveness of any sediment and control measures selected to control the quality of stormwater discharges from the construction site.

5 Description of Erosion and Sediment Control BMPs

The erosion and sediment control BMPs for this earth disturbance activity have been planned to minimize the extent and duration of the proposed earth disturbance, to protect existing drainage features and vegetation, minimize soil compaction, and employ measures and controls that minimize the generation of increased runoff. Specific BMPs have been selected for the Project to achieve these broad goals. The location of each proposed BMP is shown on the E&SCP alignment sheets.

Rock Construction Entrances

Rock construction entrances to control sediment tracking from the construction site at egress points are depicted on the E&SCP alignment sheets. In HQ/EV watersheds, rock construction entrances will be extended to a minimum 100-foot length, as shown on Drawing “DETAILS 001” (Figure 1).

Sediment Barriers

Compost filter socks are specified on the E&SCP alignment sheets as a perimeter control to prevent silt-laden runoff from exiting the LOD. The compost filter sock detail and specifications are presented on Drawing “DETAILS 002” and “003” (Figures 4A, 4B, & 4C). Sizing calculations for each compost filter sock proposed are presented on Standard E&S Worksheet #1 in Appendix B.

The J-hook sediment barrier configuration detail is presented on Drawing “DETAILS 002” (Figure 5). This configuration becomes necessary when sediment barrier is needed but cannot be oriented parallel to the contour. It is intended to intercept runoff from disturbed areas and capture some of the flow in a “J-hook” at the low end of each section of sediment barrier.

In locations where failure of a sediment barrier occurs due to concentrated flow, a rock filter outlet shall be installed in accordance with the detail presented on Drawing “DETAILS 002” (Figure 6).

Waterbars

Earthen waterbars are specified on the E&SCP alignment sheets in hillside locations where it will be necessary to divert both upslope and disturbed area runoff to vegetated areas to help minimize accelerated erosion and sedimentation. A construction detail is provided on Drawing “DETAILS 002” (Figures 7 & 8). They are to be aligned such that runoff will be directed towards the downslope side of the disturbed area and avoid flowing back into the ROW. The construction detail calls for a sump with a compost filter sock barrier at the waterbar point of discharge.

Permanent waterbars within the ROW shall be left in place after permanent stabilization has been achieved. Waterbars will be removed from agricultural and residential areas. Maintenance of waterbars shall be provided until ROW has achieved permanent stabilization.

Trench Plugs

Trench plugs are specified on the E&SCP alignment sheets to inhibit channelized flow which may occur in the trench when open during construction. Trench plugs shall remain in place during and after backfilling to prevent the trench from draining wetlands and/or changing the hydrology along

the pipeline. The construction details are presented on Drawing “DETAILS 003” (Figures 10 & 11).

Erosion Control Blanket

In accordance with the notes listed on Drawing “DETAILS 003” (Figures 12A, 12B, & 13), erosion control blanket is to be placed on disturbed areas within 50 feet of streams and on slopes steeper than 3H:1V. In HQ/EV watersheds, erosion control blanket is to be placed on disturbed areas within 100 feet of streams. Areas to be blanketed are indicated on the E&SCP alignment sheets.

Temporary Equipment Bridges

Temporary equipment bridges are specified on the E&SCP alignment sheets in locations where construction equipment will be crossing an existing stream channel (waterbody with a defined bed and bank). Temporary bridges shall be installed in accordance with the construction details provided on Drawing “DETAILS 004” (Figure 9B).

Timber Mats

Timber mats are specified on the E&SCP alignment sheets in locations where construction equipment will be traveling through an existing wetland. Timber mats shall be installed in accordance with the construction details provided on Drawing “DETAILS 005” (Figures 23 & 24).

Hydrostatic Dewatering Structures

Straw bale dewatering structures will be utilized after hydrostatic testing to minimize erosion of the surrounding area and prevent pollution due to silt-laden runoff. Hydrostatic dewatering structure locations shall be installed in accordance with the construction details provided on Drawing “DETAILS 006” (Figures 26A & 26B).

Pumped Water Filter Bags

In locations where the work area must be dewatered, filter bags may be used to filter water pumped from disturbed areas prior to discharging to surface waters. Compost filter sock shall be installed below filter bags located in HQ/EV watersheds, within 50 feet of any receiving surface water, or where a well-vegetated area is not available. Filter bags shall be installed in accordance with the construction detail provided on Drawing “DETAILS 006” (Figure 27).

Cleanwater Diversions

Temporary diversion channels are proposed to divert runoff from undisturbed upslope areas and convey the runoff around areas of earth disturbance within the pipeline ROW corridor. All temporary diversion channels will utilize a Filtrexx Diversion Sock (or approved equal). From the diversion sock, the channelized flow will outlet to a temporary pipe(s) (clean water) crossing, which is installed across the right-of-way, and discharge to a perforated HDPE pipe level spreader covered in stone. In this scenario, clean water leaving the level spreader will return to sheet flow downslope of the disturbed ROW.

All level spreaders are expected to meet the proposed 200-foot maximum length. All level spreader and slope pipe sizing is presented as part of the Clean Water Diversion summary table on E&SCP Drawing “DETAILS 008”.

A downstream analysis of clean water diversion discharge point to the receiving water is not required for the following reasons. Velocities at the discharge of the level spreader are near zero since the stormwater will be discharged through the perforated pipe and minimum 4-inches of stone surrounding the perforated pipe. Once the discharge exits the orifices in the perforated pipe and trickles through the surrounding stone, it loses all its velocity and transforms into sheet

flow. The discharge will be to a vegetated area and will ultimately follow the same drainage path as before the clean water diversion installation.

The clean water diversions collect clean stormwater above the disturbance, the slope pipe transports the clean water across the disturbance, and the level spreader connected to the slope pipe outlet discharges the clean water below the disturbance. The clean water diversions are being limited to 5 acres in accordance with the PADEP E&S Manual.

The clean water diversions are temporary in nature and will remain in place from disturbance to after vegetation is established and BMPs are removed. The clean water diversions collect and discharge stormwater in the same drainage area and do not take stormwater from one drainage area and discharge to a different drainage area. The clean water diversions do not change cover types, resulting in no change to the calculated runoff rates or volumes, and the clean water diversion discharge is returned to sheet flow at the level spreader, a flow condition similar to or better than the existing flow condition.

The discharge areas of the clean water diversions will be monitored in accordance with the ESCGP-3 permit required inspection.

Conditions downslope of the level spreader have been checked for percent slope and cover type in order to verify no offsite erosion would occur at these locations. This has been documented in Appendix C utilizing the Figure 5.1 “Nomograph to Determine Shallow Concentrated Flow Velocity” from the E&S Manual.

All hydrologic calculations utilized to size the temporary diversion channels, slope pipes, and level spreaders were calculated using Standard E&S Worksheets #9 and #10, for time of concentration and rational equations respectively. The temporary diversion channels were sized utilizing flow rates and allowable shear stress.

Temporary diversion channels are designed using material specifications for North American Green (NAG) products. Shear stresses are analyzed for the proposed temporary diversion channels, which are expected to be in place for a maximum of 12 months. All NAG lining products specified in the Clean Water Diversion summary table meet a construction period of 12 months. It should be noted that published design shear strengths are valid for the design life of the lining. As a result, no decrease in shear strength is expected over the life of the proposed swale linings. Published design shear strengths and design lives for individual linings are provided in Appendix D. An iterative approach was used in the design of all proposed temporary diversion channels and liners, which was a function of Manning’s ‘n,’ slope, and depth of water within the channel.

Drainage area mapping as well as Standard E&S Worksheets #9, #10, and #11 are provided for each clean water diversion in Appendix C (by county). Clean water diversion locations are specified on the E&SCP plan view drawings. Clean water diversions shall be installed in accordance with the construction details presented on Drawing “DETAILS 007” (Figures 31, 31A, 31B, & 31C).

5.1 Temporary and Permanent Revegetation

Revegetation requirements and procedures are presented in Section 9.6.2 of this application. As indicated on the drawings, disturbed areas are to be temporarily stabilized in accordance with regulatory agency requirements. Upon completion of construction activity, disturbed areas are to be permanently stabilized.

5.2 Protection of Sensitive and Special Value Features

During Project planning, the pipeline layout was field viewed to identify wetlands and streams. Where possible, the alignment was adjusted to minimize impacts. The opportunity to avoid impacts, however, is constrained by landowner preferences and construction requirements.

5.3 Minimize Earth Disturbance

Limiting the extents and duration of earth disturbance to that absolutely necessary to construct the proposed facility is a simple and the most effective BMP available. The LOD delineated on the E&SCP alignment sheets has been established to restrict construction activities to the minimum area needed to effectively and efficiently construct the proposed facilities. In addition to limiting the extents of the proposed earth disturbance, construction activities have been planned to limit the duration of earth disturbance.

Installation of the pipeline will typically proceed from one end of the construction spread to the other in an assembly line or "mainline" fashion. The spacing between the individual crews responsible for each interdependent activity is based on anticipated rate of progress. Construction is sequenced to limit, to the extent possible, the amount and duration of open trench sections, to prevent excessive erosion or sediment flow into environmental resource areas.

5.4 General Erosion and Sediment Control Plan Requirements

The BMPs listed in this application package shall be installed and maintained in accordance with FERC requirements and the PADEP E&S Manual. These BMPs shall be installed as shown prior to earth disturbance (including clearing and grubbing) within the drainage area of the BMP in question. Appropriate BMPs shall be provided for each stage of activity. Each BMP shall be kept functional until all earth disturbances within the drainage area are completed and a minimum vegetative cover (uniform 70% coverage of perennial vegetation over the entire disturbed area) has been achieved or other suitable permanent erosion protection has been installed.

At least seven days prior to starting any earth disturbance activities (including clearing and grubbing), the owner and/or operator shall invite all contractors, the ESCGP-3 permit preparer, the SR/PCSM Plan preparer, and a representative from the applicable PADEP regional office to an on-site preconstruction meeting.

Prior to commencement of any earth disturbance activity including clearing and grubbing, the owner and/or operator shall clearly delineate sensitive areas, riparian forest buffer boundaries, areas proposed for infiltration practices, the limits of clearing, and trees that are to be conserved within the Project site. These parties shall also install appropriate barriers and/or signage where equipment may not be parked, staged, operated, or located for any purpose.

E&SC measures and facilities shall be installed and operational as indicated in the construction schedule prior to any earth moving activities (see the “Installing Temporary BMPs” in Section 9.5.2 of this application and on the E&SCP drawings). Control measures must be in place and operational at the end of each workday. Where it is possible, the disturbed area will be permanently stabilized immediately after the final earthmoving has been completed. For disturbed areas not able to be permanently stabilized, interim stabilization in the form of temporary seeding and mulching will be implemented. Until the site is permanently stabilized, all E&SC measures must be maintained properly by the Contractor.

After permanent stabilization is achieved, temporary E&SC measures will be removed. Areas disturbed during removal of the controls must be stabilized immediately. For vegetated areas, permanent stabilization is defined as a uniform 70% perennial vegetative cover.

Minor modification to the approved ESCAMP shall be noted on the version that is available on-site and initialed by the appropriate reviewing entity staff from PADEP and/or the County Conservation District. Minor changes to the ESCAMP may include adjustments to BMPs and locations within the permitted boundary to improve environmental performance, prevent potential pollution, change in ownership or address, typographical errors and on-site field adjustments such as the addition or deletion of BMPs, or alteration of earth disturbance activities to address unforeseen circumstances.

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6 Project Site Runoff Prior to Site Restoration

A primary component of the ESCAMP was the design of erosion and sediment control BMPs to minimize and control accelerated erosion and minimize the generation of increased runoff. The proposed E&SC facility has been designed per design guidance provided in the PADEP E&S Manual.

This linear Project traverses multiple watersheds and landcover types. Post construction site conditions will generally be restored to their previous condition and cover type. However, any project components (i.e. aboveground facilities) submitted as part of the PCSM package may be changing cover type to be impervious. There is a negligible increase in runoff in locations where forest cover is removed and, in these locations, runoff will be adequately attenuated with the effective implementation of sediment barriers, trenches, and waterbars.

The only exception where preexisting land cover will not be restored is the proposed 10-foot wide permanent maintained ROW over the pipeline corridor. In locations where upland forest is removed during construction beyond the permanent maintained ROW, natural succession will occur for development of woody vegetation transitioning to forest cover. Site restoration measures are identified and described in the Site Restoration Plan Narrative and drawings (submitted concurrently as a separate attachment).

Runoff volume and peak discharge estimates have not been evaluated for the entire linear pipeline but since the majority of the Project traverses meadow and agriculture field, there are generally no changes to post construction runoff resulting from the project and very insignificant and minor increase in locations where forest cover is converted to meadow.

Proposed BMPs were sized based on the maximum tributary drainage area anticipated during construction. Runoff volumes and rates for specific BMPs were calculated utilizing the methods recommended in the PADEP E&S Manual for that type of facility.

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7 Recycling/Disposal of Materials

Building materials and other construction site wastes must be properly managed and disposed of to reduce potential for pollution to surface and ground waters as per 25 PA Code § 102.4(b)(5)(xi). All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with PADEP's Solid Waste Management Regulations at 25 PA Code 260.1 et seq., 271.1 and 287.1 et. seq. No building materials, wastes, or unused building materials shall be burned, buried, dumped, or discharged at the site. No off-site disposal area has been identified as part of this application. Construction waste will be disposed of properly by the Contractor at a state-approved facility or recycled.

The Contractor will develop and implement procedures which will detail the proper measures for disposal and recycling of materials associated with or from the Project site in accordance with PADEP regulations. Construction wastes include, but are not limited to, excess soil materials, building materials, concrete wash water, and sanitary wastes that could adversely impact water quality. The Contractor will inspect the Project area weekly and properly dispose of all construction wastes. Measures will be planned and implemented for housekeeping materials management and litter control. Wherever possible, re-useable wastes will be segregated from other waste and stored separately for recycling.

The Contractor shall be responsible for implementing the ESCAMP for any borrow or waste areas required to complete the work. Disposal locations for excess soil/rock waste will have appropriate BMPs implemented at the waste site. The disposal locations must be verified with the applicable state department to show compliance with wetland and floodplain regulations. If an off-site location is used for borrow or disposal, the contractor is responsible for developing site-specific E&SC drawings, implementing the ESCAMP and submitting the E&SC drawings to PADEP or the applicable County Conservation District for review and approval. The Contractor must immediately stabilize the waste site upon completion of any stage or phase of earth disturbance activity at the waste site.

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8 Antidegradation Analysis

As identified in Section 2.2 of this narrative, the pipeline crosses HQ/EV waterbodies. The following antidegradation analysis has been prepared in accordance with 25 PA Code, §102.4(b)(6).

8.1 Nondischarge Alternatives

The proposed Project has been evaluated for nondischarge alternatives for compliance with state regulatory agency antidegradation requirements. Nondischarge alternatives are defined as environmentally sound and cost effective BMPs that individually or collectively eliminate the net change in stormwater volume, rate and quality for storm events up to and including the 2-year design storm when compared to the stormwater rate, volume and quality prior to the earth disturbance activities.

Various BMPs identified as nondischarge alternatives in the PADEP E&S Manual were considered and evaluated for implementation as part of the proposed activities. These alternatives were evaluated individually, and in various combinations, for their ability to minimize accelerated erosion and sedimentation during the earth disturbance activity to achieve no net change from pre-development to post-development volume, rate and concentration of pollutants in stormwater runoff. The following nondischarge alternatives are utilized or considered for implementation on this Project.

8.1.1 Alternative Routes

With respect to route alternatives or variations, the proposed pipeline route achieves the stated purpose and need of the Project while minimizing impacts to the environment, accommodating engineering/construction demands and optimizing the Project's economics. To accomplish this National Fuel examined aerial photography, USFWS NWI maps, USGS quadrangle maps, pipeline and oil and gas well data, and county parcel data. In addition, field surveys and public input were used during routing. The intent of this effort was to identify the most environmentally sound, technically efficient, and cost-effective route for the Project.

The routing criteria used in creating the various proposed routes included:

- Potential impact to sensitive resources
- Land use issues
- Potential impacts to landowners
- Proximity to residential areas
- Proximity to industrial development areas
- Engineering/construction issues
- Operation and maintenance considerations
- Supporting infrastructure
- Overall cost effectiveness
- Public input

The use of existing corridors was prioritized in the routing evaluation. Existing corridors generally provide the best opportunity to minimize environmental impacts and construction costs. Parallel construction reduces the need for establishing new corridors and thus the involvement of

additional landowners; minimizes clearing of new ROW; and lessens potential environmental impacts. Similarly, operation and maintenance costs incurred during the life of the pipeline can be reduced when corridors are shared.

Several alignment alternatives were incorporated into the final design that deviated from the existing ROW. These alternatives were driven primarily due to:

- lack of available workspace around residential areas,
- requests by landowners to avoid certain areas on their property,
- avoidance of existing utility infrastructure or minimizing crossing distance of roads, and
- avoidance of environmental or cultural resources.

Table 8.1-1: Alternative Route Characteristics

Factor	Proposed Project	System Alternative	Alternative Alignment	Loop Alternative 1 – Northern Alignment	Loop Alternative 2 – Southern Alignment	Loop Alternative 3 – Increase MAOP on Line 224[10]
Length of Route (to be constructed)	Line YM58 – 29.5 miles Line KL Ext. – 0.4-mile Line YM224 Loop – 1.4 miles **Total: 31.3 miles**	Line FM100 Replacement – 44.9 miles **Total: 44.9 miles**	Line FM120 Replacement – 5.8 miles Line FM100 Replacement – 3.7 miles Line LF3 – 24.0 miles **Total: 33.5 miles**	Parallel Dominion ROW – 5.4 miles Line YM58 – 29.5 miles **Total: 34.9 miles**	Parallel TGP ROW – 5.9 miles Line YM58 – 29.5 miles **Total: 35.4 miles**	0 miles
ROW Type						
New ROW (miles)[1]	7.3	--	24.0	6.9	5.5	--
Length of co-location (miles)[1]	24.0	44.9	9.5	28.0	29.9	--
ROW Land Requirements						
Pipeline operation requirements (acres)[2]	188.1	267.8	203.0	210.4	204.9	--
Pipeline construction requirements (acres)[3]	282.5	401.8	305.1	315.7	307.4	--
Wetlands						
Total wetlands crossed (feet)[4]	2,611.9	2,635.2	1,116.8	2,817.3	2,654.1	--
Total wetlands crossed (number)[4]	32	20	34	35	34	--
Total wetlands crossed (acres)[4]	4.7	4.6	2.1	5.0	4.8	--
PFO wetland area in operational and construction limits (acres)[4,5]	2.4	2.2	0.6	2.4	2.4	--
PEM wetland area in operational and construction limits (acres)[4,5]	1.0	--	0.2	1.0	1.0	--
PUB wetland area in operational and construction limits (acres)[4,5]	--	--	--	0.2	--	--
Riverine area in operational and	1.3	2.4	1.3	1.4	1.4	--

Factor	Proposed Project	System Alternative	Alternative Alignment	Loop Alternative 1 – Northern Alignment	Loop Alternative 2 – Southern Alignment	Loop Alternative 3 – Increase MAOP on Line 224[10]
construction limits (acres)[4,5] (includes R3, R4 and R5 NWI mapped subsystems)						
Waterbodies						
Waterbodies Crossed (number)[6]	33	35	35	38	36	--
Land Use[7]						
Agricultural Land (miles/acres)	3.6/32.6	<0.1/0.1	0.1/0.6	4.2/38.5	4.8/41.5	--
Industrial/Commercial Land (miles/acres)	0.5/5.1	1.0/9.2	2.1/16.5	0.4/5.8	0.8/7.3	--
Forest & Woodland (miles/acres)	9.8/100.3	40.7/268.7	24.9/235.4	12.9/130.6	10.7/107.3	--
Open Land (miles/acres)	17.1/142.0	3.6/119.7	6.3/51.4	17.1/138.3	18.7/148.3	--
Open Water (miles/acres)	0.2/1.7	<0.1/0.1	<0.1/0.3	0.2/1.7	0.2/1.7	--
Residential Land (miles/acres)	0.1/0.8	0.5/4.0	0.1/0.9	0.1/0.8	0.2/1.3	--
Residences and Structures						
Residences or structures located within 50 ft of the construction workspace (number)[8]	16	2	4	16	21	--
Cultural Resources[9]						
National Historic Landmarks within 0.50 mile (number)	--	--	--	--	--	--
NRHP eligible or potentially eligible cultural resources sites within 0.50 mile (number)	17	14	9	19	21	--
Other Environmental Factors						
Landfills, quarries (count within 0.50 mile)	2	4	--	2	2	--
Active oil and gas wells (count within 0.50 mile)	240	43	187	281	254	--
Foreign pipeline crossings (number)	49	12	14	53	54	--
Public roads crossed (number)	18	43	25	23	24	--
Miles exceeding 26% slope	7.1	9.3	5.8	11.1	10.6	--
Cold Water Fisheries Crossed	27	27	29	30	30	--
State Lands Crossed (acres)[5]	27.6	328.0	200.0	27.6	27.6	--

[1] Co-location was based on the centerline of an alternative being within 100 feet of the existing pipeline centerline or powerline facilities.

[2] Operational ROW is based on a 50-foot-wide permanent ROW; includes the proposed pipeline, aboveground facilities, and permanent access road.

8.1.2 Limited Disturbed Area

As discussed in Section 5.2, the LOD delineated on the E&SCP alignment sheets has been established to restrict construction activities to the minimum area needed to effectively and efficiently construct the proposed facilities. This BMP is very effective at reducing the runoff volume rate, volume and concentration of pollutants in stormwater runoff. This BMP is "self-crediting" in that it automatically reduces the area to be treated and provides a corresponding reduction in stormwater impacts. However, it is not capable of addressing the impacts of the change in land cover associated with the proposed earth disturbance.

8.1.3 Limiting Extent and Duration of the Disturbance

This nondischarge alternative will be utilized to the extent possible on this project. The majority of the proposed earth disturbance will occur in the early activities of the construction sequence of the Project, including clearing and grading, with a much smaller earth disturbance occurring during site restoration. As described in Section 9.5 of this application, and throughout the ESCAMP, the duration and extent of earth disturbances will be limited to the current construction activity to be completed. Temporary or permanent stabilization is to occur as soon as possible upon completion of each activity. This BMP is very effective at reducing the concentration of pollutants in stormwater runoff and reducing the impact of bare earth on runoff volume and rate. However, it is not capable of addressing the impacts of the long-term change in land cover associated with the proposed earth disturbance.

8.1.4 Riparian Buffers and Riparian Forest Buffers

The feasibility of protecting, converting, or establishing a riparian forest buffer meeting the requirements of 25 PA Code §102.14 was analyzed for the proposed Project. The riparian area is defined as the land bordering a watercourse. Certain riparian forest buffers in Pennsylvania are protected under Chapter 102.14 of the Pennsylvania Code (PADEP 2010). The PADEP defines riparian forest buffers as a type of best management practice that consists of permanent vegetation that is predominantly native trees and shrubs.

Per Chapter 102.14 of the Pennsylvania Code, earth disturbance activities are not permitted within 150 feet of a perennial or intermittent river, stream, or creek; or lake, pond, or reservoir when the Project site is located in an EV or HQ watershed (PADEP 2010b). However linear pipeline projects (the Project) may request a waiver from the Chapter 102.14 requirements, provided the existing riparian buffer is undisturbed to the extent practicable, and the activity will otherwise meet the requirements of the chapter. Given the linear nature of the proposed Project, temporary impacts within riparian buffers is unavoidable.

The Project will impact the special protection riparian areas in various locations along the project as detailed in Table 2.2-1A, in Appendix A. The E&S drawings list the watershed classifications to further detail where special protection riparian buffers are impacted by the Project.

National Fuel evaluated all riparian areas using a 100-foot buffer from the top of bank of non-HQ/EV waters, and a 150-foot buffer from the top of bank for HQ/EV waters. Below is a list of total riparian disturbance / total forested riparian disturbance by County:

- McKean County = 50.1 acres / 9.2 acres
- Potter County = 17.2 acres / 4.2 acres
- Elk County = 0.2 acres / 0.1 acres
- Clinton County = 0.0 acres / 0.0 acres
- Clearfield County = 1.2 acres / 0.2 acres
- Cameron County = 1.4 acres / 1.2 acres

The total riparian area and total forested riparian area impacted by the Project is 70.1 acres and 14.9 acres, respectively.

The table below lists the streams and waterbodies within the watersheds of Rattlesnake Creek (HQ-CWF) and Beaver Meadow Run Creek (EV). Other than Beaver Meadow Run stream, the Project does not cross any riparian areas designated as EV or HQ waterbodies.

Table 2.2-1A, in Appendix A, provides a list of waterbodies crossed by the Project and their associated watershed classification.

8.1.5 Riparian Buffer Waiver

National Fuel requests a Riparian Buffer Waiver in accordance with 25 PA Code §102.14(d)(2)(ii) for linear project impacts. This section describes the existing land cover of the riparian areas in the Project workspace; provides an assessment and quantifies riparian area impacts resulting from the construction and operation of the Project and provides proposed measures to minimize impacts and restore the riparian resources.

National Fuel will perform an assessment of the existing riparian buffer prior to construction to determine suitability for restoring by evaluating site's physical locations including soil characteristics, hydrology and topography.

To mitigate for temporary disturbances within riparian buffers, National Fuel has reduced workspace within riparian buffers to the extent practicable and will implement the BMPs detailed in this application package. National Fuel will employ multiple measures to reduce the extent and duration of Project impacts to riparian communities which include, but are not limited to the following:

- National Fuel will cut vegetation just above ground level in work space locations, leaving existing root systems in place and preserve 150- foot riparian area where possible
- National Fuel will limit the removal of stumps and grading in wetlands and along waterbodies to the trench line and what is necessary to safely install the equipment crossings to promote natural revegetation and surface stabilization;
- National Fuel will utilize a riparian buffer mix within 150 feet of HQ/EV waterbodies and within 100 feet of other waterbodies. This seed mix will be used to revegetate the entire LOD in riparian areas where slopes are less than 10%.
- National Fuel will reduce workspace in certain locations when crossing wetlands.
- National Fuel will install erosion control measure including sediment barriers such as filter socks, erosion control blankets, temporary bridges and timber mats.
- National Fuel will utilize ATWS greater than 50 feet from stream banks.
- National Fuel will reduce the potential for risk for invasion or spreading of invasive species by cleaning construction equipment (e.g. in locations where a riparian area or

wetland is identified as having predominant invasive species vegetation, equipment can be cleaned prior to entering the next areas).

- National Fuel will implement BMPs to minimize riparian impacts and protect existing forested riparian buffers to the extent practicable. National Fuel does not own the property on which the proposed earth disturbance will occur, National Fuel cannot, without landowner permission, place deed restrictions or conservation easements to protect, convert, or establish a riparian buffer or riparian forest buffer to satisfy the antidegradation requirements of §102.4(b)(6) for the proposed earth disturbances.

National Fuel will stabilize all riparian buffers affected by the Project once construction is completed. National Fuel will implement erosion and sediment BMPs as outlined in the ESCAMP and the erosion and sediment control plans. The riparian areas at stream crossing will be reestablished by applying a native approved riparian seed mix, developed in conjunction with the agencies. The seed mix will be applied at a rate and density as directed by nursery specifications and recommendations.

Replanting in the riparian areas within the ROW will include stabilizing with the approved seed mix.

National Fuel will develop a buffer management plan which will include a maintenance plan. National Fuel will monitor the riparian buffer areas in accordance with the National Fuel's Plan and Procedures, as well as any permit conditions.

8.1.6 Treatment Train Combination of BMPs

A combination of cost-effective and environmentally sound BMPs were considered for installation in a "treatment train" that collectively eliminate the net change in stormwater volume, rate and quality from pre-development to post-development conditions. The primary metric prohibiting the proposed Project from achieving non-discharge alternatives is the additional runoff volume generated by the earth disturbance necessary for the proposed activities. Permanent removal of runoff volume from the design storm hydrograph during earth disturbance phases was excluded from the available design alternatives due to the elevated sediment loadings expected during this stage of site construction. The "treatment train" approach was determined to be infeasible as a non-discharge alternative.

As demonstrated above, there is no combination of nondischarge alternative BMPs that enable the earth disturbance activities to achieve no net change from pre-development to post-development volume, rate and concentration of pollutants in stormwater runoff up to and including the 2-year/24-hour storm. In the absence of feasible nondischarge alternatives, Antidegradation Best Available Combination of Technologies (ABACT) BMPs will be utilized to address antidegradation requirements for the Pennsylvania portion of the Project.

8.2 Antidegradation Best Available Combination of Technologies

As demonstrated in the previous section, nondischarge alternatives do not exist for the proposed Project. Environmentally sound and cost-effective ABACT BMPs will be utilized to demonstrate that any change in PA stormwater runoff rate, volume, or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The support drawings of this application package show the locations of all planned ABACT BMPs and details for construction of these facilities. The following is a summary of the combination of ABACT BMPs that have been incorporated into the site design and the features that make them ABACT:

8.2.1 Site Access

- 100-foot long Rock Construction Entrance(s)

8.2.2 Sediment Barriers

- Compost filter socks will be utilized for all perimeter control needs

8.2.3 Stabilization

- Disturbed areas immediately stabilized upon completion, or temporary cessation, of earth disturbance activity
- Disturbed areas stabilized with erosion control blanket within 100 feet of special protection surface waters, within 50 feet of all other receiving surface waters, and on slopes 3H:1V or steeper.

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9 Construction Techniques for Natural Gas Pipelines

9.1 Typical ROW Requirements

During Project review, conditions evaluated include topography, soils, bedrock, boulders, wetlands, and waterbodies, as well as proximity to existing roads, railroads, and residences. National Fuel has considered these noted conditions along with machinery requirements needed for safe pipeline and support facility installation. Minimum size and area requirements for worker safety involving construction activities established by the U.S. Department of Transportation (DOT) and Occupational Safety and Health Administration (OSHA) were also considered. Under certain conditions, additional workspace may be necessary to maintain safe practices in specific locations and would extend beyond the nominal 75-foot corridor.

The Project generally requires a 50-foot permanent ROW and an approximately 25-foot temporary construction workspace for a nominal 75-foot-wide construction corridor. This corridor width is based on construction conditions of similar projects within Pennsylvania. From the center of the pipe trench, the spoil side of the construction ROW is proposed to be 35 feet. This footprint will serve as the primary spoil storage area. Thus, the working side of the construction work space will typically be 40 feet wide from the center of the pipe trench to the edge of the ROW and will serve to accommodate trench excavation, bank sloping, and safe equipment mobilization. Agricultural areas with full topsoil segregation will require an additional 25 feet, totaling a 100-foot-wide construction corridor.

9.2 Access Roads

To the extent practicable, existing roadways (public or private) will be used as the primary means to access the ROW. National Fuel proposes to utilize 45 access roads for proposed construction activities and 18 existing access roads for abandonment activities (e.g., total of 63 project-wide). In general, only minor modifications are proposed at existing non-public access roads which may include the placement of rock construction entrances at road junctures. No improvements will occur at existing access roads beyond maintenance of the road throughout construction. Seventeen of the access roads will be maintained for operations and maintenance purposes.

Maintenance activities during construction may include tree branch clearing, gravel placement, lengthening and/or widening. Moreover, ATWS will be located adjacent to several access roads for temporary vehicle parking, vehicle turn-out passing areas, and/or staging of minor supplies (e.g., hay bales for erosion control activities). Temporary access roads (TARs) for construction will be restored to original conditions following construction. Landowner permission will be obtained for the proposed permanent access road (PAR).

9.3 Contractor Yards / Staging Areas

Contractor yards or staging areas are required for storing and staging equipment, pipe, fuel, oil, pipe fabrication, and other construction related materials. National Fuel has identified 7 staging areas in Pennsylvania for use during construction of the Project. The total area of the Pennsylvania contractor yards/staging areas will be approximately 44.1 acres. A Highway Occupancy Permit (HOP) will be acquired from the Pennsylvania Department of Transportation for access to the contractor yards if required.

The Contractor shall perform the following measures at contractor yards:

- Install erosion control structures as directed by the EI, outlined in this application, or identified on the construction drawings, and maintain them throughout construction and restoration activities;
- Implement and comply with the SPRP Plan; and
- Restore and revegetate all disturbed areas in accordance with the measures outlined in these application materials and as directed by the EI.

9.4 Off-ROW Disturbance

With certain exceptions, which are required in order to comply with FERC Plan and Procedures, all construction activities are restricted to within the limits identified on the construction drawings (exceptions include the installation of waterbars, installation of energy-dissipating devices, installation of dewatering structures, and drain tile repair which are subject to applicable survey requirements). However, as detailed in Section 4.1 of the ESCAMP, in the event that off-ROW disturbance occurs the following measures will be implemented:

- The EI will immediately report the occurrence to the Chief Inspector and ROW Agent;
- The conditions that caused the disturbance will be evaluated by the Chief Inspector and the EI, and they will determine whether work at the location can proceed under those conditions; and
- If deemed necessary by the Chief Inspector and EI, one or more of the following corrective actions will be taken: immediate restoration of the original contours, seeding and mulching of the disturbed area, and/or installation of erosion control devices. National Fuel's Environmental Construction Permitting Department will be notified as soon as practical.

9.5 Construction Sequence

Natural gas pipelines are installed using conventional overland buried pipeline construction techniques. These activities are necessary for the installation of a stable, safe, and reliable transmission facility consistent with DOT requirements and regulations. This section provides an overview of the equipment and operations necessary for the installation of a natural gas pipeline, describes potential impacts that may occur from each operation, and identifies the measures that will be implemented to control these potential impacts. This section also discusses in detail the erosion and sediment control techniques that apply to each construction activity including clearing, grading, trenching, lowering-in of pipe, backfilling, and hydrostatic testing. ROW restoration will be addressed in Section 9.6 of this application. The activities listed below are normally performed in the following sequence:

- Survey and flag the pipeline route, limits of disturbance, foreign line crossings, wetlands and other sensitive areas;
- Installing temporary erosion and sediment controls;
- Clearing the construction work area (CWA);
- Grading the CWA to establish safe work space; installing additional erosion and sediment controls;
- Installing temporary waterbars/best management practices;
- Trenching/excavating the trench;
- Pipe stringing and bending;
- Welding, weld inspection and installing weld coating;

- Trench dewatering;
- Lowering the pipe into the trench; installing trench plugs;
- Backfilling the trench;
- Hydrostatic testing of pipe; and
- Permanent stabilization and restoration;
- Demobilization and site cleanup;
- Post-construction monitoring.

Obstacles to the mainline technique are often encountered and are not considered to be out of the ordinary. These obstacles, which include side hill crossings, rock, wetlands, streams, roads, and residential areas, do not normally interrupt the assembly line flow.

9.5.1 Clearing

Clearing operations will include the removal of vegetation within the CWA. Various clearing methods will be employed depending on tree size, contour of the land, and the ability of the ground to support clearing equipment. Vegetative clearing will either be accomplished by hand or by cutting equipment. The following procedures will be standard practice during clearing:

- Prior to beginning the removal of vegetation, the limits of clearing will be established and identified in accordance with the construction drawings;
- All construction activities and ground disturbance will be confined to within the limit of disturbance shown on the construction drawings;
- Clearly mark and protect trees to be saved as per landowner requests or as otherwise required;
- All brush and trees will be felled into the CWA to minimize damage to trees and structures adjacent to the CWA. Trees that inadvertently fall beyond the edge of the CWA will be immediately moved onto the CWA and disturbed areas will be immediately stabilized;
- Trees will be chipped or cut into lengths identified by the landowner and then stacked at the edge of the CWA or removed;
- Brush and limbs may be disposed of in one or more of the following ways depending on local restrictions, applicable permits, construction Line List stipulations, and landowner agreements:
  - Stockpiled along the edge of the CWA or in staging areas or;
  - Chipped, spread evenly across the CWA in upland areas; and plowed in; or
  - Hauled off site or;
  - Blown off-site with landowner approval.
- Existing surface drainage patterns will not be altered by the placement of timber or brush piles at the edge of the construction ROW.

9.5.1.1 Thermal Impacts

On this Project, the principal source of thermal impacts would be related to disturbance of vegetative cover. The following provisions are included in this application to avoid, minimize, or mitigate potential pollution from thermal impacts:

- Section 5 of the ESCAMP requires minimal disturbance within 50 feet of streams.
- Section 5 of the ESCAMP limits ROW width and vegetation removal through wetlands.

- Section 8 of the ESCAMP provides revegetation requirements.
- Section 9 of the ESAMP limits routine vegetation mowing or clearing.

The permanent pipeline ROW may be mowed periodically, and woody vegetation may be trimmed to allow safe pipeline operation. Some tree cover may be permanently removed in wooded areas. A 10-foot wide area will be maintained in an herbaceous state in wetland areas to comply with vegetative maintenance plan approved by FERC and the USDOT, Pipeline Hazardous Materials and Safety Administration (PHMSA) survey requirements.

9.5.2 Installing Temporary BMPs

BMPs, which are temporary erosion controls intended to minimize the flow of sediment and to prevent the deposition of sediments beyond approved workspaces or into sensitive resources, shall be installed following vegetative clearing operations. They may be constructed of materials such as compost filter socks, staked straw bales, compacted earth (e.g., drivable berms across travel lanes), riprap and stone, jute matting, timber mats, wood stakes, clay, bentonite, synthetic foam, concrete, or an equivalent material as identified by the EI. Where permitted by regulatory agencies, hay bales may be used in lieu of straw bales.

- Do not stake or trench in place straw bales used on equipment bridges or on mats across the travel lane.
- Inspect temporary BMPs daily in areas of active construction to verify proper functioning and maintenance. In other areas, BMPs will be inspected and maintained on a weekly basis throughout construction, and within 24 hours following storm events as detailed in Section 4.13 of the ESCAMP.
- Maintain all temporary BMPs in place until permanent revegetation measures are successful or the upland areas adjacent to wetlands, waterbodies, or roads are stabilized.
- Remove temporary BMPs from an area when replaced by permanent erosion control measures or when the area has been successfully restored.

9.5.3 Grading

The construction ROW will be graded as needed to provide a level workspace for safe operation of heavy equipment used in pipeline construction. The following procedures will be standard practice during grading.

9.5.3.1 Topsoil Segregation

Topsoil segregation methods will be used in all residential areas and in cultivated or rotated croplands, managed pastures, hayfields, and other areas at the landowner's or land managing agency's request. As detailed in ESCAMP section 4.3.1:

- Prevent the mixing of topsoil with subsoil by stripping topsoil from either the full work area or from the trench line and subsoil storage area (ditch plus spoil side method) as stipulated in the Construction Contract or Line List.
- Segregate at least 12 inches of topsoil in deep soils with more than 12 inches of topsoil. In soils with less than 12 inches of topsoil, make every effort to segregate the entire topsoil layer.
- Where topsoil segregation is required, maintain separation of salvaged topsoil and subsoil throughout all construction activities.

- For wetlands, segregate the top 12 inches of topsoil within the ditchline, except in areas where standing water is present, or soils are saturated.
- Leave gaps in the topsoil piles for the installation of temporary waterbars to allow water to be diverted off CWA.
- Topsoil replacement (i.e., importation of topsoil) may be used as an alternative to topsoil segregation if approved by the landowner and National Fuel.
- Never use topsoil for padding the pipe, constructing temporary waterbars or trench plugs, improving or maintaining roads, or as a fill material.
- Stabilize topsoil piles and minimize loss due to wind and water erosion with use of BMPs, mulch, temporary seeding, tackifiers, or functional equivalents, where necessary.

9.5.3.2 Tree Stump Removal and Disposal

- Remove tree stumps in upland areas along the entire width of the permanent ROW to allow adequate clearance for the safe operation of vehicles and equipment. Stumps within the CWA will be removed or ground to a suitable height that will allow the safe passage of equipment, as stipulated by the Chief Inspector or EI.
- Dispose of stumps by one of the following methods, pending approval by the Chief Inspector and the landowner, and in accordance with regulatory requirements:
  - Moved to National Fuel-approved off-site location (except in wetlands and agricultural areas);
  - Chipped on-site. Removed from ROW and hauled off site or blown off-site with landowner approval. Chipped material not removed from the site may be spread across the upland areas of the CWA in a manner that will not inhibit revegetation or broadcast into off-ROW and stable areas. Wood chips will not be left within agricultural lands, wetlands, or within 50 feet of wetlands. Wood chips will not be stockpiled in a manner that they may be transported into a wetland.
  - Ground to grade in wetlands, excess chips must be removed from wetlands for reuse on-site or properly disposed off-site.

9.5.3.3 Rock Disposal

When rock is encountered it will be broken up either by drilling, pneumatic hammer or blasting. If blasting is required National Fuel will conduct pre-blast surveys with landowner permission to assess the condition of structures, wells, springs and utilities within 150 feet. Blasting will follow all procedures and safety measures according to National Fuel's Blasting Plan (Appendix H).

Rock (including blast rock) will be disposed of in one or more of the following ways:

- Buried on the ROW or in approved construction work areas as fill during grade cut restoration in accordance with the construction specifications. In cultivated/agricultural lands, wetlands, and residential areas, rock may only be backfilled to the top of the existing bedrock profile;
- Windrowed per written landowner agreement with National Fuel; and/or
- Removed and disposed of at a National Fuel approved site.

9.5.4 Installing Temporary Waterbars

As discussed in Section 4.7 of the ESCAMP, temporary waterbars, which are temporary erosion control measures intended to reduce runoff velocity and divert water off the CWA, shall be installed

following grading operations. The waterbars are to be installed on all disturbed areas as necessary to avoid excessive erosion. Temporary waterbars will be constructed of materials such as compacted soil and staked compost filter sock.

Waterbars must be installed on either side of waterbodies and wetlands and upslope of road crossings at the locations shown on the attached drawings or as determined by the EI (closer spacing should be used if necessary).

9.5.5 Trenching

The trench centerline will be staked after the CWA has been prepared. In general, a trench will be excavated to a depth that will permit burial of the pipe with a minimum of three feet of cover, four feet of cover in agricultural areas and five feet beneath waterbodies. Overland trenching may be accomplished using a conventional backhoe or a rotary wheel-ditching machine. In shale or rocky areas where the use of the wheel-ditching machine is limited, a tractor-drawn ripper will be employed to break and loosen hard substratum material. In areas where rock cannot be ripped, drilling and blasting may be required. A backhoe may then be used to remove rock and soil from the ditch.

The following procedures will be standard practice during ditching:

- Flag drainage tiles damaged during ditching activities for repair; and
- Place spoil at least 10 feet from the edge of waterbodies. Spoil will be contained with erosion and sediment control barriers (BMPs) to prevent spoil materials or heavily silt-laden water from transferring into waterbodies and wetlands or off the CWA.

9.5.6 Trench Dewatering

In accordance Section 4.10 of the ESCAMP, trench dewatering may be periodically required along portions of the proposed pipeline prior to and/or subsequent to installation of the pipeline to remove collected water from the trench.

- Trench dewatering will be conducted (on or off the CWA) in such a manner that does not cause erosion and does not result in silt-laden water flowing into any waterbody or wetland.
- The intakes of the hoses used to withdraw the water from the trench will be elevated and screened to minimize pumping of deposited sediments.
- Water may be discharged into areas where adequate vegetation is present adjacent to the CWA to function as a filter medium.
- Where vegetation is absent or in the vicinity of waterbody/ wetland areas, water will be pumped into a filter bag or through a structure composed of BMPs. When using filter bags, secure the discharge hose to the bag with a clamp.
- Remove dewatering structures as soon as practicable after the completion of dewatering activities.

9.5.7 Pipe Installation

The following sections describe how the pipe will be installed for the Project.

9.5.7.1 Stringing and Bending

Following trench excavation, pipe sections will be delivered to the construction site by truck or tracked vehicle and strung out along the trench. Individual pipe sections will be placed on temporary

supports or wooden skids and staggered to allow room for work on the exposed ends. Certain pipe sections will be bent, as necessary, to conform to changes in slope and direction of the trench.

9.5.7.2 Welding and Weld Inspection

Once the bending operation is complete, the pipe sections will be welded together on supports using approved welding procedures that comply with Company welding specifications. After welding, the welds will be inspected radiographically or ultrasonically to check their structural integrity.

9.5.7.3 Lowering-in

Lowering-in consists of placing the completed pipeline sections into the trench where a tie-in weld will be made. Lowering-in is usually accomplished with two or more sideboom tractors acting in unison and spaced so as not to buckle or otherwise damage the pipe. The pipeline will be lifted from the supports, swung out over the trench, and lowered directly into the trench. The equipment uses a "leap frogging" technique requiring sufficient area to safely move around other tractors within the CWA to gain an advanced position on the pipe.

9.5.8 Backfilling

Backfilling consists of covering the pipe with the earth removed from the trench or with another fill material hauled to the site when the existing trench spoil is not adequate for backfill. Backfilling will follow lowering-in of the pipeline as close as is practical.

In areas where the trench bottom is irregularly shaped due to consolidated rock or where the excavated spoil materials are unacceptable for backfilling around the pipe, padding material may be required to prevent damage to the pipe. This padding material will generally consist of sand or screened spoil materials from trench excavation.

- Under no circumstances shall topsoil be used as padding material.
- Excess rock, including blast rock, may be used to backfill the trench to the top of the existing bedrock profile in accordance with Company specifications. Rock that is not used to backfill the trench will be treated as described in Section 9.5.3.3.
- Any excess material will be spread within the CWA in upland areas and land contours will be roughed-in to match adjacent topography.
- The trench may be backfilled with a crown over the pipe to compensate for compaction and settling. Openings will be left in the completed trench crown to restore pre-construction drainage patterns. Crowning shall not be used in wetland areas

9.5.8.1 Trench Plugs

As discussed in Section 7.2 of the ESCAMP, trench plugs are intended to slow subsurface water flow and erosion along the trench and around the pipe in sloping terrain. Trench plugs will be constructed with clay, bentonite, synthetic foam, sand or concrete filled sacks. On severe slopes greater than 100 percent, cement filled bags will be used at the discretion of the Chief Inspector. Topsoil shall not be used to construct trench plugs. Trench plugs, which are used in conjunction with waterbars, shall be installed at the locations shown on the alignment sheet drawings or as determined by the EI. Trench plugs shall be installed at the base of slopes adjacent to waterbodies and wetlands, and where needed to avoid draining of a resource.

9.5.9 Hydrostatic Testing

Once the pipeline is completed and before it is placed into service, it will be hydrostatically tested for structural integrity in accordance with PHMSA regulations. Hydrostatic testing involves filling the pipeline with clean water and maintaining test pressure in excess of normal operating pressures. The testing procedure involves filling the pipeline with test water, performing the pressure test, and discharging the test water. Alternately the water may be hauled offsite. A Hydrostatic Discharge Permit will be obtained from the PADEP prior to hydrostatic testing. National Fuel anticipates withdrawing water for the hydrostatic testing from publicly and privately available water sources.

- The EI shall notify the agencies of the intent to use specific test water sources at least 48 hours before testing activities.
- Pumps used for hydrostatic testing within 100 feet of any waterbody or wetland shall be operated and refueled in accordance with the PPC Plan.
- Use only the approved water sources identified in the Clearance Package/Permit Book.
- Locate hydrostatic test manifolds outside wetlands and riparian areas to the greatest extent practical.
- For an overland discharge of test water, dewater into an energy dissipation device constructed of straw bales and absorbent booms.
- Dewater only at the locations shown on the construction drawings or locations identified in the Hydrostatic Test Package.
- Locate all dewatering structures in a well-vegetated and stabilized area, if practical, and attempt to maintain at least a 50-foot vegetated buffer from adjacent waterbody/wetland areas. If an adequate buffer is not available, BMPs or similar erosion control measure must be installed.
- Regulate discharge rate, use energy dissipation device(s), and install BMPs, as necessary, to prevent erosion, streambed scour to aquatic resources, suspension of sediments, flooding or excessive stream flow.
- The EI shall sample and test the source water and discharge water in accordance with the permit requirements

9.6 CWA Restoration and Final Cleanup

Restoration of the CWA will begin after pipeline construction activities have been completed. Restoration measures include the re-establishment of final grades and drainage patterns as well as the installation of permanent erosion and BMPs to minimize post-construction erosion.

In addition to the standard permanent restoration procedures set forth in Section 7.5 of the ESCAMP, residential areas will be restored in accordance with Section 10.3. Property shall be restored as close to its original condition as practical unless otherwise specified by the landowner.

- The Contractor shall make every reasonable effort to complete final cleanup of an area (including final grading and installation of permanent erosion control structures) within 20 days after backfilling the trench in that area (within 10 days in residential areas). If seasonal or other weather conditions prevent compliance with these time frames, maintain temporary erosion controls (temporary waterbars, BMPs, and mulch) until conditions allow completion of cleanup.
- The disturbed CWA will be seeded within four working days of final grading, weather and soil conditions permitting.

- If final cleanup and seeding cannot be completed and is delayed until the next recommended growing season, the winter stabilization measures in Section 9.6.4 shall be followed.
- Grade the CWA to pre-construction contours.
- Spread segregated topsoil back across the graded CWA to its original profile.
- Remove excess rock from at least the top 12 inches of soil to the extent practical in all rotated and cultivated cropland, hayfields, managed pastures, residential areas, and other areas at the landowner's request. The size, density, and distribution of rock on the CWA should be similar to adjacent areas not disturbed by construction. The landowner or land management agency may approve other provisions in writing.
- A travel lane may be left open temporarily to allow access by construction traffic if the temporary erosion control structures are installed, regularly inspected and maintained. When access is no longer required, the travel lane must be removed and the CWA restored.
- Remove all construction debris from all construction work areas unless the landowner or land managing agency approves leaving materials onsite for beneficial reuse, stabilization, or habitat restoration.
- Remove temporary BMPs when replaced by permanent erosion control measures or when revegetation is successful per permit requirements.

9.6.1 Permanent Erosion Control

9.6.1.1 Permanent Waterbars

As detailed in Section 7.3 of the ESCAMP, permanent waterbars are intended to reduce runoff velocity, divert water off the CWA, and prevent sediment deposition into sensitive resources. Permanent waterbars will be constructed of compacted soil. A functional equivalent may be used when directed by the EI.

9.6.1.2 Erosion Control Blanket

- Install erosion control fabric at waterbar outlets and drainage swales as necessary or as directed by the EI.
- Install erosion control blanket or matting on slopes greater than 3H:1V, on disturbed areas within 50 feet of streams, and within 100 feet of streams in HQ and EV watersheds. Anchor the erosion control blanket or matting with staples or other appropriate devices in accordance with the manufacturers' recommendations.
- The EI will direct the installation of high-velocity erosion control blanket on the swale side of permanent waterbars
- Install erosion control blanket or matting in locations where temporary bridges were removed

9.6.2 Revegetation and Seeding

Successful revegetation of soils disturbed by Project-related activities is essential. Seeding will be conducted using the requirements as outlined in Section 8 of the ESCAMP.

9.6.3 Mulch

Mulch is intended to stabilize the soil surface and shall consist of weed-free straw or hay, wood fiber hydromulch, erosion control blanket, or some functional equivalent as approved by the EI and Chief Inspector. Mulch will be applied as directed in Section 4.9 of the ESCAMP.

9.6.4 Winter Stabilization

In the event that restoration occurs too late in the year for cleanup activities to adequately proceed, the following procedures will be implemented along the disturbed CWA at those locations until final restoration measures can be completed.

- Install permanent waterbars at specified intervals on all slopes, or as directed by the EI;
- Install temporary BMPs adjacent to stream and wetland crossings, as well as other critical areas;
- Seed and mulch the disturbed areas and seed segregated topsoil piles in accordance with these application materials; and
- Remove flumes from waterbody crossings to reestablish natural stream flow.

Refer to section 3.8 and Attachment 6 of the ESCAMP in Appendix G for additional information regarding winter stabilization.

9.7 Unauthorized Vehicle Access to ROW

National Fuel will offer to install and maintain measures to control unauthorized vehicle access to the ROW based on requests by the manager or owner of forested lands. These measures may include:

- Signs;
- Fences with locking gates;
- Slash and timber barriers, pipe barriers, or a line of boulders across the permanent ROW; or
- Conifers or other appropriate shrubs with a mature height of four feet or less across the permanent ROW.

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10 Special Construction Methods

National Fuel will utilize the following specialized construction procedures for agricultural areas, road crossings, and residential areas along the Project. The Project construction drawings, Line Lists, and Construction Contract will indicate the locations where specialized construction methods will be used.

10.1 Agricultural Areas

Section 4.3 of the ESCAMP, details National Fuels construction procedures in agricultural areas, including topsoil segregation, drain tiles, and maintaining irrigation during construction. Following construction National Fuel will test topsoil and subsoil for compaction at regular intervals in agricultural areas disturbed by construction activities. Conduct tests on the same soil type under similar moisture conditions in undisturbed areas to identify approximate preconstruction conditions. Use penetrometers or other appropriate devices to conduct tests. If necessary, National Fuel will plow severely compacted agricultural areas with a paraplow or other deep tillage implement. In areas where topsoil has been segregated, plow the subsoil before replacing the segregated topsoil. If subsequent construction and cleanup activities result in further compaction, conduct additional tilling.

10.2 Road Crossings

As detailed in Section 4.5 of the ESCAMP, unpaved private and public roads supporting minimal traffic volumes are usually crossed by boring or by means of an open cut, if this method is approved by the owner or appropriate road management agency. An open cut crossing may involve closing the road to all traffic and constructing an adequate detour around the crossing area or excavating one-half of the roadway at a time allowing through traffic to be maintained.

The trench for an open cut crossing is excavated with a backhoe or similar equipment, all backfill is compacted, and the road resurfaced. All state, national, and interstate highways as well as all railroads must be crossed by boring, unless the crossing permit allows an open cut crossing.

10.3 Residential Areas

Section 4.2 of the ESCAMP, details National Fuels construction procedures in residential areas.

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11 Waterbody and Wetland Crossings

Waterbody crossing procedures are addressed in Section 5 of the ESCAMP. Wetland crossing procedures are addressed in Section 6 of the ESCAMP. Specific restoration procedures for waterbodies and wetlands are addressed in Section 7.5 of the ESCAMP.

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12 Spill Prevention and Response Procedures

In addition to the requirements of the ESCAMP, the Contractor shall adhere to National Fuel's Spill Prevention and Response Procedures Plan at all times.

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13 Post Construction Activities

13.1 Post-Construction Monitoring

The Project shall adhere to the monitoring requirements set forth in this section and Section 9 of the ESCAMP. Company personnel shall perform the following:

13.1.1 Uplands

Routine maintenance of the ROW is required to allow continued access for routine pipeline patrols, maintaining access in the event of emergency repairs, and visibility during aerial patrols. In upland areas, maintenance of the ROW will involve clearing the entire ROW of woody vegetation.

- Routine vegetation mowing or clearing over a 50-foot wide corridor centered on the pipeline of the permanent ROW in uplands shall be conducted no more frequently than once every three years. However, to facilitate periodic corrosion and leak surveys, a 10-foot wide corridor centered on the pipeline may be cleared at a frequency necessary to maintain the 10-foot wide corridor in an herbaceous state.
- In no case shall routine vegetation mowing or clearing occur during the migratory bird nesting season between April 15 and August 1 of any year unless specifically approved in writing by the responsible land management agency or the USFWS.

13.1.2 Waterbodies and Wetlands

Refer to Sections 9.1.1 and 9.1.2 of the ESCAMP for waterbody and wetland post-construction maintenance activities.

13.2 Reporting

Refer to Section 9.2 of the ESCAMP for post-construction reporting procedures.

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Appendices

A. Tables 2.2-1 (A thru D)

A.1 Table 2.2-1A – Waterbodies Crossed by the Project

A.2 Table 2.2-1B – Wetlands Located within Project Work Areas

A.3 Table 2.2-1C – Floodplains Crossed by the Project

A.4 Table 2.2-1D – Water Supply Wells and Springs within 150-feet of Project Work Areas

B. PADEP Standard E&S Worksheet 1 (Compost Filter Sock)

B.1 McKean County (Modernization)

B.2 Potter County (Modernization)

B.3 Potter County (Abandonment)

B.4 Elk County (Abandonment)

B.5 Clearfield County (Abandonment)

B.6 Cameron County (Abandonment)

C. Clean Water Diversions: Drainage Area Mapping & PADEP Standard E&S Worksheets 9, 10, & 11

C.1 McKean County

C.2 Potter County

D. North American Green Product Specifications

E. Geologic Units Crossed by the Proposed Pipeline Routes

F. PADEP Standard E&S Worksheet 22 (Plan Preparer Record of Training and Experience in Erosion and Sediment Pollution Control Methods and Techniques)

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G. ESCAMP

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H. Blasting Plan

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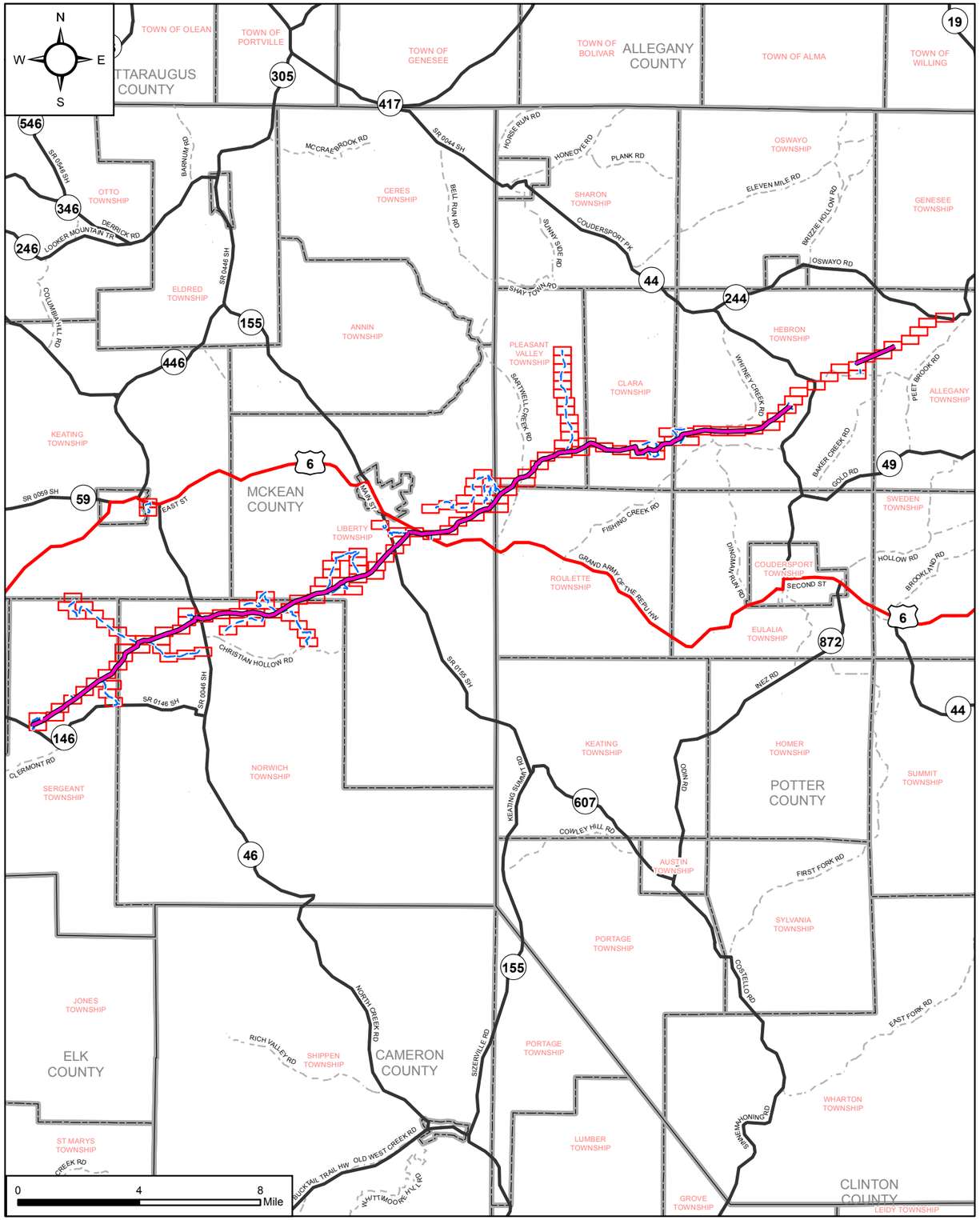
Attachment F



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- Exclusion Zone
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EROSION & SEDIMENT CONTROLS

- Trench Plug
- Compost Filter Sock - 12"
- Compost Filter Sock - 18"
- Compost Filter Sock - 24"
- Compost Filter Sock - 32"
- Timber Mat
- Waterbar (Permanent)
- Waterbar (Temporary)
- Clean Water Slope Pipe
- Diversion Sock
- Exclusion Barrier
- Erosion Control Matting
- Rock Construction Entrance
- Temporary Bridge
- Rock Filter Outlet

LAND USE BAND

- Agricultural Land
- Forested and Woodland
- Industrial and Commerical
- Open Water
- Open Land
- Residential Land

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Notes:
1. Erosion and sediment control design developed by Mott MacDonald.
2. Wetland and waterbody delineations completed by Mott MacDonald.
3. Civil survey, pipeline, workspace, and stationing developed by Fisher Associates.

NOTES:

Property Lines
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Riparian Buffers
For riparian buffers and forested riparian impacts, please refer to the "Forested Riparian Impacts" mapbook, provided under separate cover.

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FM100 Modernization Project

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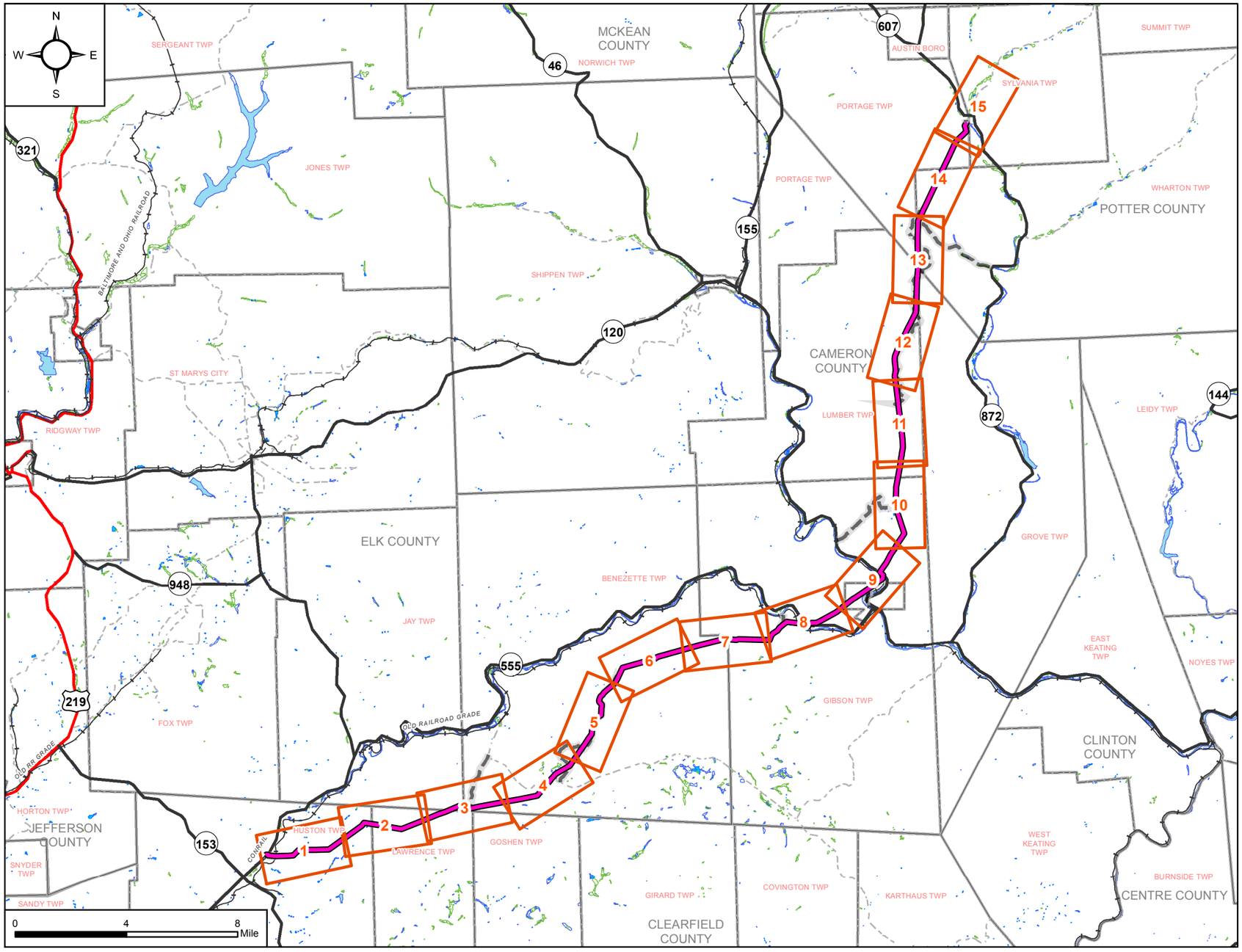

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EV	Exceptional Value
HQ	High Quality
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- Industrial/Commercial Land
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http://www.nhd.usgs.gov

Mapped Wetlands
U.S. Fish and Wildlife Service, October 01, 2014, National Wetlands Inventory Website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
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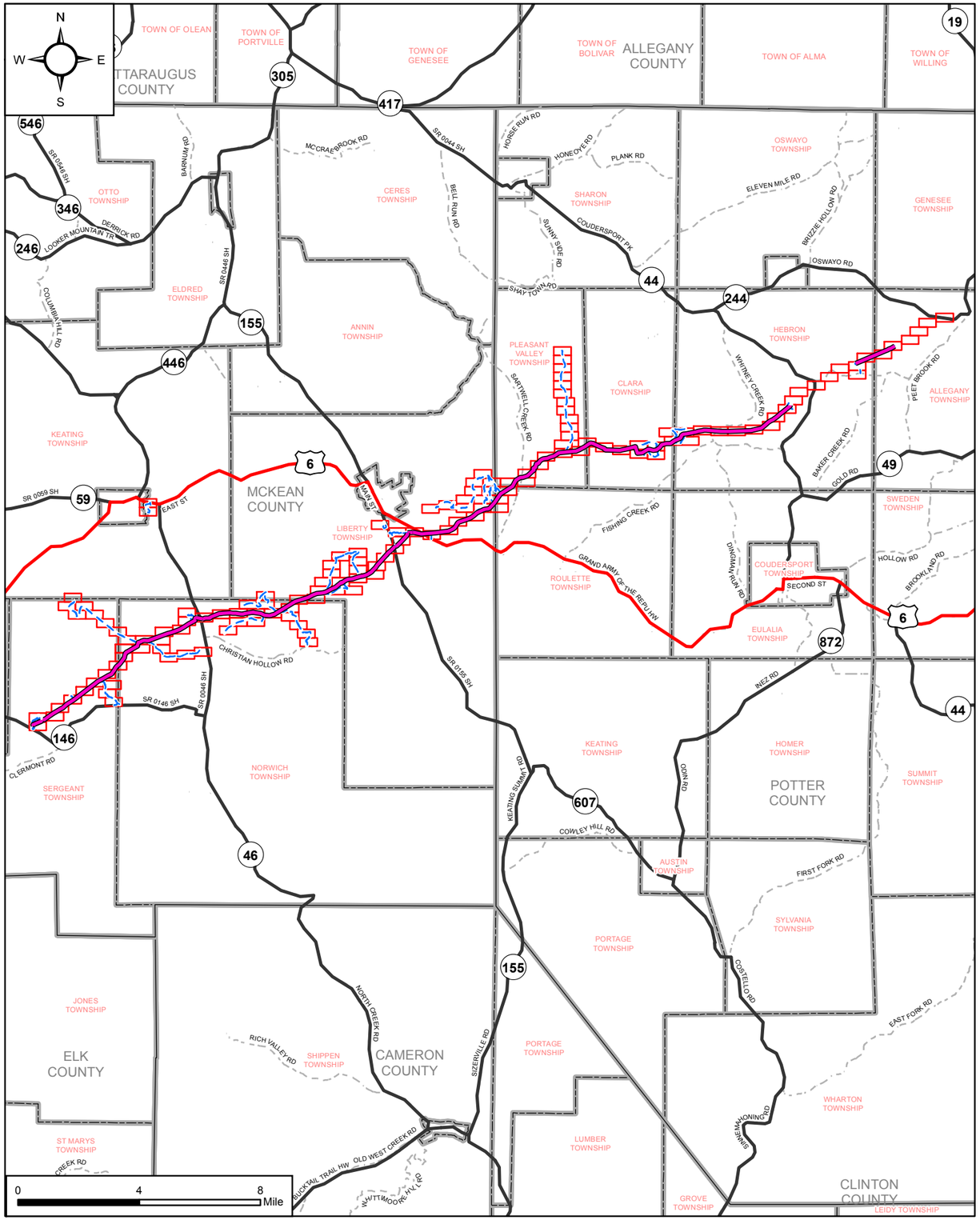

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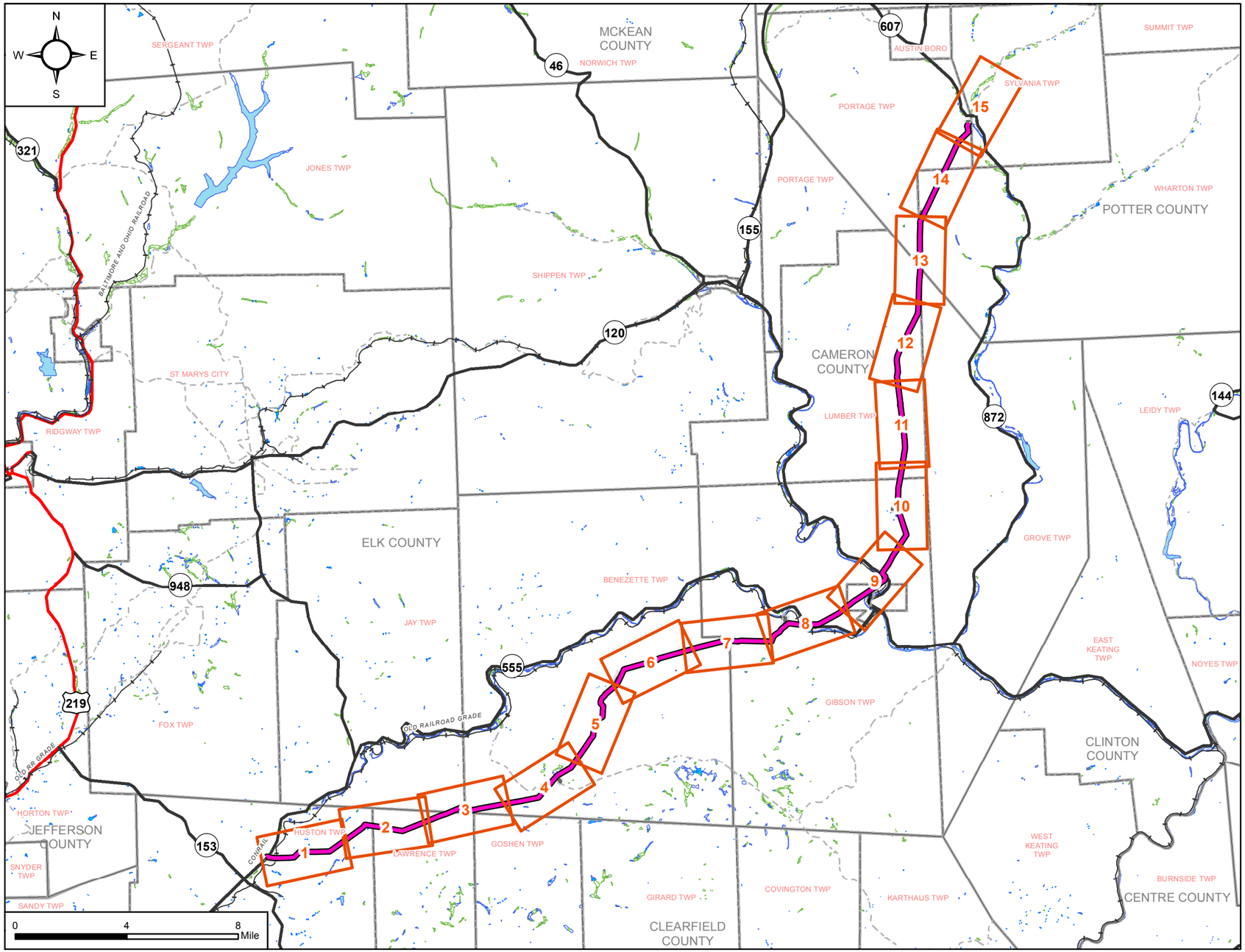

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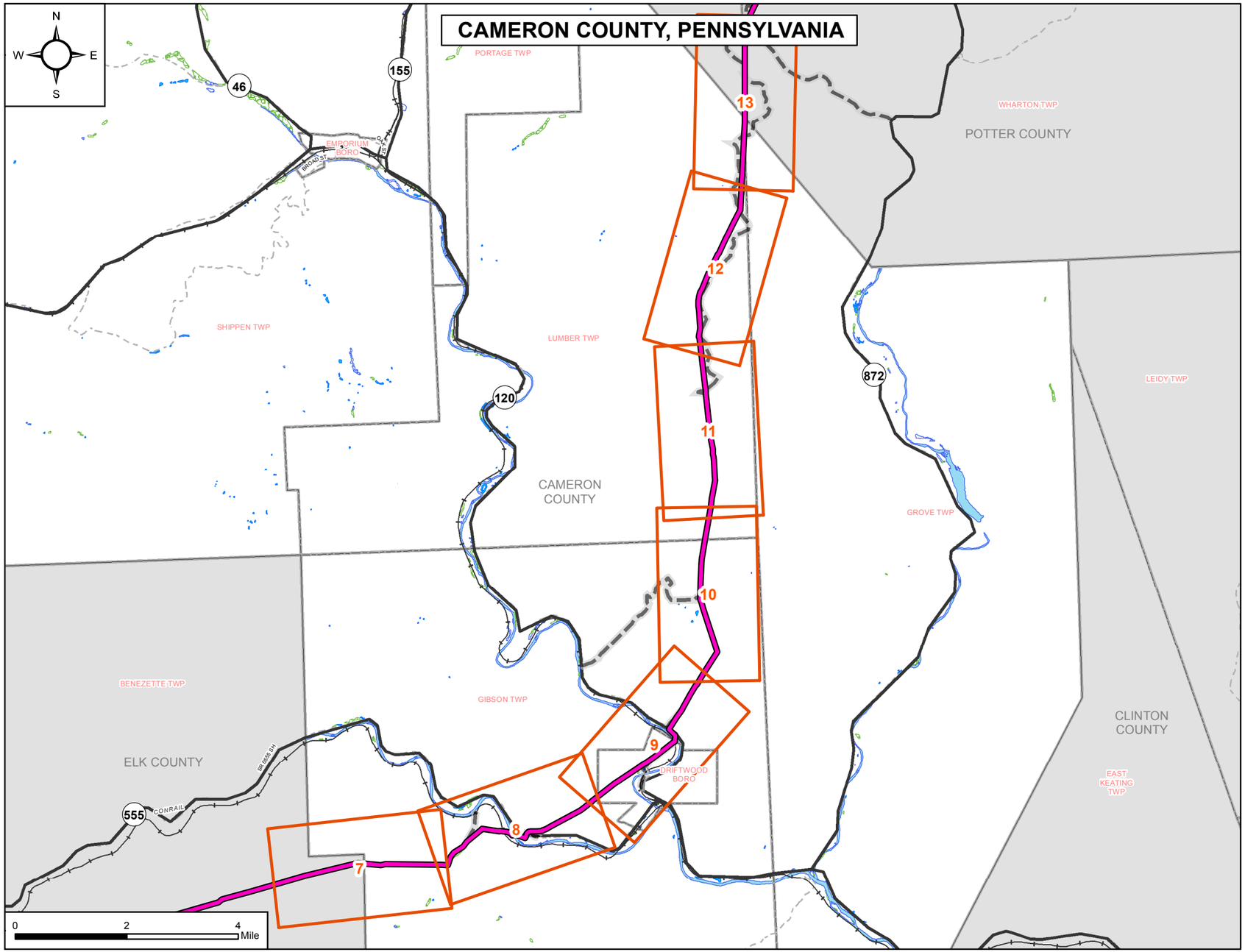

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- BhF NRCS Soil Boundary
- NHD Stream
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- Delineated Stream
- Delineated Wetlands
- Approximate 100 Year Floodway
- Cut & Cap Location
- Grout End Point
- Cut/Cap/Grout Insertion
- Removal Locations
- Rectifier
- Valve
- Tap
- Existing Casing
- Parcels Requesting Removal
- Milepost
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EV	Exceptional Value
HQ	High Quality
HQ-CWF	High Quality-Cold Water Fishes
TSF	Trout Stocking

- Exclusion Zone

Note:
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- Compost Filter Sock - 18"
- Compost Filter Sock - 24"
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- Timber Mat
- Waterbar (Temporary)
- Erosion Control Matting
- Rock Construction Entrance

LAND USE BAND

- Forest/Woodland
- Industrial/Commercial Land
- Open Land

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FM100 Abandonment Project
Penfield to Costello

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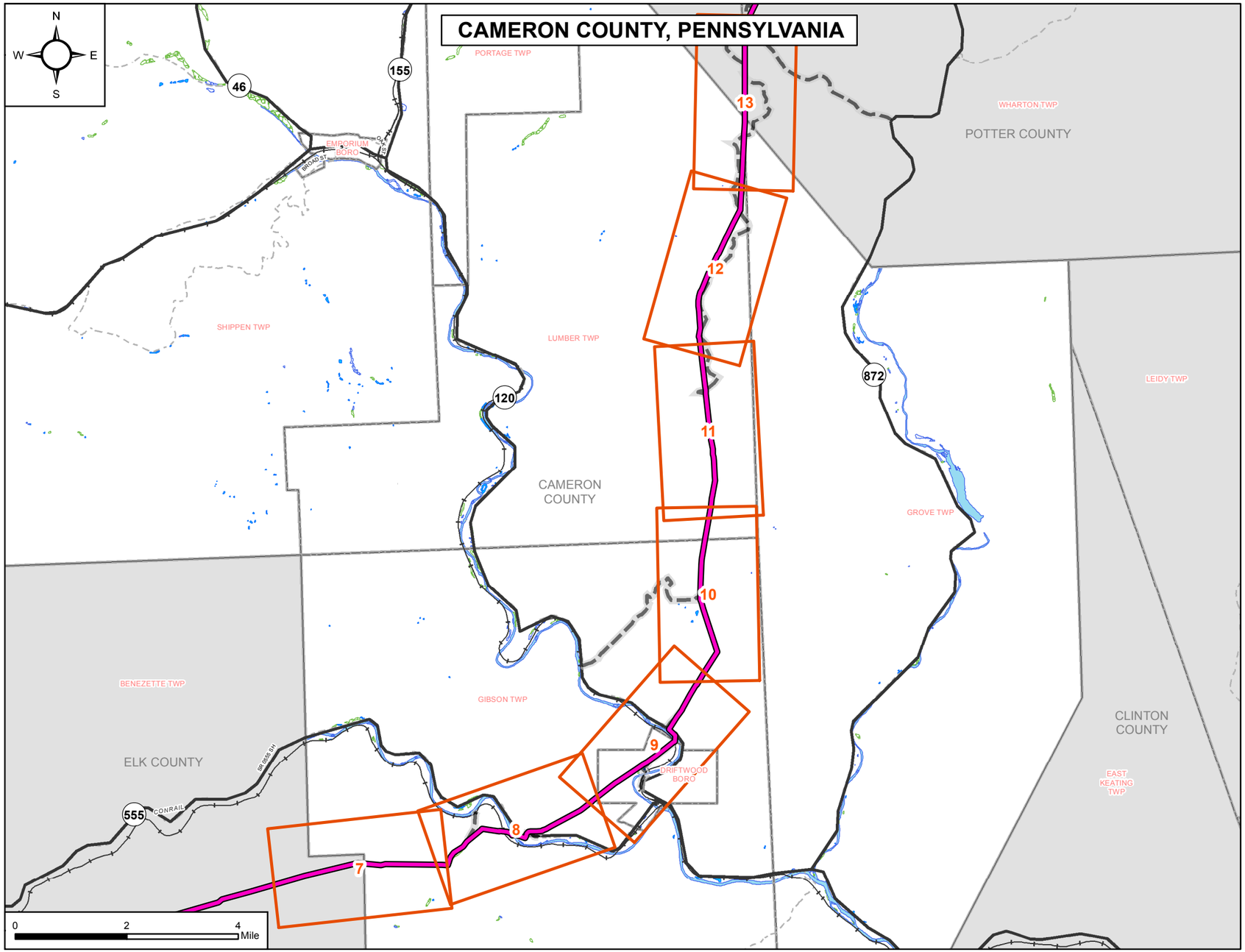

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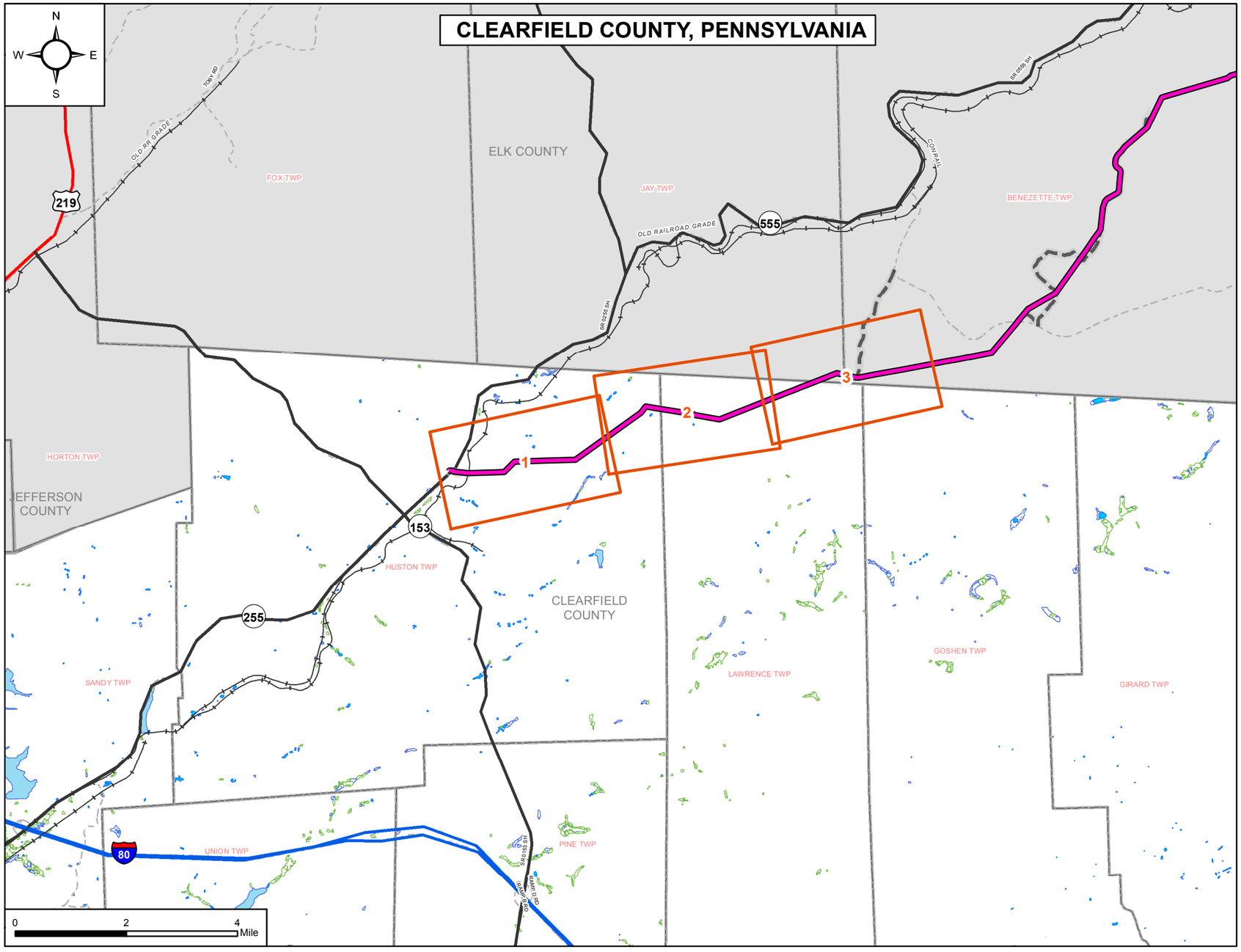

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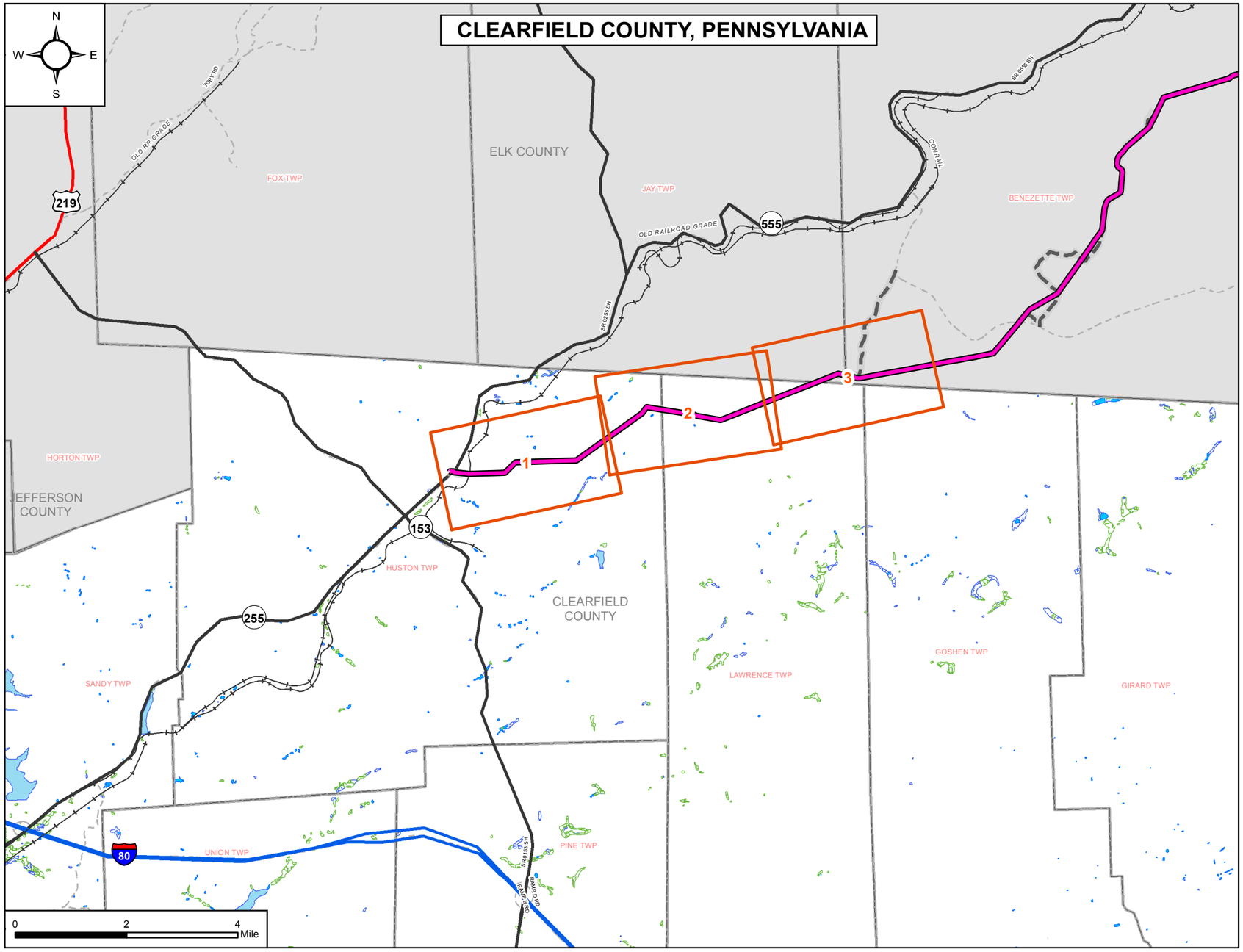

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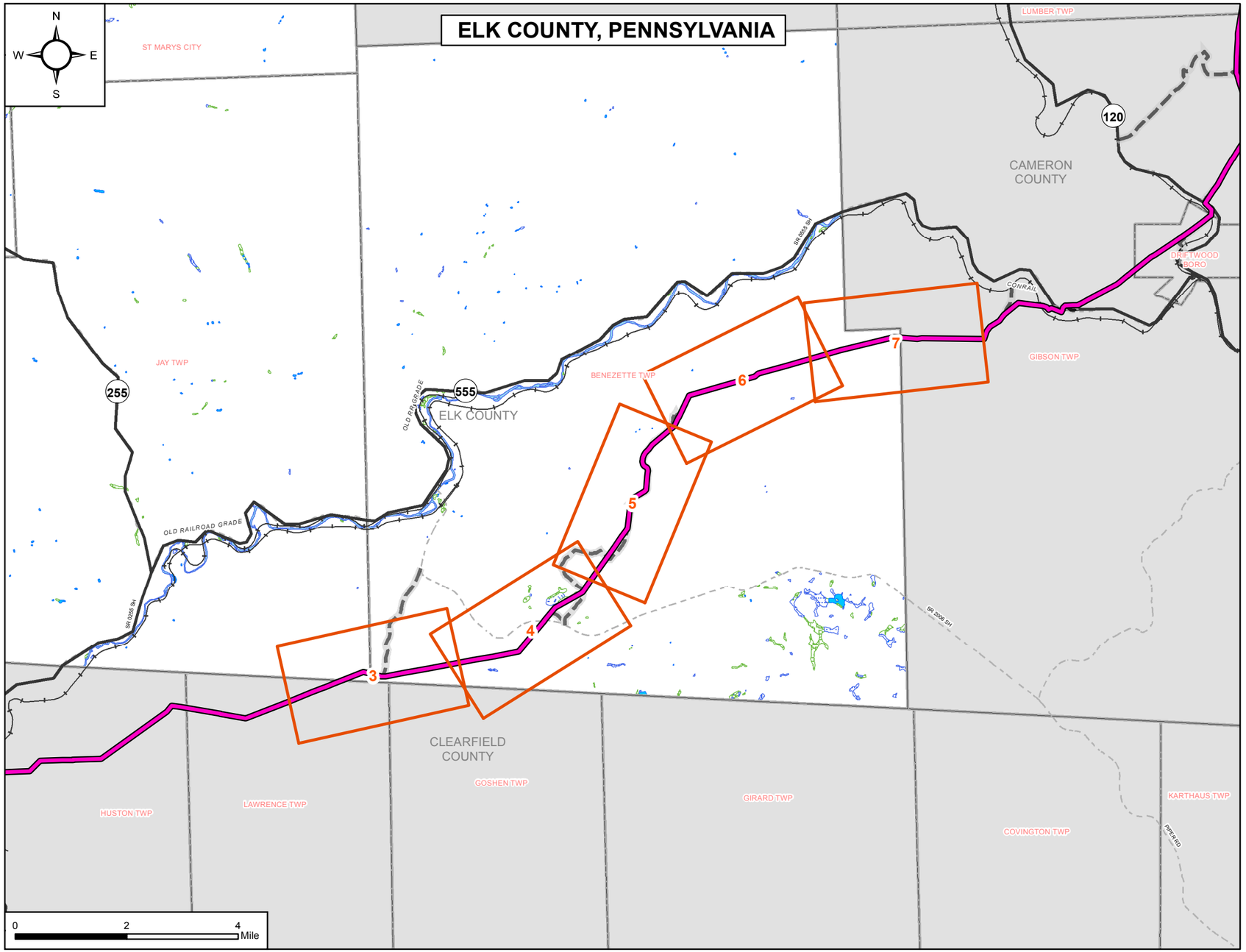

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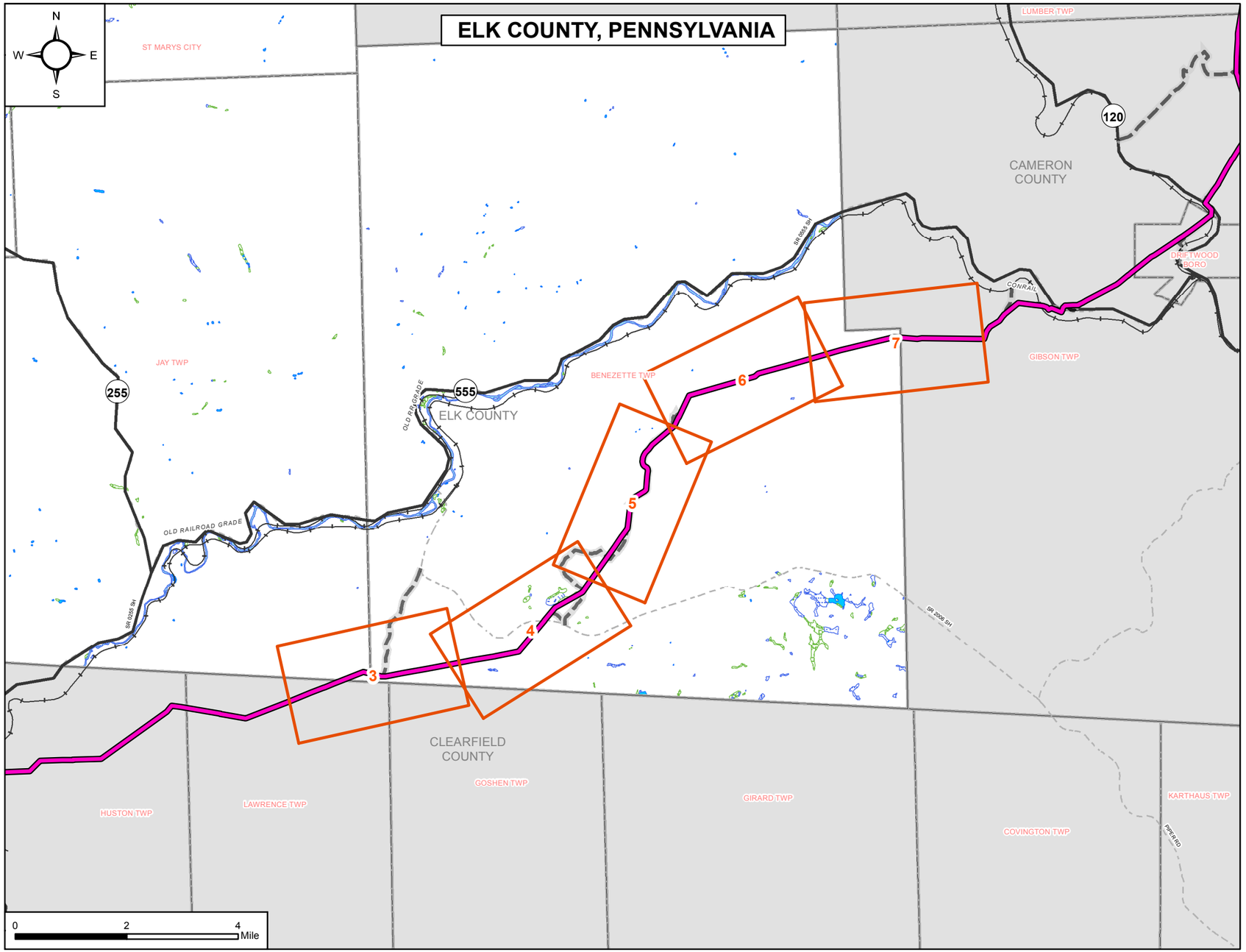

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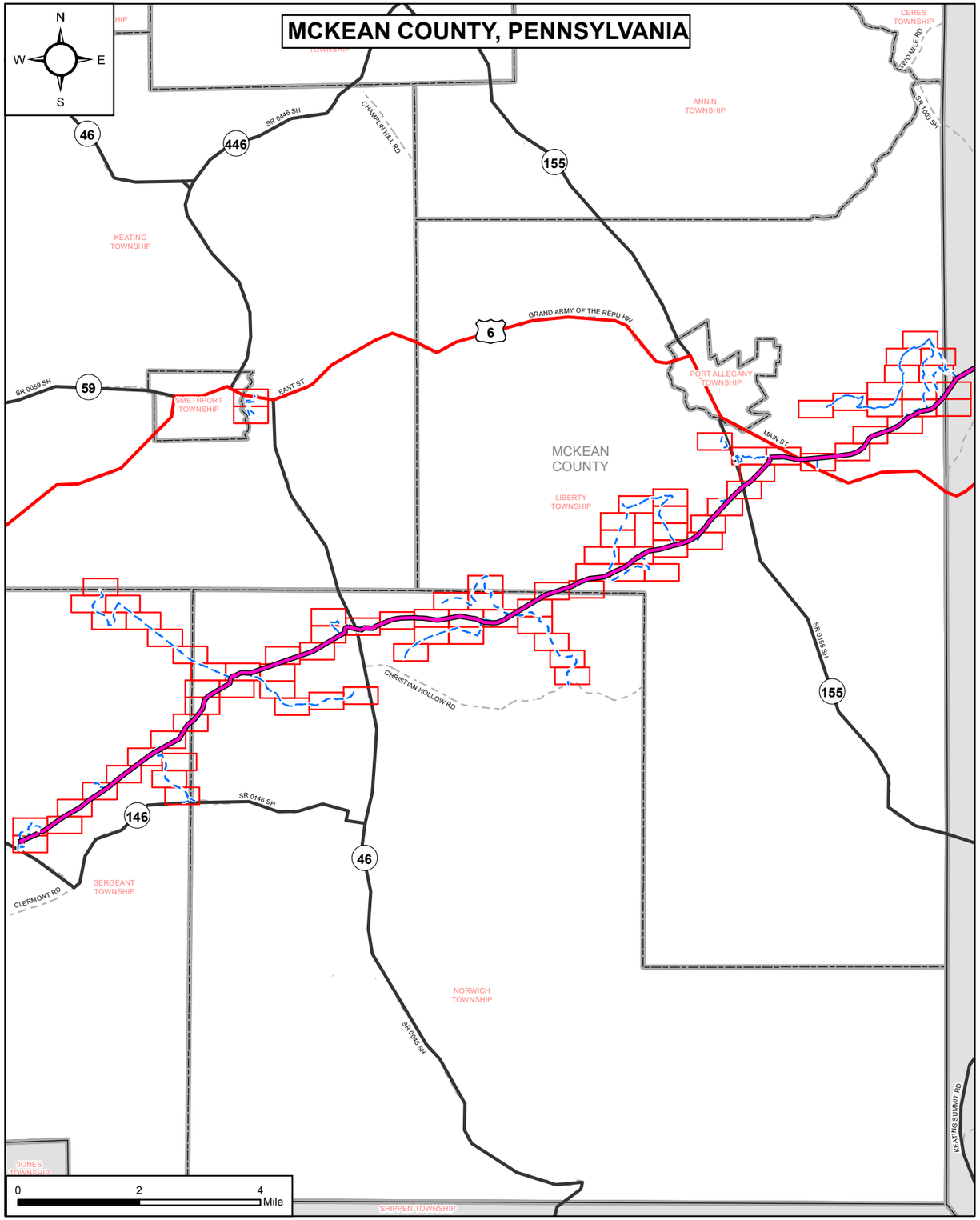

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MOTT MACDONALD
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- Temporary Bridge
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LAND USE BAND

- Agricultural Land
- Forested and Woodland
- Industrial and Commerical
- Open Water
- Open Land
- Residential Land

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Notes:
1. Erosion and sediment control design developed by Mott MacDonald.
2. Wetland and waterbody delineations completed by Mott MacDonald.
3. Civil survey, pipeline, workspace, and stationing developed by Fisher Associates.

NOTES:

Property Lines
All property lines are approximate and are shown from available tax map record data only and not actual boundary retracement survey.

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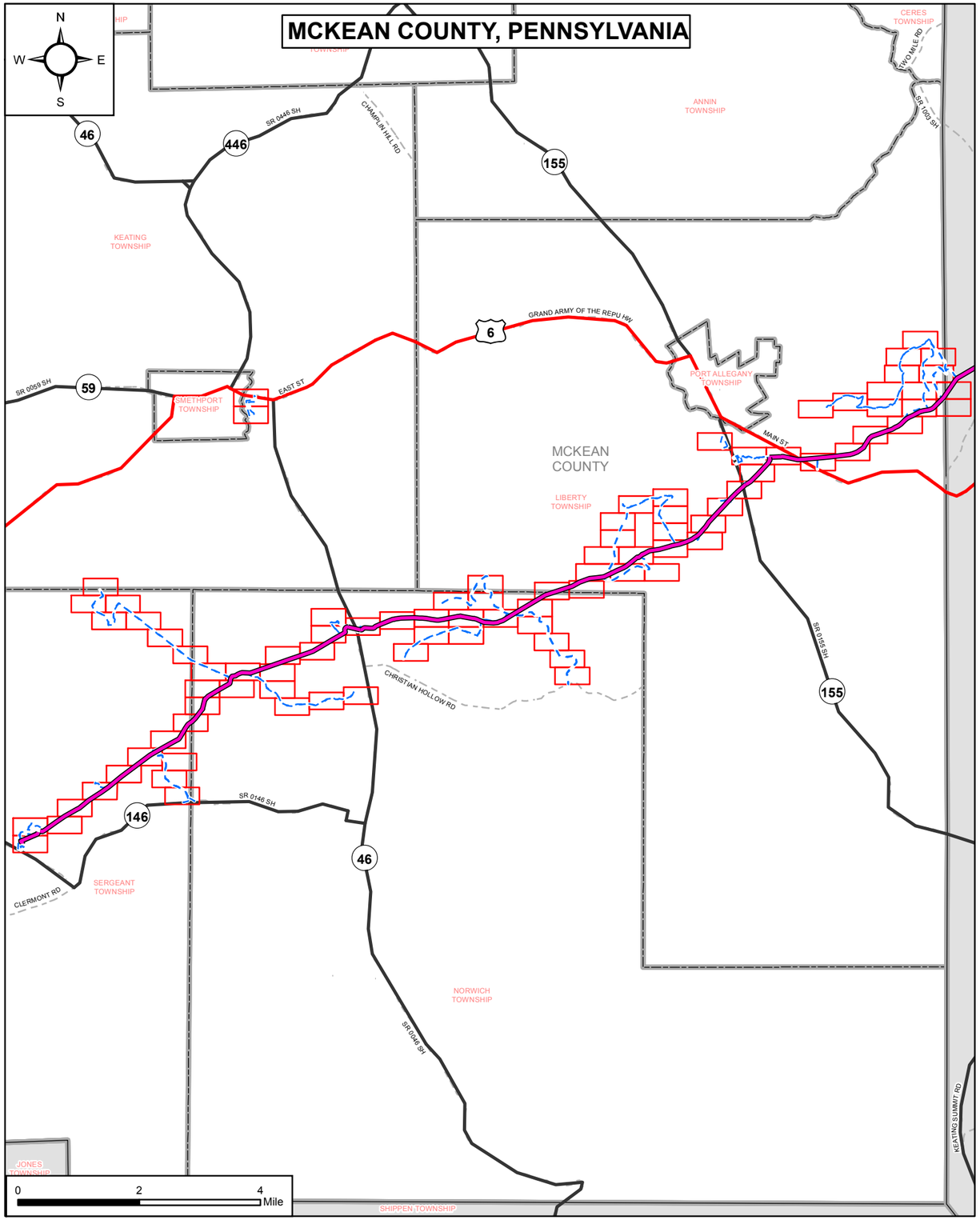

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- OHT — Telephone Overhead
- Pipeline - Surveyed
- Pipeline - Unsurveyed
- Unknown Utility Underground
- Parcel Boundary
- Municipal Boundary
- BhF — NRCS Soil Boundary
- Watershed Boundary (Chapter 93 Designated or Existing Use)
  - CWF Cold Water Fishery
  - EV Exceptional Value
  - HQ High Quality
  - TSF Trout Stocked Fisheries

- Limits of Disturbance/ESCGP Boundary
- Proposed Bore Hatching
- Proposed Facility
- Proposed Permanent Easement
- Delineated Stream
- Delineated Wetlands
- Delineated Ponds
- Approximate 100 Year Floodway
- Exclusion Zone

Note:
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EROSION & SEDIMENT CONTROLS

- Waterbar (Permanent)
- Erosion Control Matting

LAND USE BAND

- Agricultural Pasture
- Forested and Woodland
- Industrial and Commerical
- Open Water
- Open Land
- Residential Land

Know what's below. Call before you dig.

Notes:
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2. Wetland and waterbody delineations completed by Mott MacDonald.
3. Civil survey, pipeline, workspace, and stationing developed by Fisher Associates.

NOTES:

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Riparian Buffers
For riparian buffers and forested riparian impacts, please refer to the "Forested Riparian Impacts" mapbook, provided under separate cover.

national Fuel SUPPLY CORPORATION National Fuel Gas Supply Corporation FM100 Modernization Project	REV	DRAWN BY :	MOTT MACDONALD	SR INDEX SHEET
		CHECKED BY :	M. DENICHILO	
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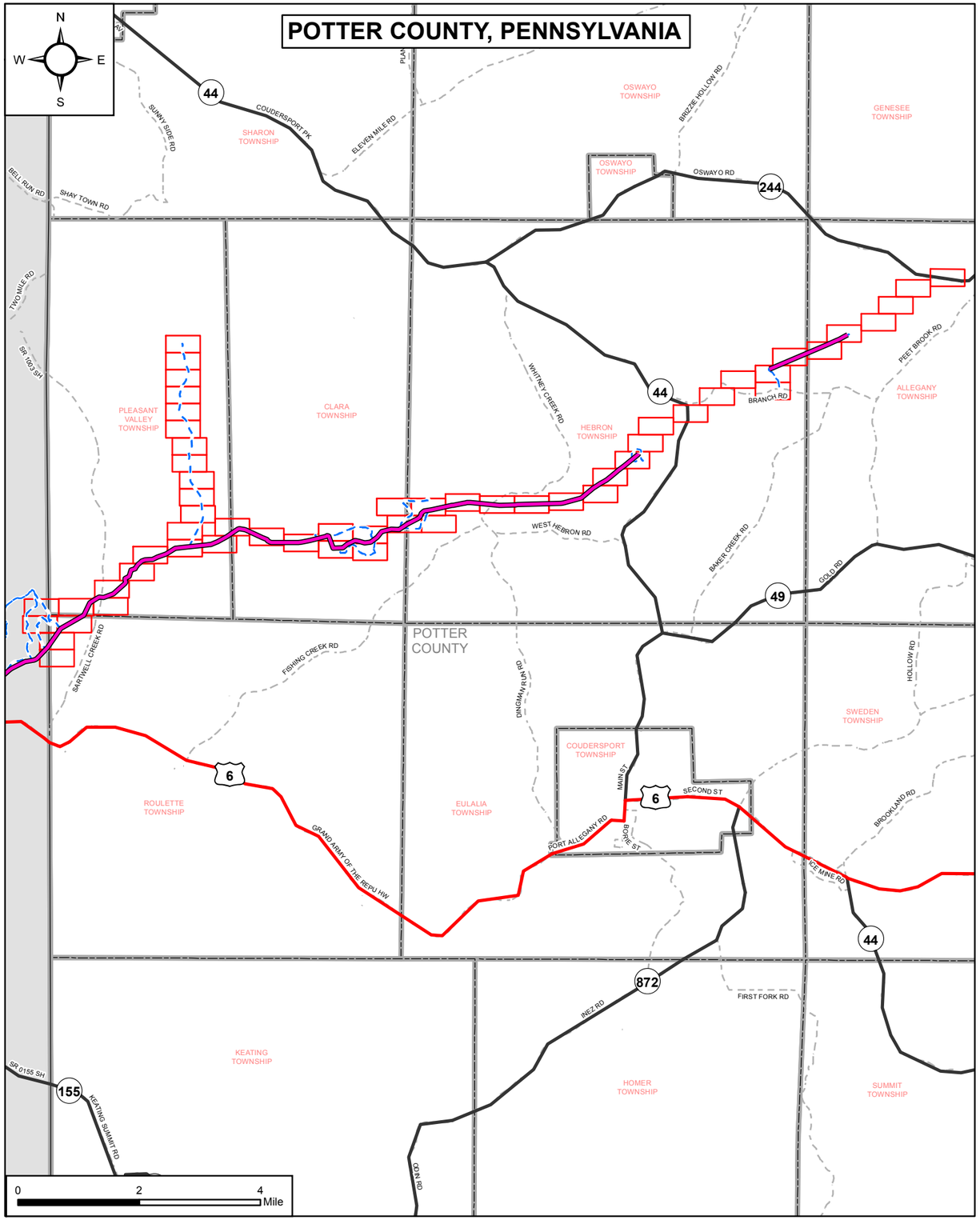

national Fuel SUPPLY CORPORATION
1100 State St
Erie, PA 16501
814-871-8000
www.nationalfuelgas.com

MOTT MACDONALD
111 Wood Avenue South
Iselin, NJ 08830-4112

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- State Route
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- Even Station (Ex. 2+00)
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EROSION & SEDIMENT CONTROLS

- Trench Plug
- Compost Filter Sock - 12"
- Compost Filter Sock - 18"
- Compost Filter Sock - 24"
- Compost Filter Sock - 32"
- Timber Mat
- Waterbar (Permanent)
- Waterbar (Temporary)
- Clean Water Slope Pipe
- Diversion Sock
- Exclusion Barrier
- Erosion Control Matting
- Rock Construction Entrance
- Temporary Bridge
- Rock Filter Outlet

LAND USE BAND

- Agricultural Land
- Forested and Woodland
- Industrial and Commerical
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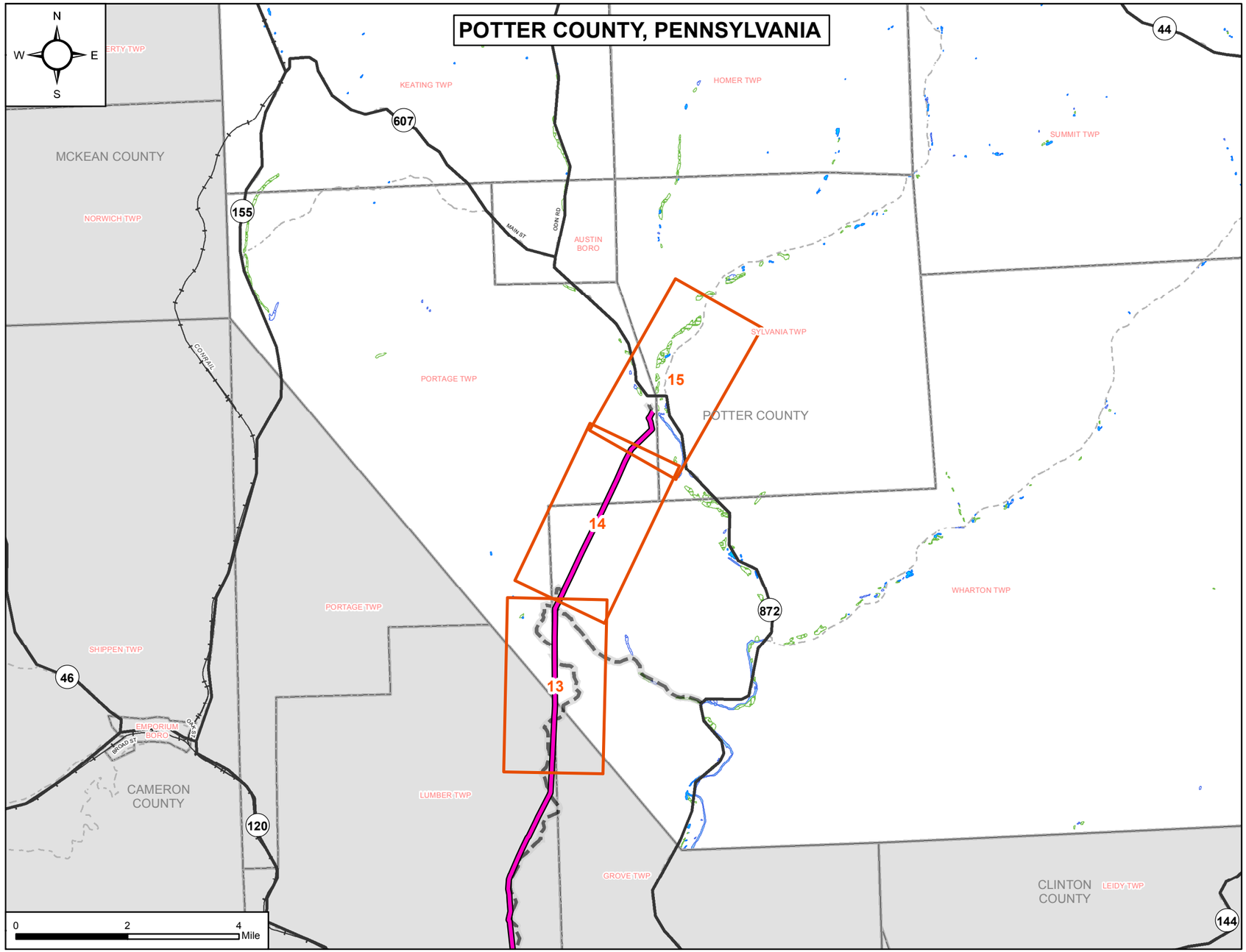

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- Exclusion Zone

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http://www.nhd.usgs.gov

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Contours
PAMAP Program, PA Department of Conservation and Natural Resources, Bureau of Topographic and Geologic Survey
http://www.dcnr.state.pa.us/topogeo/pamap

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National Fuel Supply Corporation

National Fuel Gas Supply Corporation
FM100 Abandonment Project
Penfield to Costello

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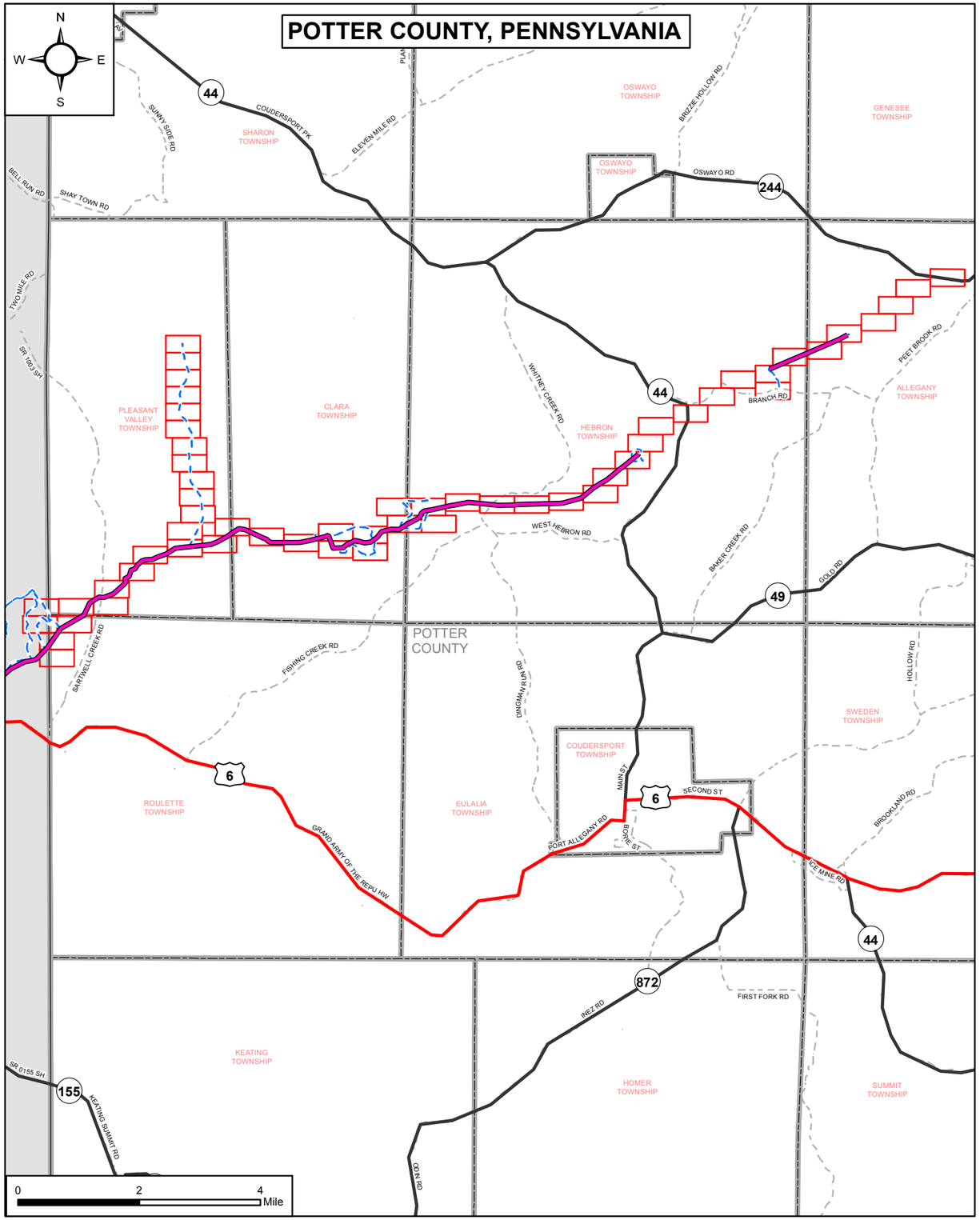

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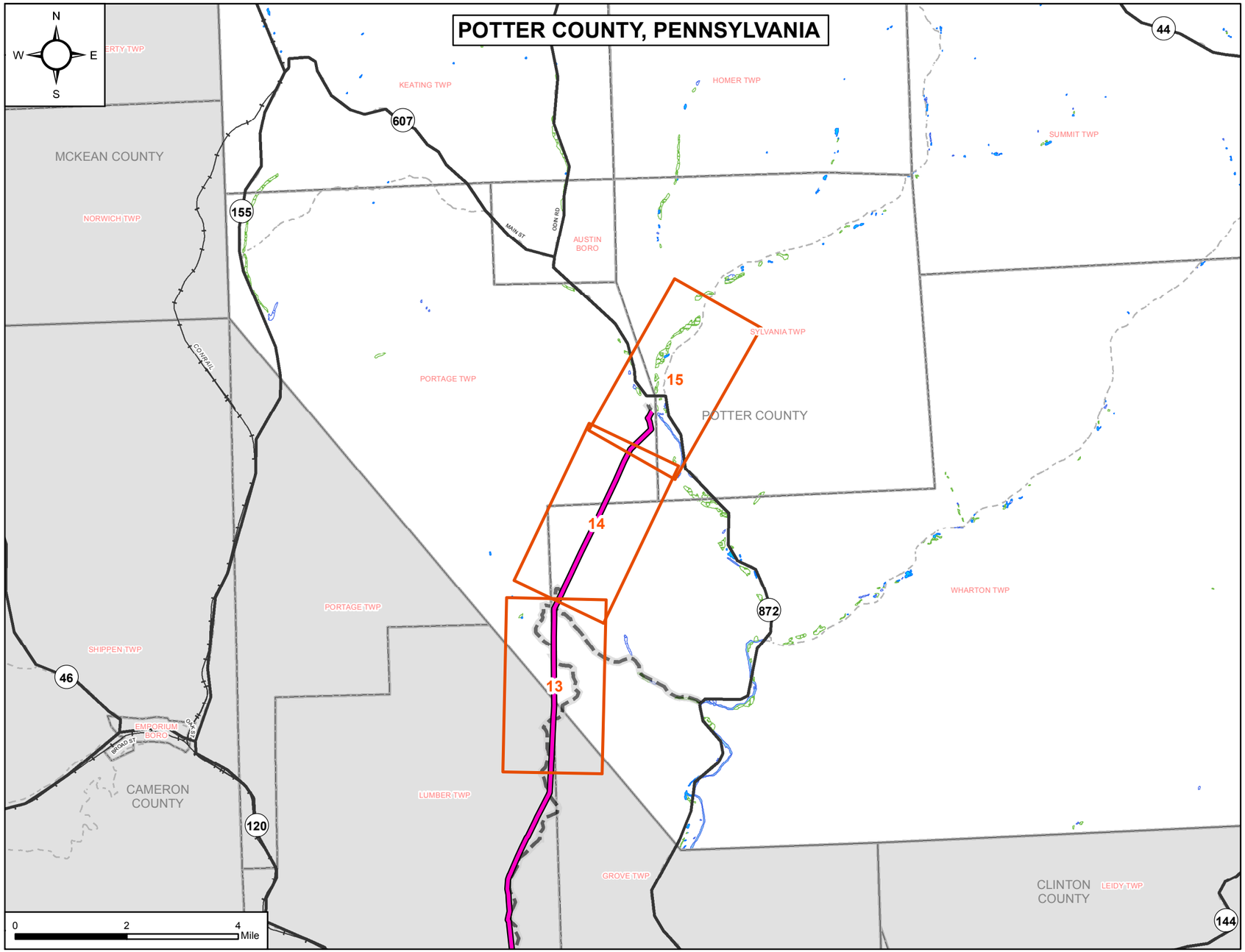

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National Fuel Gas Supply Corporation **FM100 Abandonment Project** Penfield to Costello	REV	DRAWN BY:	MOTT MACDONALD	SR INDEX SHEET
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Attachment G

Table 2.2-1A: Waterbodies Crossed by the Project

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[7]
Line YM58										
McKean	Stream 006	0.9	3.0	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 007	1.2	4.0	Minor	UNT to Wernwag Hollow	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 008	1.4	6.5	Minor	Wernwag Hollow	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 011	1.5	3.0	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 012	1.6	6.5	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 014	1.6	1.0	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 017	1.8	3.0	Minor	UNT to Wernwag Hollow	IT	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 019	2.2	2.5	Minor	UNT to Browns Mill Hollow Run	IT	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 020	2.2	2.5	Minor	UNT to Browns Mill Hollow Run	IT	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 026	3.0	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 027	3.3	3.0	Minor	UNT to Robbins Brook	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Robbins Brook	3.4	27.0	Intermediate	Robbins Brook	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Donley Fork	3.6	7.0	Minor	Donley Fork	P	HQ-CWF	No	Dam and Pump/Flume	10/1 – 5/31
McKean	Stream 160	4.2	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 030 - 1	4.9	3.0	Minor	UNT to Robbins Brook	E	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 02	6.5	3.0	Minor	--	D	--	--	Open Cut	None

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[7]
McKean	Stream 037	6.6	26.2	Intermediate	UNT to Potato Creek	P	TSF	No/TSW	Dam and Pump/Flume	3/01 – 6/15
McKean	Potato Creek	6.8	205.16	Major	Potato Creek	P	TSF	No/TSW	HDD	10/1 – 5/31
McKean	Ditch 03	6.9	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 05	6.9	5.0	Minor	--	D	--	--	Open Cut	None
McKean	Stream 038	7.1	5.0	Minor	UNT to Potato Creek	P	CWF	No	Dam and Pump/Flume	10/1 – 5/31
McKean	Stream 039	7.1	4.0	Minor	UNT to Potato Creek	IT	CWF	No	Dam and Pump/Flume	10/1 – 5/31
McKean	Stream 159	7.2	30	Intermediate	UNT to Potato Creek	E	CWF	No	Dam and Pump/Flume	10/1 – 5/31
McKean	Stream 040	7.9	3.00	Minor	UNT to Walcott Brook	E	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 041	7.9	9.44	Minor	UNT to Walcott Brook	P	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 043	8.0	16.71	Intermediate	UNT to Walcott Brook	P	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 054	10.4	8.50	Minor	Coalbed Hollow	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 122	11.2	5.0	Minor	UNT to Bemis Hollow	E	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 055	11.2	20.18	Intermediate	Bemis Hollow	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 056	11.3	3.0	Minor	UNT to Bemis Hollow	P	HQ-CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 066	13.6	3.00	Minor	UNT to Allegheny Portage Creek	E	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 08	13.8	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 09	13.8	6.5	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 10	13.9	6.0	Minor	--	D	--	--	Open Cut	None
McKean	Allegheny Portage Creek	14.1	129.25	Major	Allegheny Portage Creek	P	TSF	Yes[5]/TSW	HDD	10/01 – 12/31 10/1 – 5/31
McKean	Stream 067	14.1	3.0	Minor	UNT to Allegheny Portage Creek	IT	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[7]
McKean	Ditch 11	14.2	6.5	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 12	14.2	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 13	14.2	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Stream 068	14.2	6.5	Minor	UNT to Allegheny Portage Creek	E	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 070	14.3	6.5	Minor	UNT to Allegheny Portage Creek	IT	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Stream 071	14.5	3.0	Minor	UNT to Allegheny River	E	CWF	No	Dam and Pump/Flume	10/1 – 5/31
McKean	Stream 073	14.6	3.0	Minor	UNT to Allegheny River	E	CWF	No	Dam and Pump/Flume	10/1 – 5/31
McKean	Stream 074	14.7	3.0	Minor	UNT to Allegheny River	E	CWF	No	Dam and Pump/Flume	10/1 – 5/31
McKean	Stream 075	14.7	2.0	Minor	UNT to Allegheny River	IT	CWF	No	Dam and Pump/Flume	10/1 – 5/31
McKean	Allegheny River	14.8	169.61	Major	Allegheny River	P	CWF	No	HDD	10/1 – 5/31
McKean	Stream 077	15.0	17.80	Intermediate	UNT to Benson Hollow	P	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 16	15.3	10.0	Minor	--	D	--	--	Open Cut	None
McKean	Ditch 17	15.3	6.5	Minor	--	D	--	--	Open Cut	None
McKean	Stream 078	15.4	3.50	Minor	UNT to Allegheny River	IT	CWF	No	Dam and Pump/Flume	10/1 – 5/31
McKean	Coleman Creek - 1	15.7	16.15	Intermediate	Coleman Creek	IT	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 18-1	18.0	3.0	Minor	--	D	--	--	Open Cut	None
McKean	Stream 089	18.1	3.0	Minor	UNT to Jordan Hollow	IT	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 091	18.1	3.0	Minor	UNT to Jordan Hollow	IT	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 092	18.1	1.0	Minor	UNT to Jordan Hollow	IT	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 090	18.1	18.14	Intermediate	Jordan Hollow	P	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 093	18.9	37.74	Intermediate	Ernst Hollow	P	CWF	Yes[5]/NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[7]
Potter	Stream 094	19.1	27.98	Intermediate	UNT to Sartwell Creek	IT	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Sartwell Creek	19.2	28.49	Intermediate	Sartwell Creek	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 096	19.6	33.00	Intermediate	UNT to Sartwell Creek	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 098	19.7	6.0	Minor	UNT to Sartwell Creek	E	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 099	21.8	21.50	Intermediate	Baker Hollow	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 156	23.0	37.38	Intermediate	Fishing Creek	P	CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 151	25.0	3.0	Minor	UNT to East Branch Fishing Creek	IT	HQ-CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 116	26.7	3.0	Minor	East Branch Fishing Creek	P	HQ-CWF	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Whitney Creek	27.4	3.0	Minor	Whitney Creek	E	EV	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 102	27.8	3.0	Minor	UNT to Whitney Creek	E	EV	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Potter	Stream 103	28.7	4.0	Minor	UNT to Whitney Creek	E	EV	Yes[5] /NRT	Dam and Pump/Flume	10/01 – 12/31 10/1 – 5/31
Line YM58 Access Roads										
McKean	Stream 021	PAR-3	3.0	Minor	UNT to Red Mill Brook	IT	CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 022	PAR-3	3.0	Minor	UNT to Red Mill Brook	IT	CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 023	PAR-3	3.0	Minor	UNT to Red Mill Brook	IT	CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 025	PAR-3	3.0	Minor	UNT to Red Mill Brook	IT	CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 024	TAR-4	3.0	Minor	UNT to Red Mill Brook	E	CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 109	PAR-5	3.0	Minor	UNT to Irons Hollow	E	CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[7]
McKean	Stream 110	PAR-5	3.0	Minor	UNT to Irons Hollow	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 111	PAR-5	3.0	Minor	UNT to Irons Hollow	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 112	PAR-5	1.0	Minor	UNT to Irons Hollow	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 113	PAR-5	3.5	Minor	UNT to Irons Hollow	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 114	PAR-5	3.5	Minor	UNT to Irons Hollow	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 030 - 2	TAR-6	3.0	Minor	UNT to Robbins Brook	E	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 032	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 033	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 034	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 035	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 036	TAR-6	3.0	Minor	UNT to Robbins Brook	IT	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 01	TAR-6	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Stream 044	TAR-10	3.0	Minor	UNT to Walcott Brook	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 045	PAR-12	3.0	Minor	UNT to Walcott Brook	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 198	TAR-10	3.0	Minor	UNT to Walcott Brook	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 046	PAR-12	3.0	Minor	UNT to Walcott Brook	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 047	PAR-12	9.00	Minor	UNT to Walcott Brook	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 048	PAR-12	1.00	Minor	UNT to Walcott Brook	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[7]
McKean	Stream 049	PAR-12	3.0	Minor	UNT to Walcott Brook	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 050	PAR-12	3.0	Minor	UNT to Walcott Brook	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 06 – JUR[8]	PAR-12	2.5	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Stream 051	TAR-13	3.0	Minor	UNT to Walcott Brook	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 052	TAR-13	6.5	Minor	UNT to Walcott Brook	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 053	TAR-13	2.5	Minor	UNT to Walcott Brook	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 057	PAR-14	3.0	Minor	UNT to Bemis Hollow	E	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 058	PAR-14	3.0	Minor	UNT to Bemis Hollow	E	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 118	PAR-14	6.5	Minor	UNT to Bemis Hollow	P	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 059	PAR-14	3.0	Minor	UNT to Bemis Hollow	E	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 060	PAR-14	3.0	Minor	UNT to Bemis Hollow	P	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 061	PAR-14	3.0	Minor	UNT to Bemis Hollow	IT	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 062	PAR-14	6.5	Minor	Bemis Hollow	P	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 063	PAR-14	3.0	Minor	UNT to Bemis Hollow	IT	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 064	PAR-14	3.0	Minor	UNT to Bemis Hollow	IT	HQ-CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 080	PAR-25	3.0	Minor	UNT to Benson Hollow	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 081	PAR-25	10.0	Minor	UNT to Benson Hollow	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Coleman Creek -2	PAR-25	10.0	Minor	Coleman Creek	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[7]
McKean	Stream 082	PAR-25	3.0	Minor	UNT to Coleman Creek	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 083	PAR-25	3.0	Minor	UNT to Coleman Creek	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 084	PAR-25	3.0	Minor	UNT to Coleman Creek	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 085	PAR-25	3.0	Minor	UNT to Coleman Creek	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 196	PAR-25	3.0	Minor	UNT to Coleman Creek	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 086	TAR-28	3.0	Minor	UNT to Coleman Creek	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 18-2	TAR-28	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Stream 085c	TAR-26	3.0	Minor	UNT to Jordan Hollow	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 085b	TAR-26	3.0	Minor	UNT to Jordan Hollow	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 085a	TAR-26	3.0	Minor	UNT to Jordan Hollow	E	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Ditch 18-3	TAR-26	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Stream 195	SA-7	7.0	Minor	UNT to Potato Creek	E	CWF	Yes[5]/NRT	Existing Road, install temporary bridge	10/01 – 12/31 10/1 – 5/31
Potter	Stream 155	PAR-31	13.5	Intermediate	UNT to Fishing Creek	P	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
Potter	Stream 153	PAR-31	1.5	Minor	UNT to Fishing Creek	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
Potter	Stream 154	PAR-31	1.0	Minor	UNT to Fishing Creek	IT	CWF	Yes[5]/NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
Potter	Ditch 29	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 30	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 31	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[7]
Potter	Ditch 32	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 33	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 34	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 35	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 36	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 37	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 38	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 39	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 40	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 41	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 42	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 43	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 44	PAR-31	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 53	PAR-36	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Ditch 58 – JUR[8]	PAR-14	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
McKean	Ditch 59 - JUR[8]	TAR-11	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 28	PAR-32	1.5	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Stream 150	PAR-33	3.0	Minor	UNT to Fishing Creek	IT	CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
Potter	Ditch 20	PAR-33	2.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None

County	Waterbody Project ID	MP	Crossing Length[1] (ft.)	FERC Waterbody Classification	Waterbody Name	Flow Regime[2]	Designated Use and Water Quality Criteria[3]	Wild Trout[4,5]	Crossing Method[6]	In-Stream Work Restrictions[7]
Potter	Ditch 21	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 24	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 22	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 23	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 25	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 26	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 27	PAR-33	1.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Potter	Ditch 21a	PAR-36	3.0	Minor	--	D	--	--	Existing Road, No Improvements Proposed	None
Marvindale Compressor Station Access Roads										
McKean	Stream 001	PAR-31	4.0	Minor	UNT to Warner Brook	IT	HQ-CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31
McKean	Stream 005	PAR-31	4.0	Minor	UNT to Warner Brook	IT	HQ-CWF	Yes[5] /NRT	Existing Road, No Improvements Proposed	10/01 – 12/31 10/1 – 5/31

Notes:

* Facilities/Project components not represented do not cross waterbodies.

[1] Crossing length is the bank-to-bank width of the stream at the pipeline or access road centerline crossing.

[2] Flow regime based on onsite field review. IT – Intermittent; E – Ephemeral; P – Perennial; D-Ditch. As classified by PA Code Title 25 Chapter 93.

[3] As classified by PA Code Title 25 Chapter 93.9 Designated Use shapefile. WWF – Warm Water Fishes; CWF – Cold Water Fishes; MF – Migratory Fishes; TSF – Trout Stocked Fishery; HQ – High Quality; and EV – Exceptional Value.

[4] As classified under PA Code Title 58, Chapters 57.4 and 57.11 as a Class A Wild Trout Water, Wild Trout Water, or Wilderness Trout Water. In-stream work restrictions for Naturally Reproducing Wild Trout Waters are in effect between October 1 and December 31; Class A October 1 and March 31; and Trout Stocked Waters March 1 through June 15. All streams classified as Wilderness Trout Waters qualify as EV resources; consultation with PFBC is required to obtain information regarding in-stream construction restriction periods. If a stream is not flowing at the time or crossing of if all activities avoid in-stream impacts (e.g., HDD/bore) no in-stream work restrictions will apply.

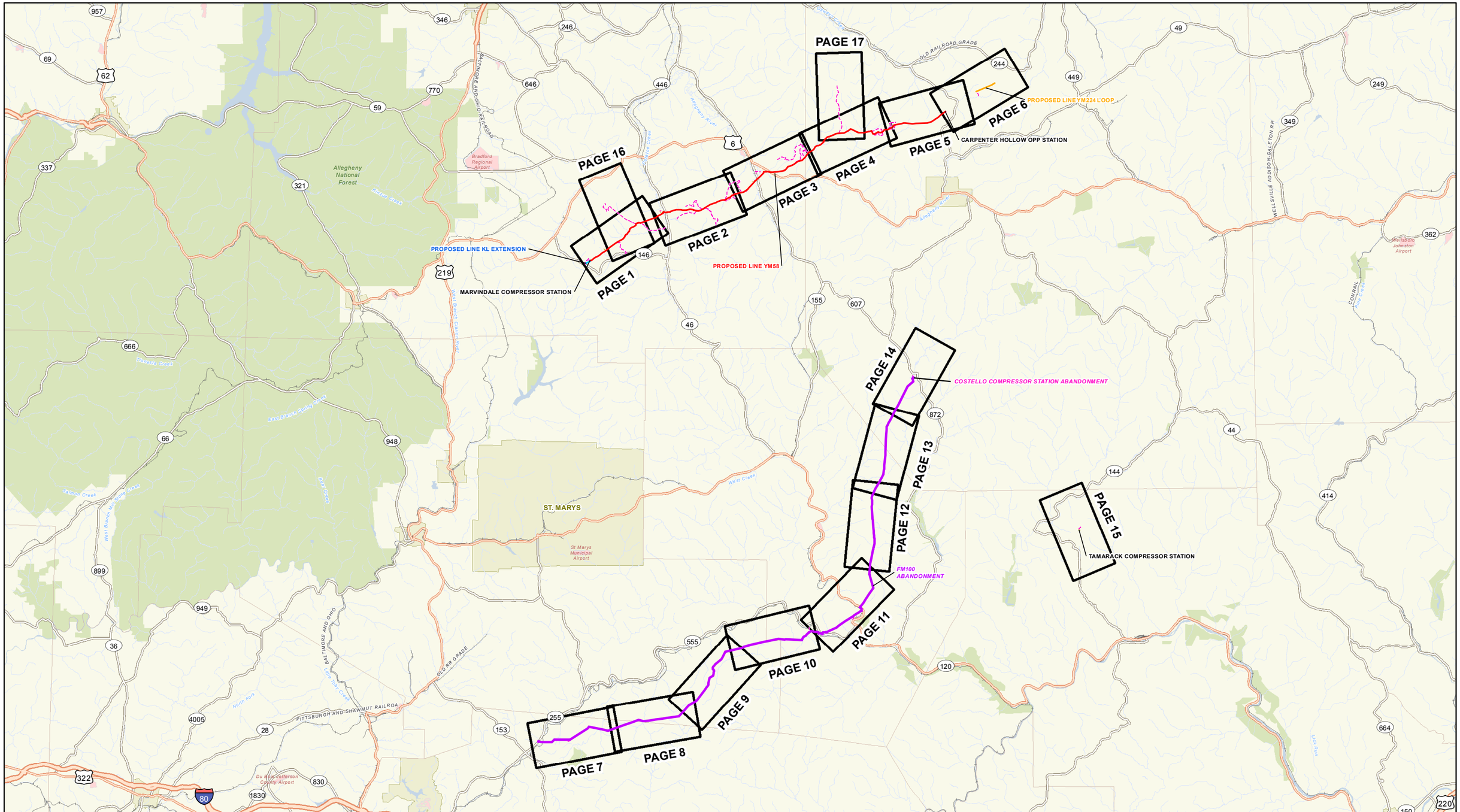
[5] Stream is designated a wild trout stream because it is located upstream of a naturally reproducing wild trout stream and has a perennial flow regime.

[6] If it is determined in the field during construction that either dam or pump or flume pipe methods are not possible; a wet trench method may be utilized. Open-cut methods will be evaluated at the time of construction to be used for streams if no flow is present.

[7] The ESCAMP identifies approved cold water fisheries instream work period as June 1 through September 30; however, this column establishes periods of instream work restrictions. Therefore, for the purposes of continuity, National Fuel has listed the instream cold water fisheries work restriction window as October 1 through May 31. It is noted these restrictions will apply to any waterbody actively flowing at the time of crossing that is labeled as a CWF.

[8] JUR in the Waterbody Project ID, seen in Ditch 06 - JUR, Ditch 58 - JUR, and Ditch 59 -JUR, denotes a jurisdictional ditch. Ditches without the “JUR” designation represent non-jurisdictional ditches.

Attachment H



PROPOSED LINE YM58
PROPOSED LINE KL EXTENSION
PROPOSED LINE YM224 LOOP
FM100 ABANDONMENT
PROPOSED ACCESS ROAD
INTERSTATE
MAJOR HIGHWAY
MAJOR ROAD
RAILROAD
PAGE INDEX
WATERBODY
PUBLIC LAND
INCORPORATED AREA
COUNTY BOUNDARY

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

MCKEAN, POTTER, ELK, CAMERON, CLEARFIELD & CLINTON COUNTIES
PENNSYLVANIA

6 0 6 12 MILES

N W E S

ABSOLUTE SCALE: 1:400,000

REFERENCE SCALE: 1 IN = 6 miles

PREPARED FOR National Fuel

PREPARED BY MOTT MACDONALD

DRAWN BY:	DMW 06/25/2019
CHECKED BY:	DRG 06/25/2019
APPROVED BY:	DRG 06/29/2019
REV. DATE:	06/2019
REVISION:	1
DESC:	ISSUED FOR FERC
DWG. NO.	INDEX

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PROJECT OVERVIEW

ELK
CAMERON
POTTER
CLEARFIELD
CLINTON

- MILE POST
- PROPOSED LINE YM58
- PROPOSED LINE KL EXTENSION
- PROPOSED LINE YM224 LOOP
- PROPOSED ACCESS ROAD
- FM100 ABANDONMENT
- ROAD
- RAILROAD
- PA CHAPTER 93 STREAM
- PROPOSED FACILITY
- PROPOSED STAGING AREA
- COUNTY BOUNDARY
- USGS QUADRANGLE BOUNDARY

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

MCKEAN COUNTY
PENNSYLVANIA

0 0.75 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

PREPARED FOR National Fuel

PREPARED BY MOTT MACDONALD

DRAWN BY:	DMW 06/25/2019
CHECKED BY:	DRG 06/25/2019
APPROVED BY:	DRG 06/25/2019
REV. DATE:	06/2019
REVISION:	1
DESC:	ISSUED FOR FERC
DWG. NO.	1 OF 17

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(1) MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

MCKEAN COUNTY
PENNSYLVANIA

0 — 0.75 — 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

PREPARED FOR: National Fuel

PREPARED BY: MOTT MACDONALD

DRAWN BY:	DMW 06/25/2019
CHECKED BY:	DRG 06/25/2019
APPROVED BY:	DRG 06/25/2019
REV. DATE:	06/2019
REVISION:	1
DESC:	ISSUED FOR FERC
DWG. NO.	2 OF 17

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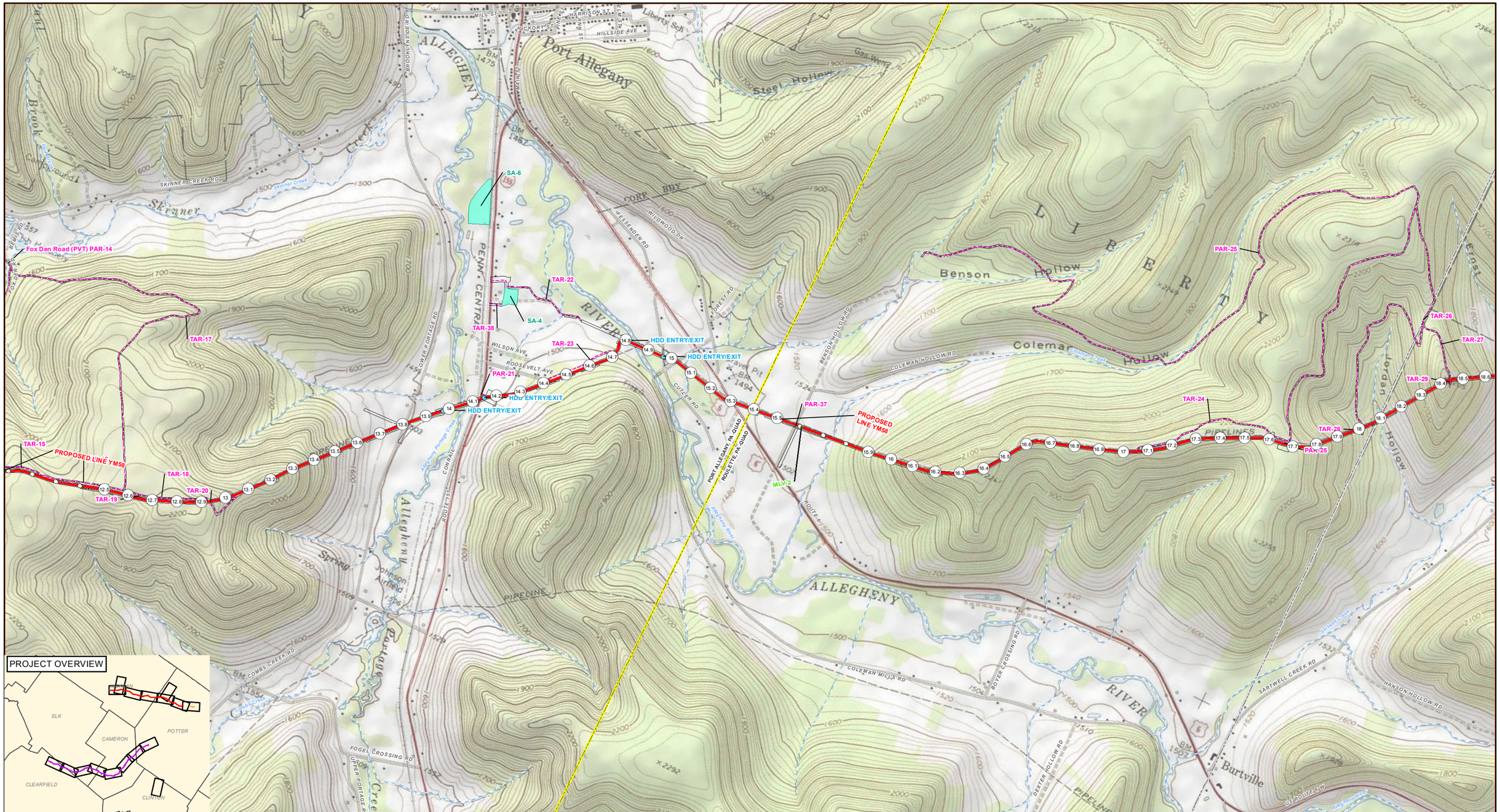

MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

MCKEAN COUNTY
PENNSYLVANIA

0 0.75 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

PREPARED FOR National Fuel

PREPARED BY MOTT MACDONALD

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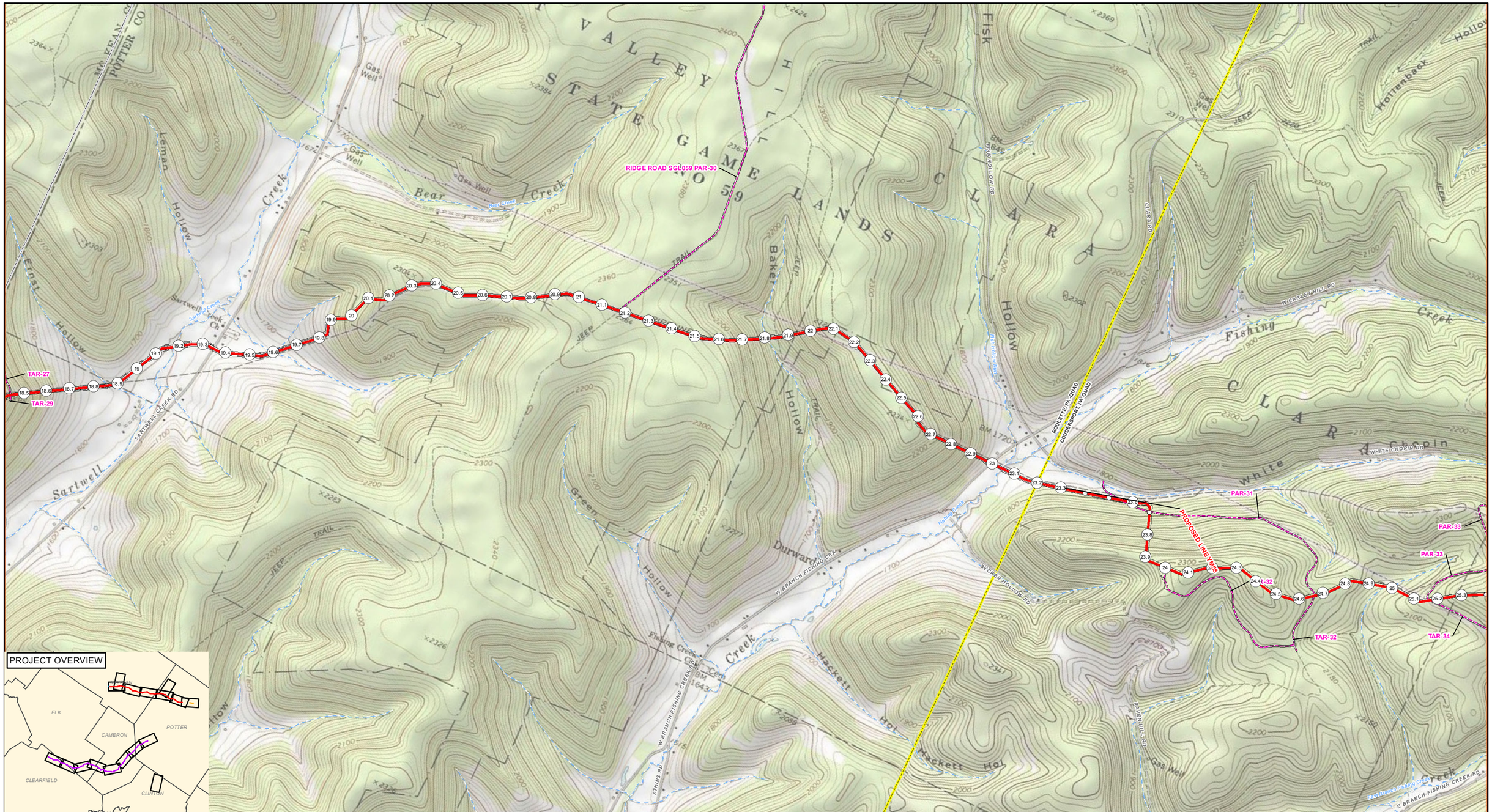

MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

MCKEAN & POTTER COUNTIES
PENNSYLVANIA

0 — 0.75 — 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

PREPARED FOR: National Fuel

PREPARED BY: MOTT MACDONALD

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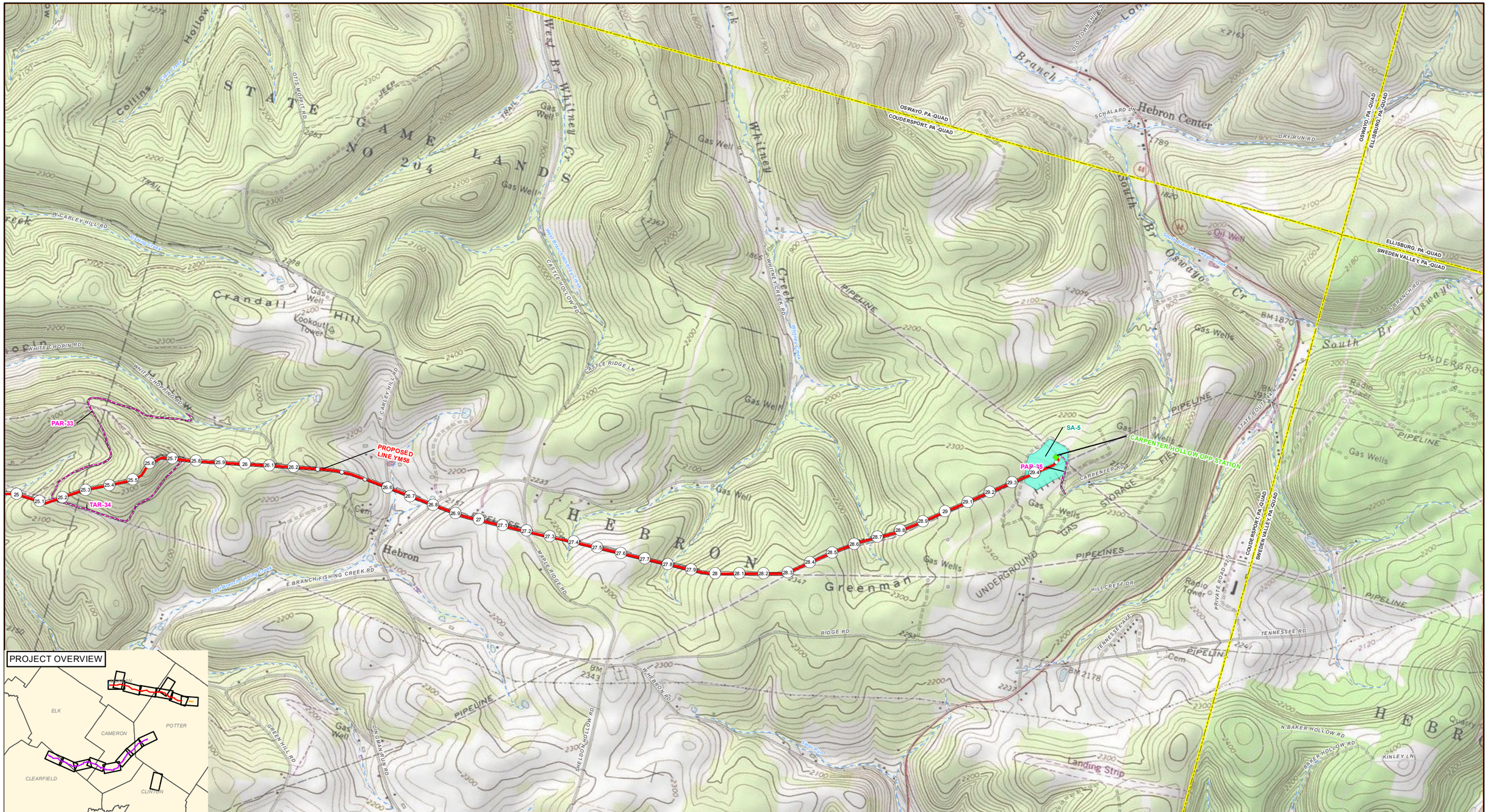

MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

POTTER COUNTY
PENNSYLVANIA

0 — 0.75 — 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

PREPARED FOR: National Fuel

PREPARED BY: MOTT MACDONALD

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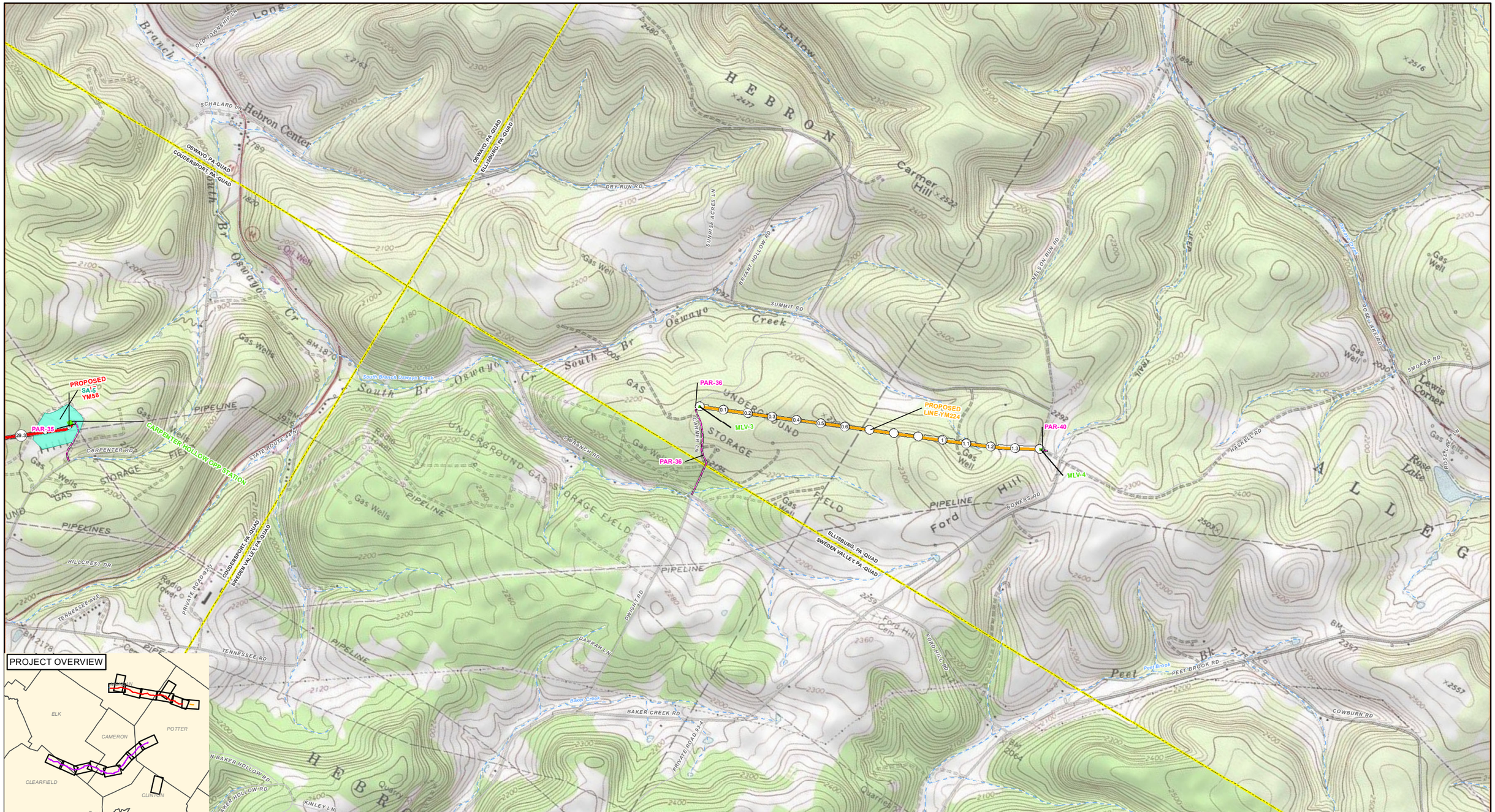

MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

POTTER COUNTY
PENNSYLVANIA

0 — 0.75 — 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

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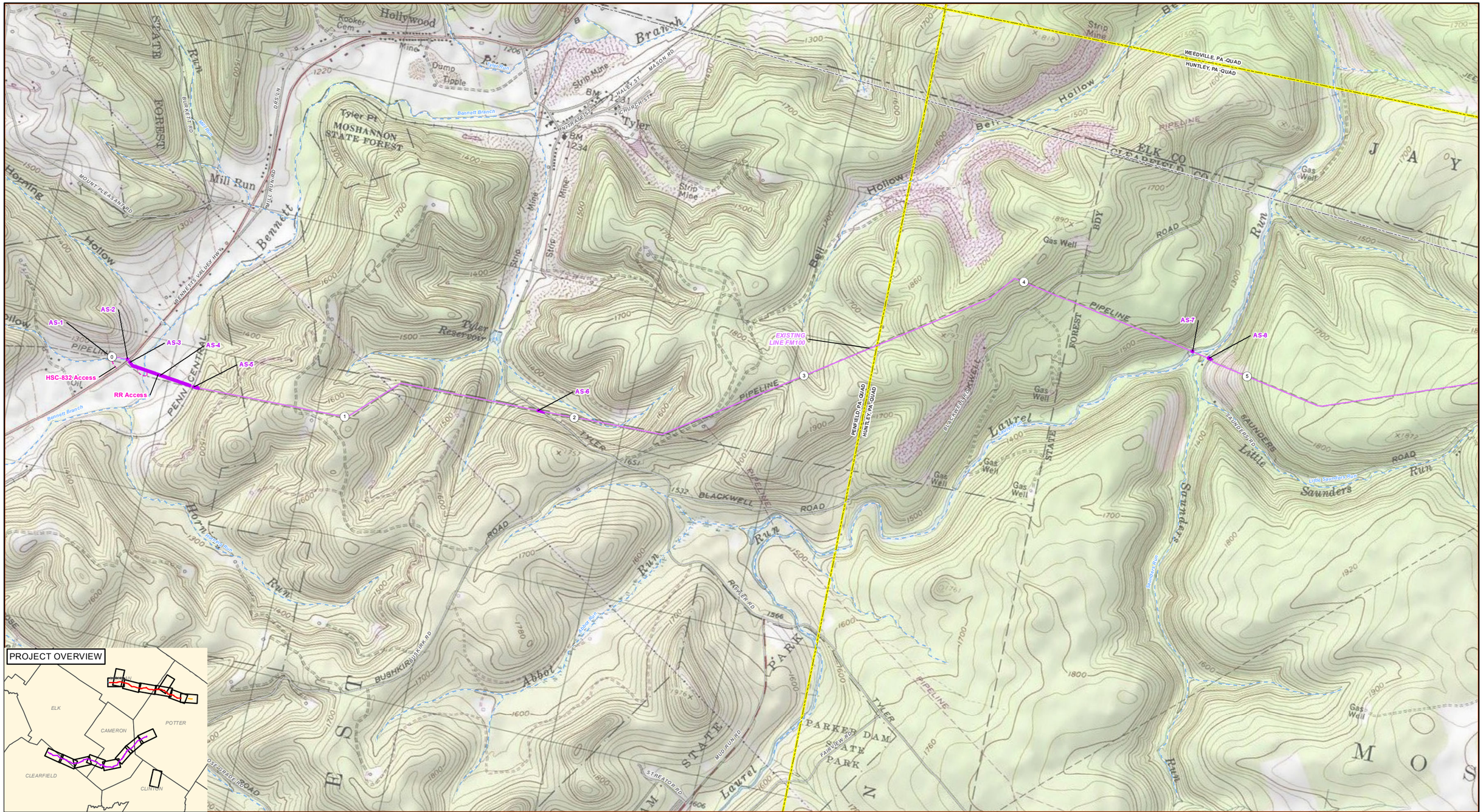

PROJECT OVERVIEW

1 MILE POST
PROPOSED LINE YM58
PROPOSED LINE KL EXTENSION
PROPOSED LINE YM224 LOOP
PROPOSED ACCESS ROAD
FM100 ABANDONMENT
ROAD
RAILROAD
PA CHAPTER 93 STREAM
PROPOSED FACILITY
PROPOSED STAGING AREA
COUNTY BOUNDARY
USGS QUADRANGLE BOUNDARY

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

CLEARFIELD COUNTY
PENNSYLVANIA

0 0.75 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

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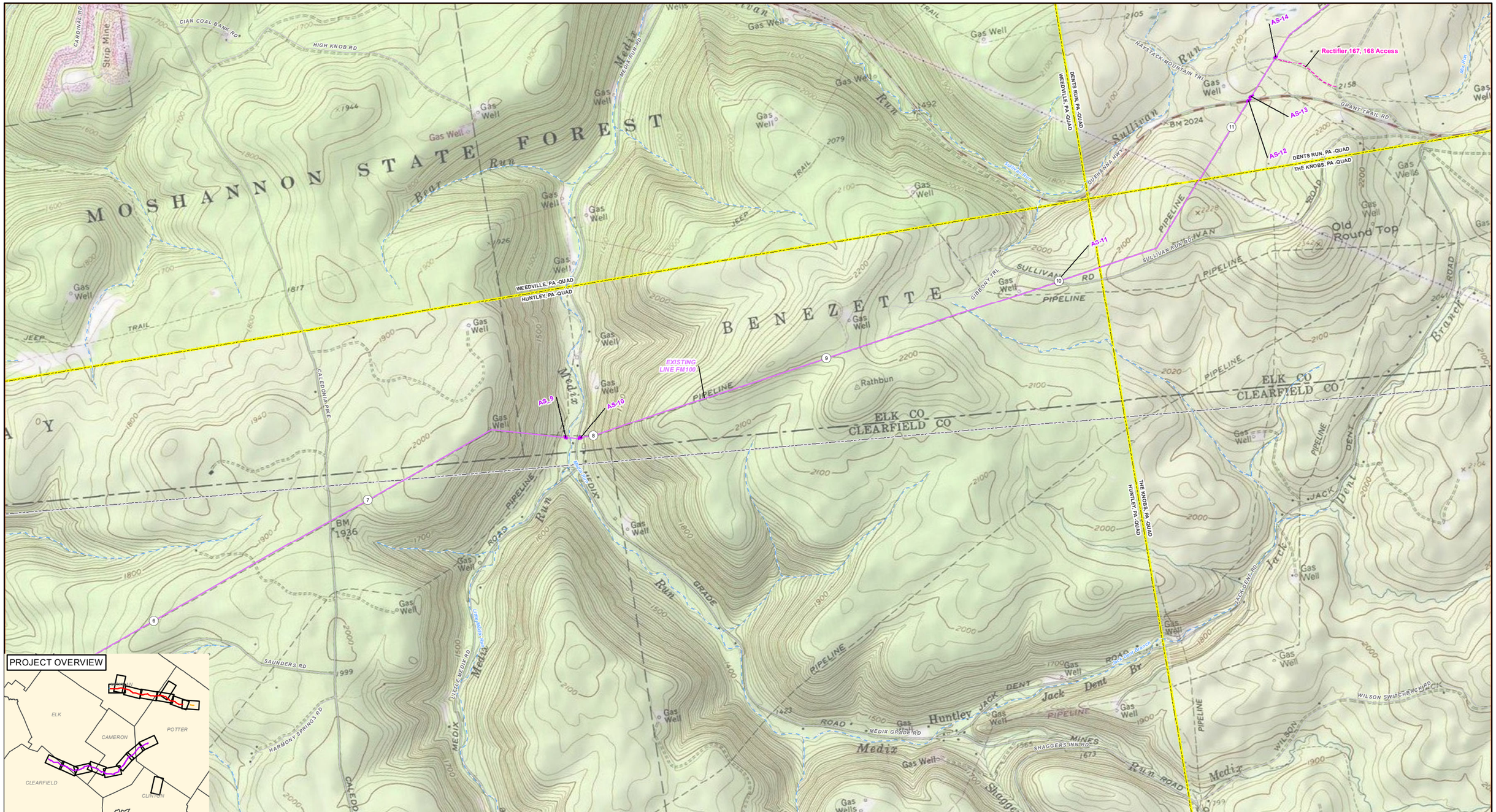

(1) MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

CLEARFIELD & ELK COUNTIES
PENNSYLVANIA

0 0.75 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

PREPARED FOR: National Fuel

PREPARED BY: MOTT MACDONALD

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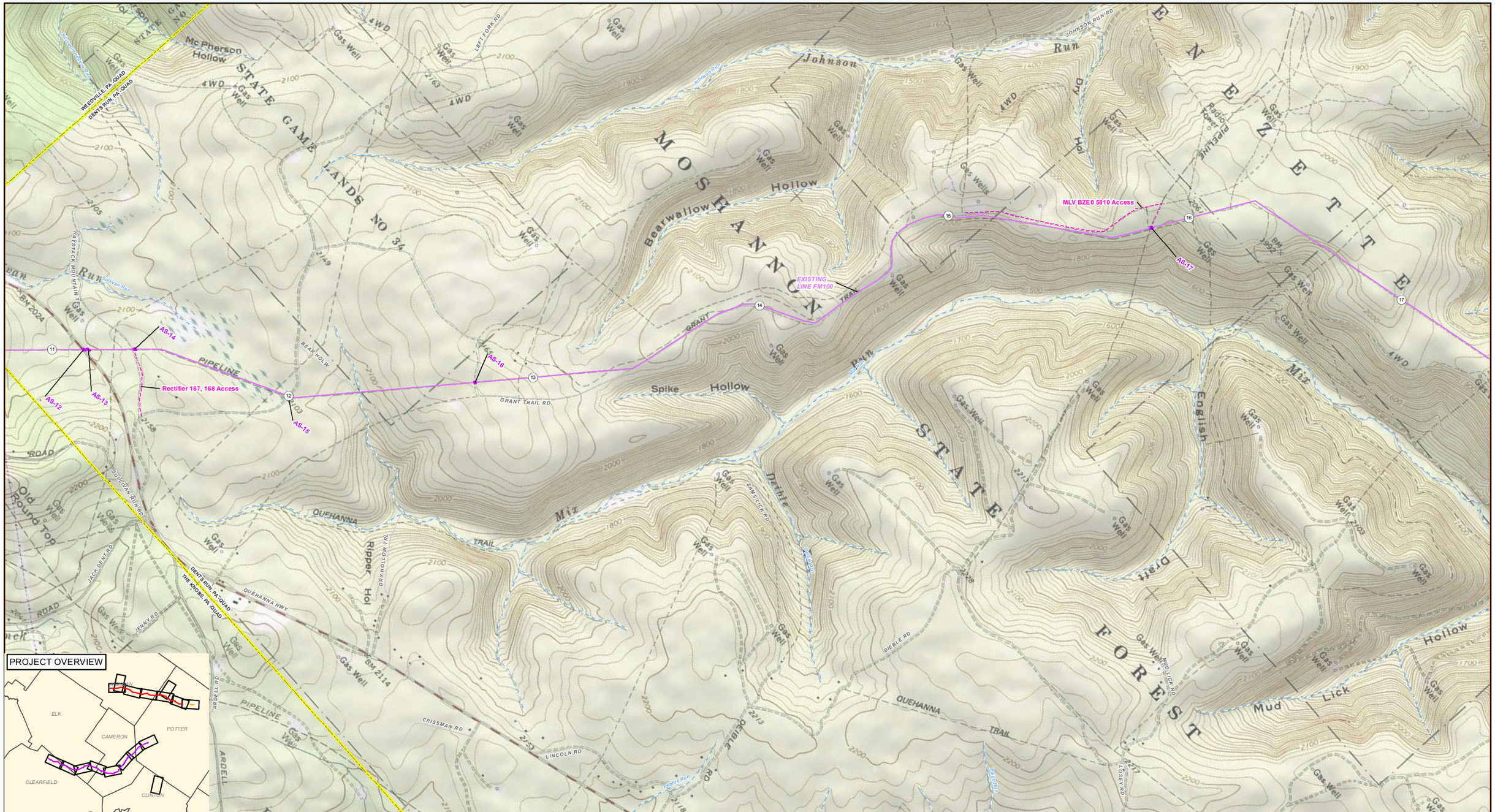

① MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

ELK COUNTY
PENNSYLVANIA

0 — 0.75 — 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

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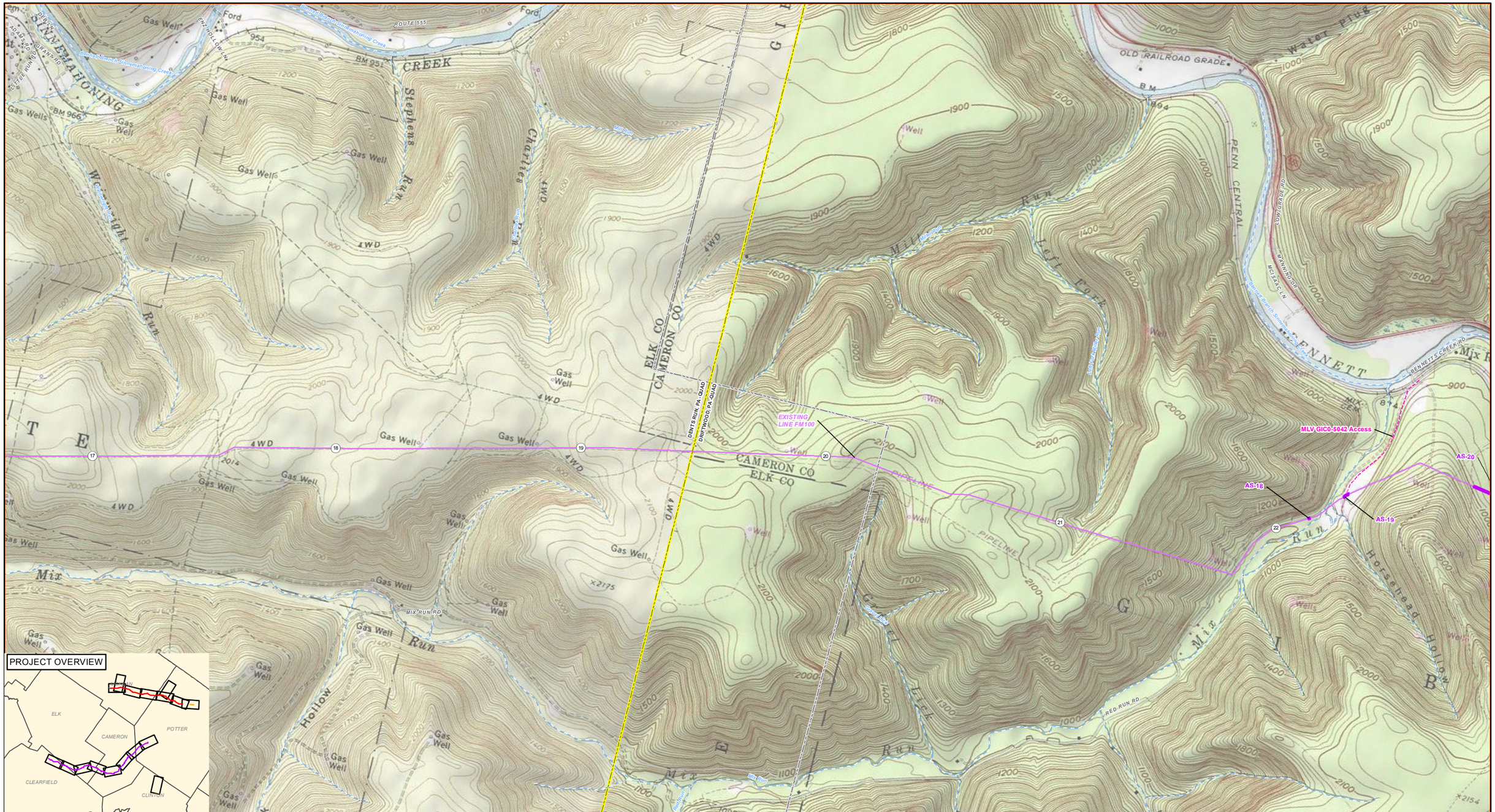

1 MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

ELK & CAMERON COUNTIES
PENNSYLVANIA

0 — 0.75 — 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

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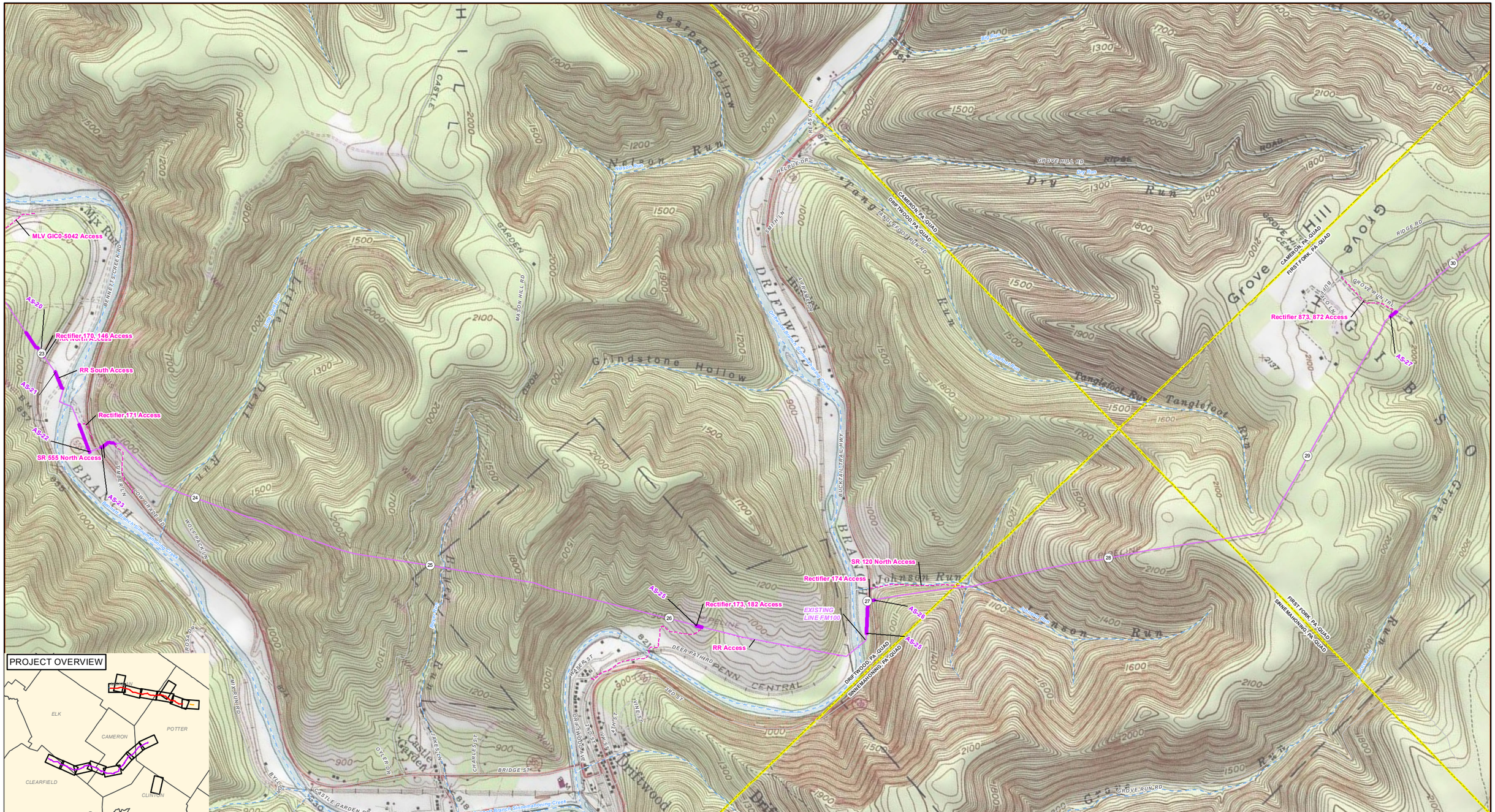

1 MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

CAMERON COUNTY
PENNSYLVANIA

0 0.75 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

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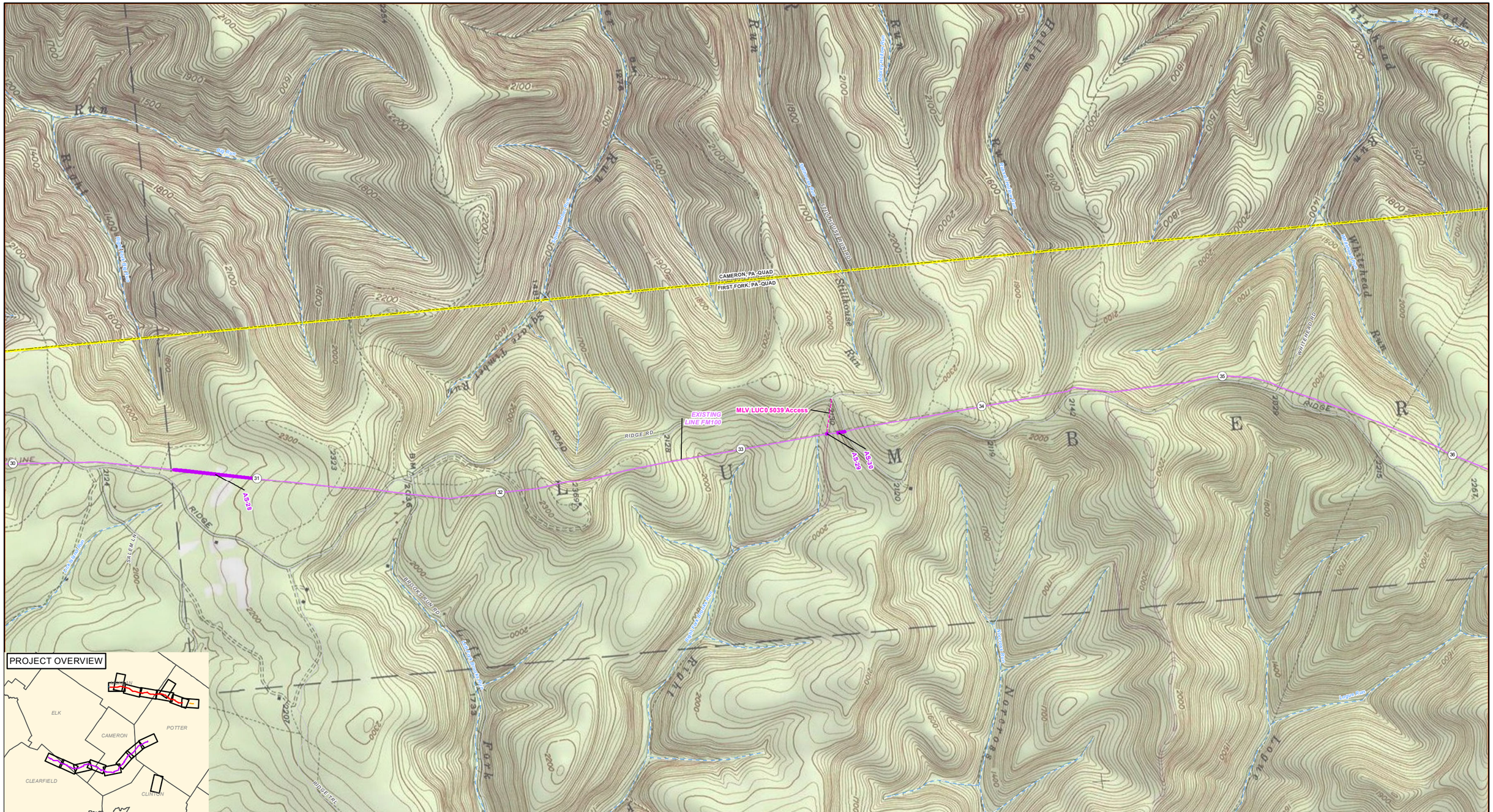

1 MILE POST
PROPOSED LINE YM58
PROPOSED LINE KL EXTENSION
PROPOSED LINE YM224 LOOP
PROPOSED ACCESS ROAD
FM100 ABANDONMENT
ROAD
RAILROAD
PA CHAPTER 93 STREAM
PROPOSED FACILITY
PROPOSED STAGING AREA
COUNTY BOUNDARY
USGS QUADRANGLE BOUNDARY

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

CAMERON COUNTY
PENNSYLVANIA

0 0.75 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

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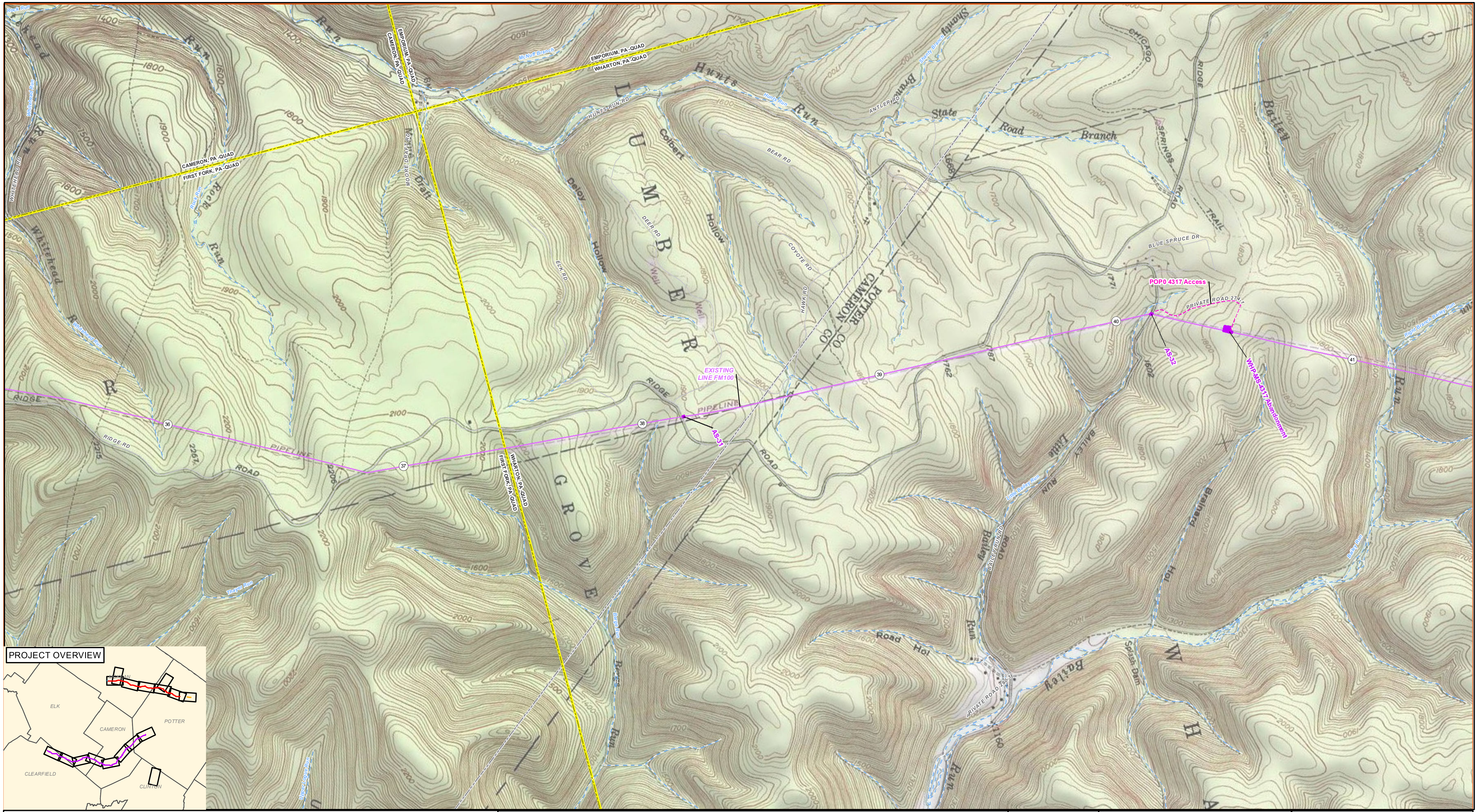

① MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

CAMERON & POTTER COUNTIES
PENNSYLVANIA

0 0.75 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

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PREPARED BY MOTT MACDONALD

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1 MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

POTTER COUNTY
PENNSYLVANIA

0 0.75 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

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PREPARED BY MOTT MACDONALD

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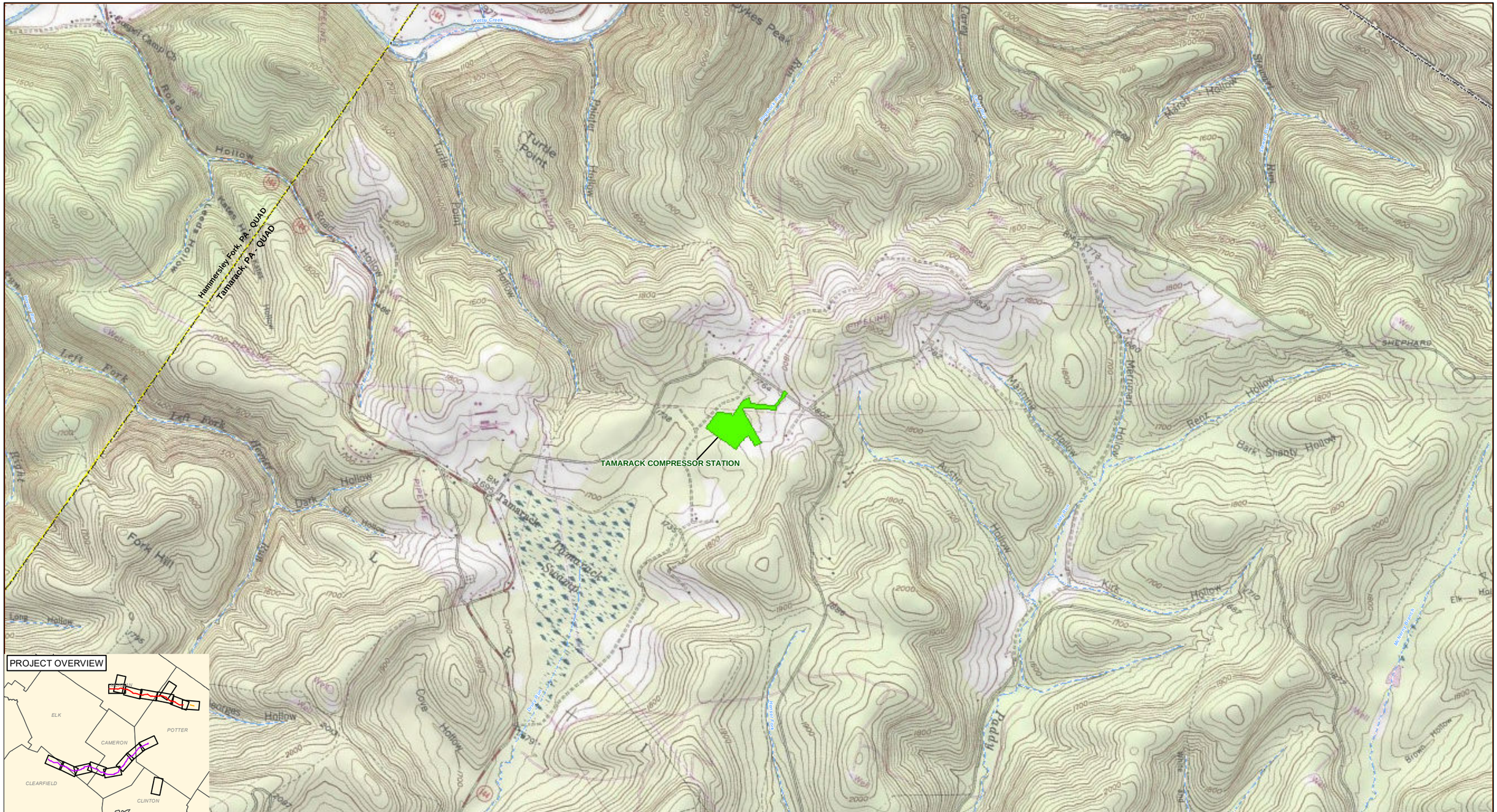

MILE POST
PROPOSED LINE YM58
PROPOSED LINE KL EXTENSION
PROPOSED LINE YM224 LOOP
FM100 ABANDONMENT WORKSPACE
FM100 ABANDONMENT
PROPOSED ACCESS ROAD
ROAD
RAILROAD
PA CHAPTER 93 STREAM
PROPOSED STAGING AREA
PROPOSED FACILITY
USGS QUADRANGLE BOUNDARY
COUNTY BOUNDARY

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

CLINTON COUNTY
PENNSYLVANIA

0 0.75 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

PREPARED FOR National Fuel

PREPARED BY MOTT MACDONALD

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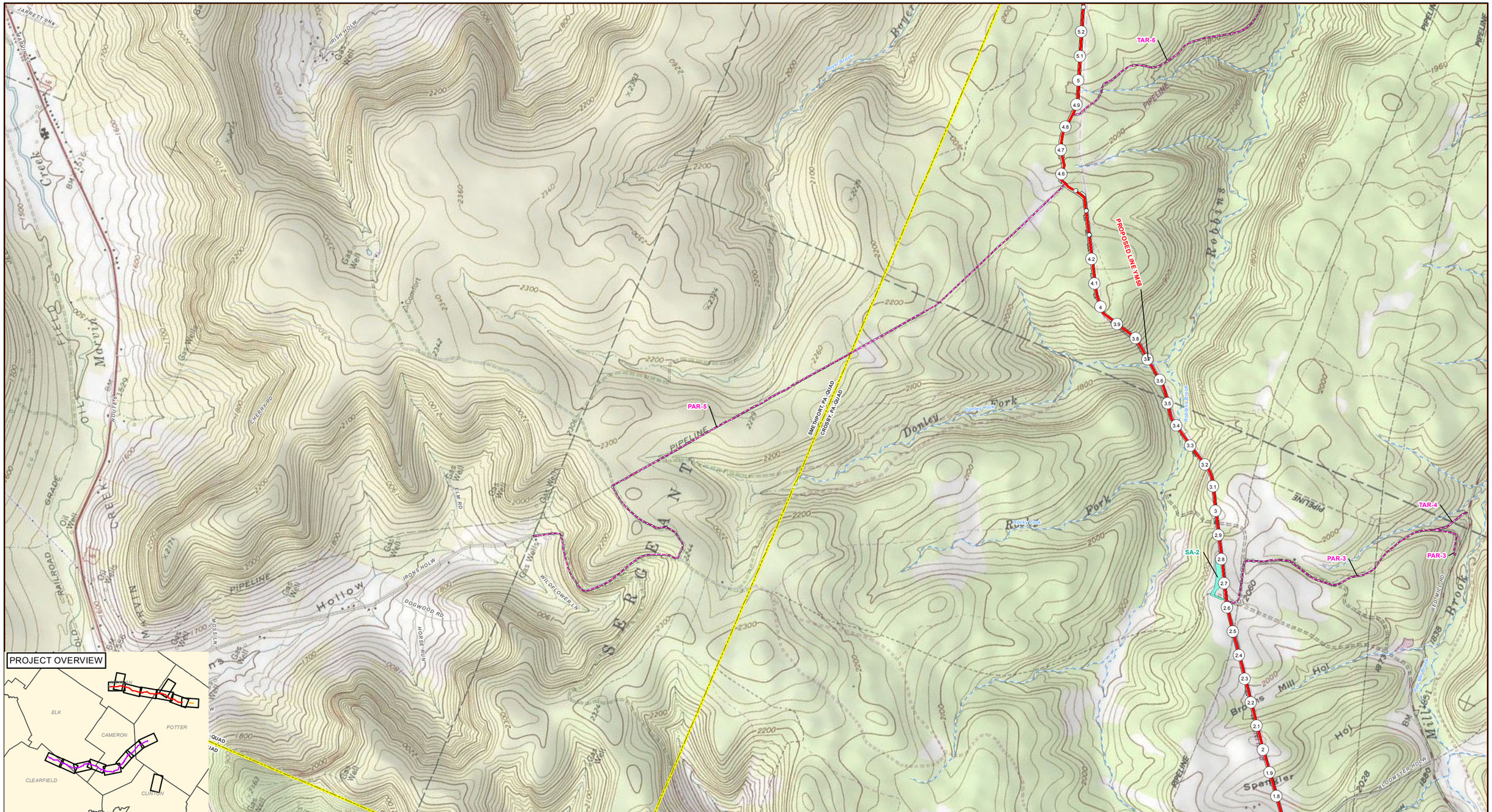

1 MILE POST
PROPOSED LINE YM58
PROPOSED LINE KL EXTENSION
PROPOSED LINE YM224 LOOP
PROPOSED ACCESS ROAD
FM100 ABANDONMENT
ROAD
RAILROAD
PA CHAPTER 93 STREAM
PROPOSED FACILITY
PROPOSED STAGING AREA
COUNTY BOUNDARY
USGS QUADRANGLE BOUNDARY

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

CAMERON & ELK COUNTIES
PENNSYLVANIA

0 — 0.75 — 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

PREPARED FOR: National Fuel

PREPARED BY: MOTT MACDONALD

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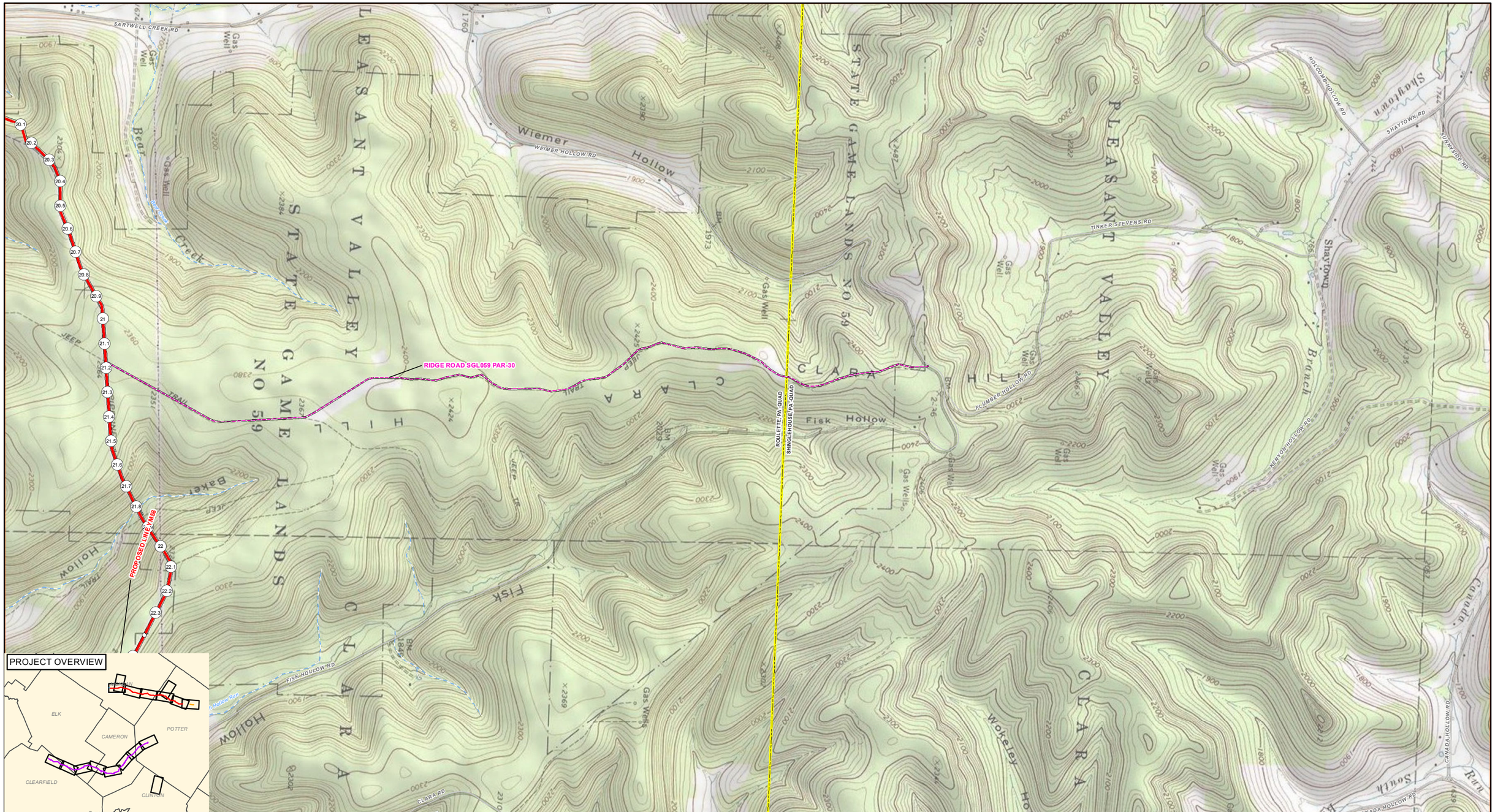

(1) MILE POST	FM100 ABANDONMENT	COUNTY BOUNDARY
PROPOSED LINE YM58	ROAD	USGS QUADRANGLE BOUNDARY
PROPOSED LINE KL EXTENSION	RAILROAD	
PROPOSED LINE YM224 LOOP	PA CHAPTER 93 STREAM	
PROPOSED ACCESS ROAD	PROPOSED FACILITY	
	PROPOSED STAGING AREA	

Maps compiled utilizing ESRI topographic basemap.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 PROJECT

FIGURE 1.1-2

TOPOGRAPHIC PROJECT MAP

POTTER COUNTY
PENNSYLVANIA

0 — 0.75 — 1.5 Miles

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 inch = 2,000 feet

PREPARED FOR: National Fuel

PREPARED BY: MOTT MACDONALD

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Attachment I

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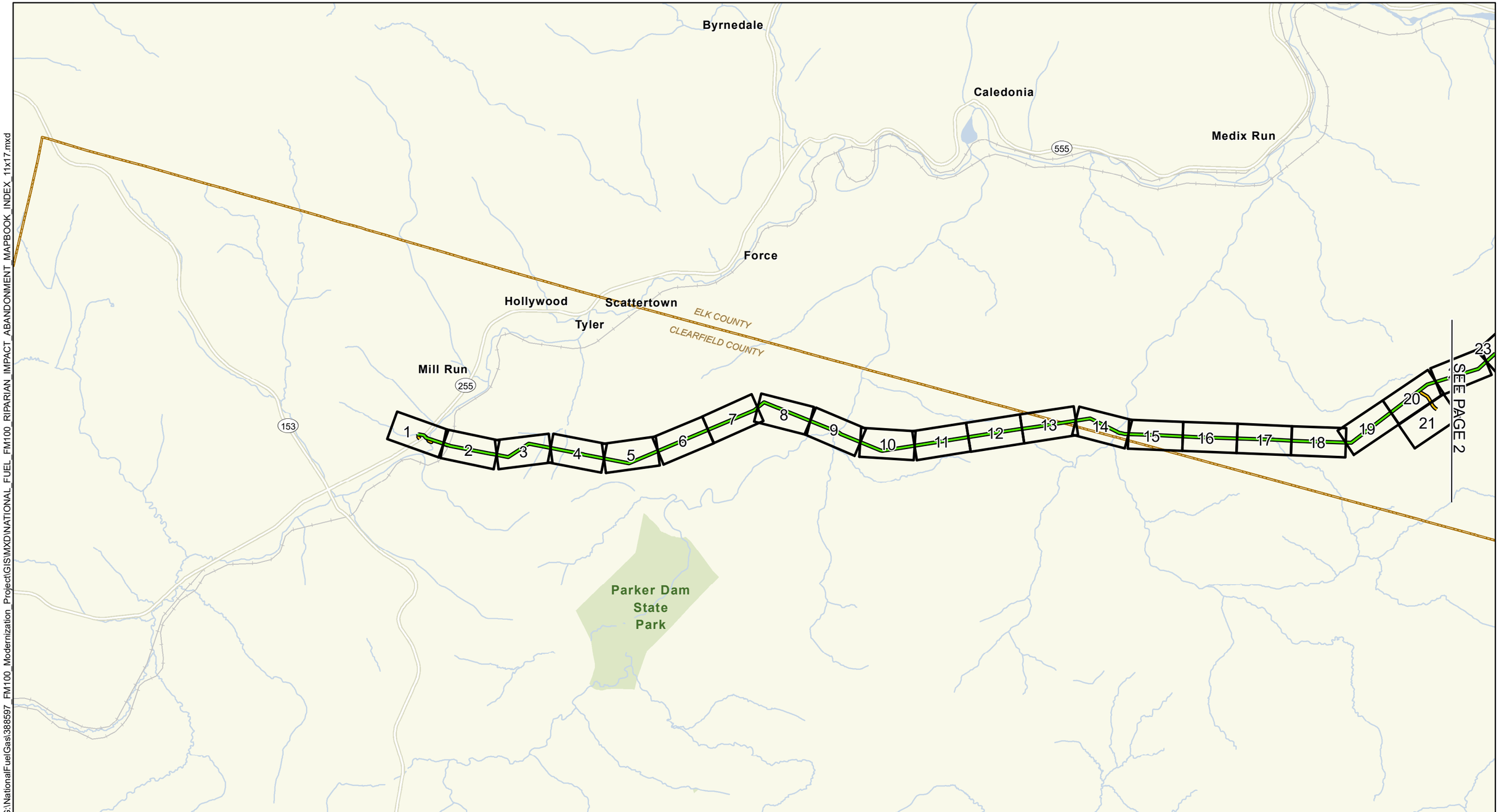

EXISTING PIPELINE
ACCESS ROAD
MAJOR HIGHWAY
HIGHWAY
WATERBODY
CITY AREA
PARKS
COUNTY BOUNDARY

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 ABANDOMENT PROJECT

FORESTED RIPARIAN IMPACT INDEX

PENNSYLVANIA

1 0.5 0 1 2 MILE

N W E S

ABSOLUTE SCALE: 1:63,360

REFERENCE SCALE: 1 INCH = 1 MILE

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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APPROVED BY:	MJD 01/2020
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PAGE:	1 OF 3

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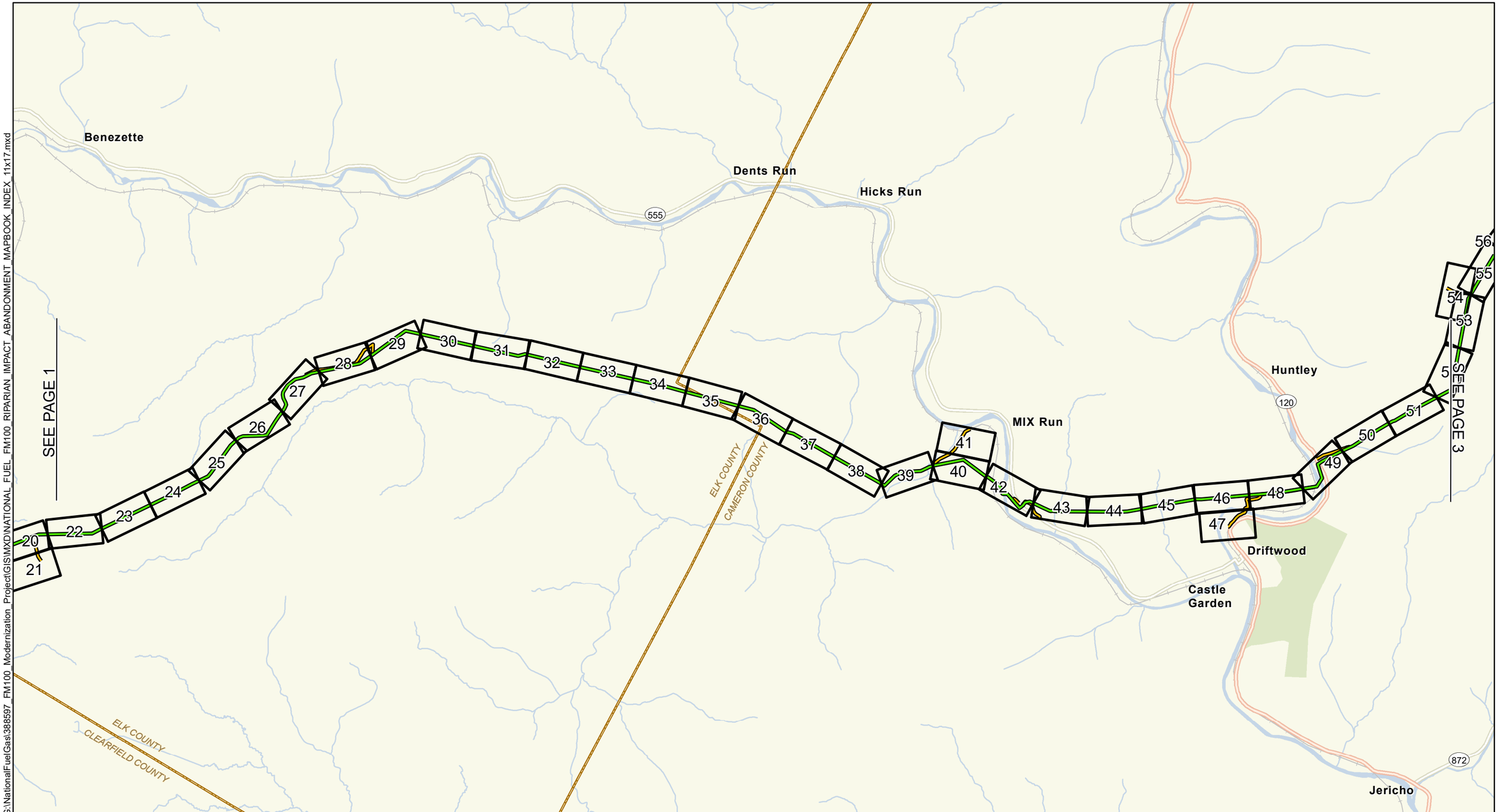

EXISTING PIPELINE
ACCESS ROAD
MAJOR HIGHWAY
HIGHWAY
WATERBODY
CITY AREA
PARKS
COUNTY BOUNDARY

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDOMENT PROJECT
FORESTED RIPARIAN IMPACT INDEX
PENNSYLVANIA

1 0.5 0 1 2 MILE

ABSOLUTE SCALE: 1:63,360

REFERENCE SCALE: 1 INCH = 1 MILE

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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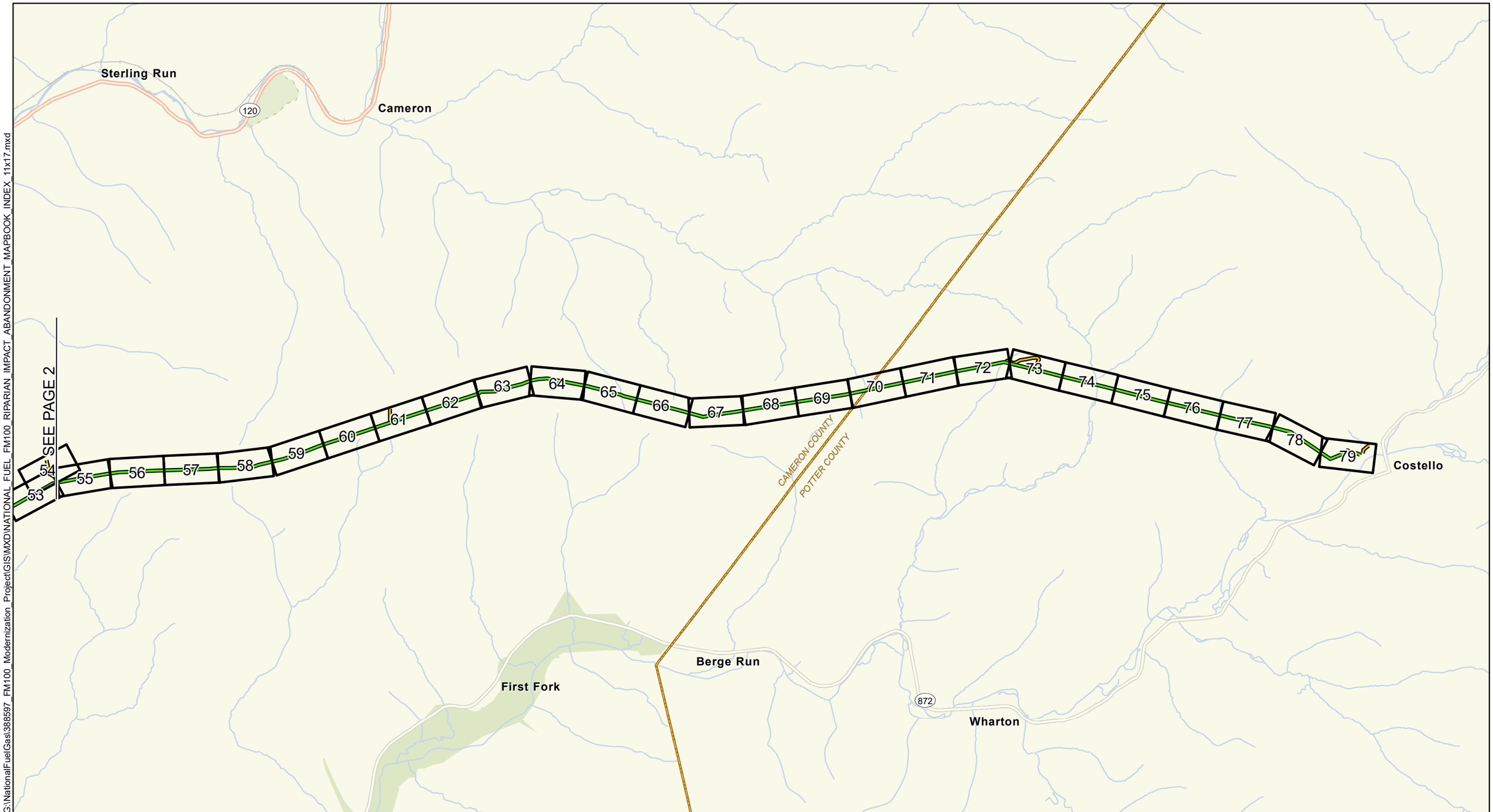

EXISTING PIPELINE
ACCESS ROAD
MAJOR HIGHWAY
HIGHWAY
WATERBODY
CITY AREA
PARKS
COUNTY BOUNDARY

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDOMENT PROJECT
FORESTED RIPARIAN IMPACT INDEX
PENNSYLVANIA

1 0.5 0 1 2 MILE

ABSOLUTE SCALE: 1:63,360

REFERENCE SCALE: 1 INCH = 1 MILE

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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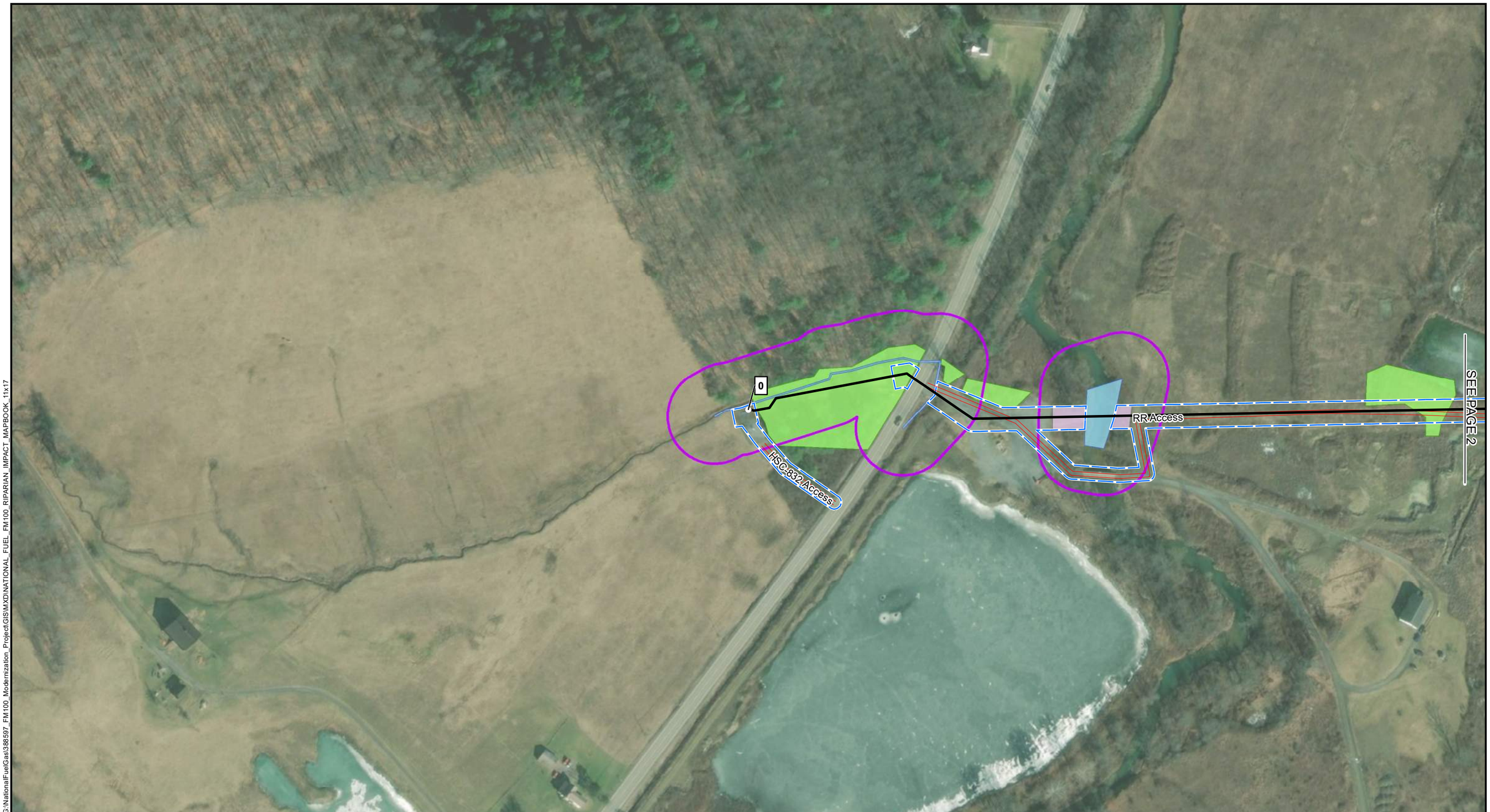

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

200 100 0 200 400 FEET

N W E S

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

200 100 0 200 400 FEET

N W E S

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

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FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

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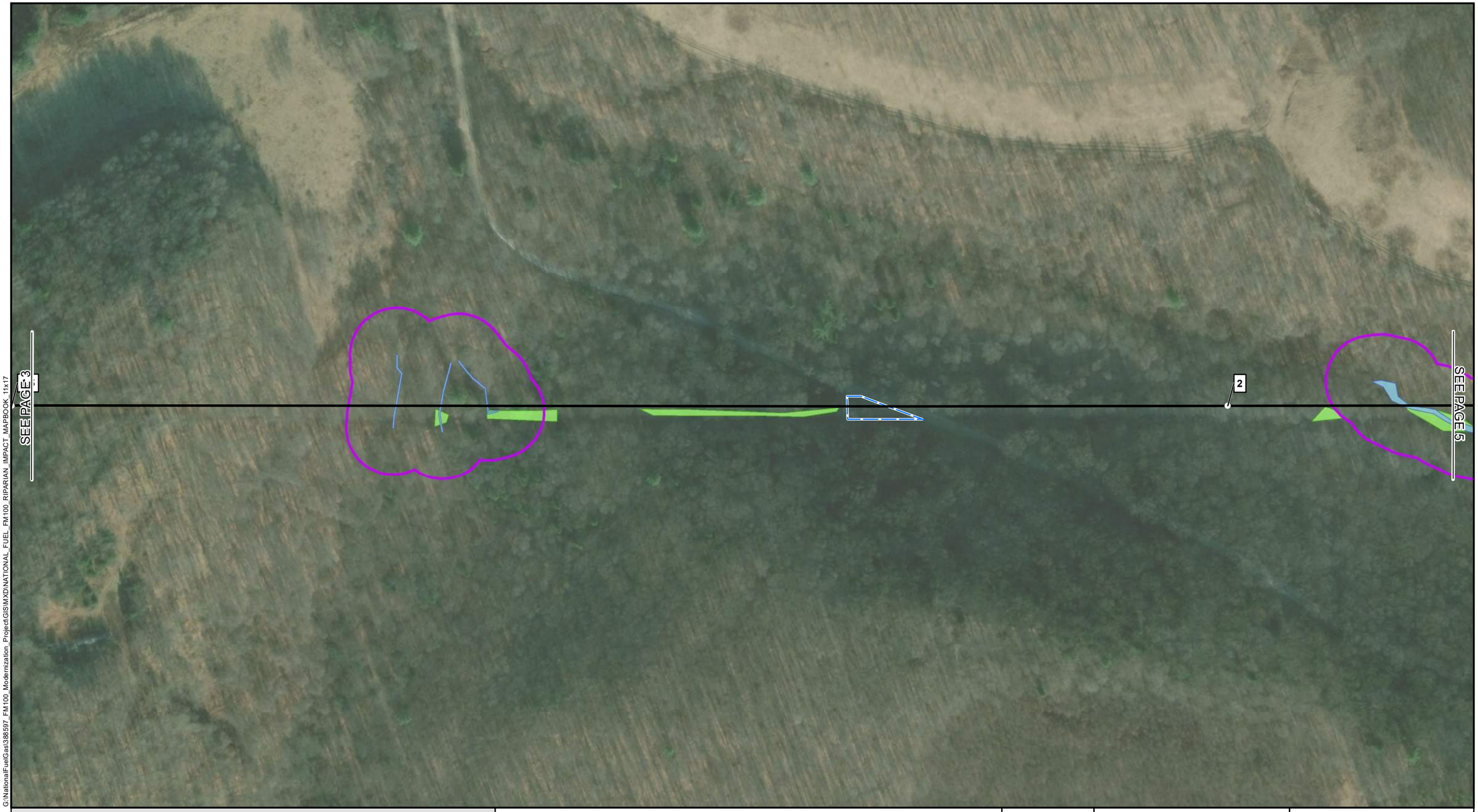

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

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FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

200 100 0 200 400 FEET

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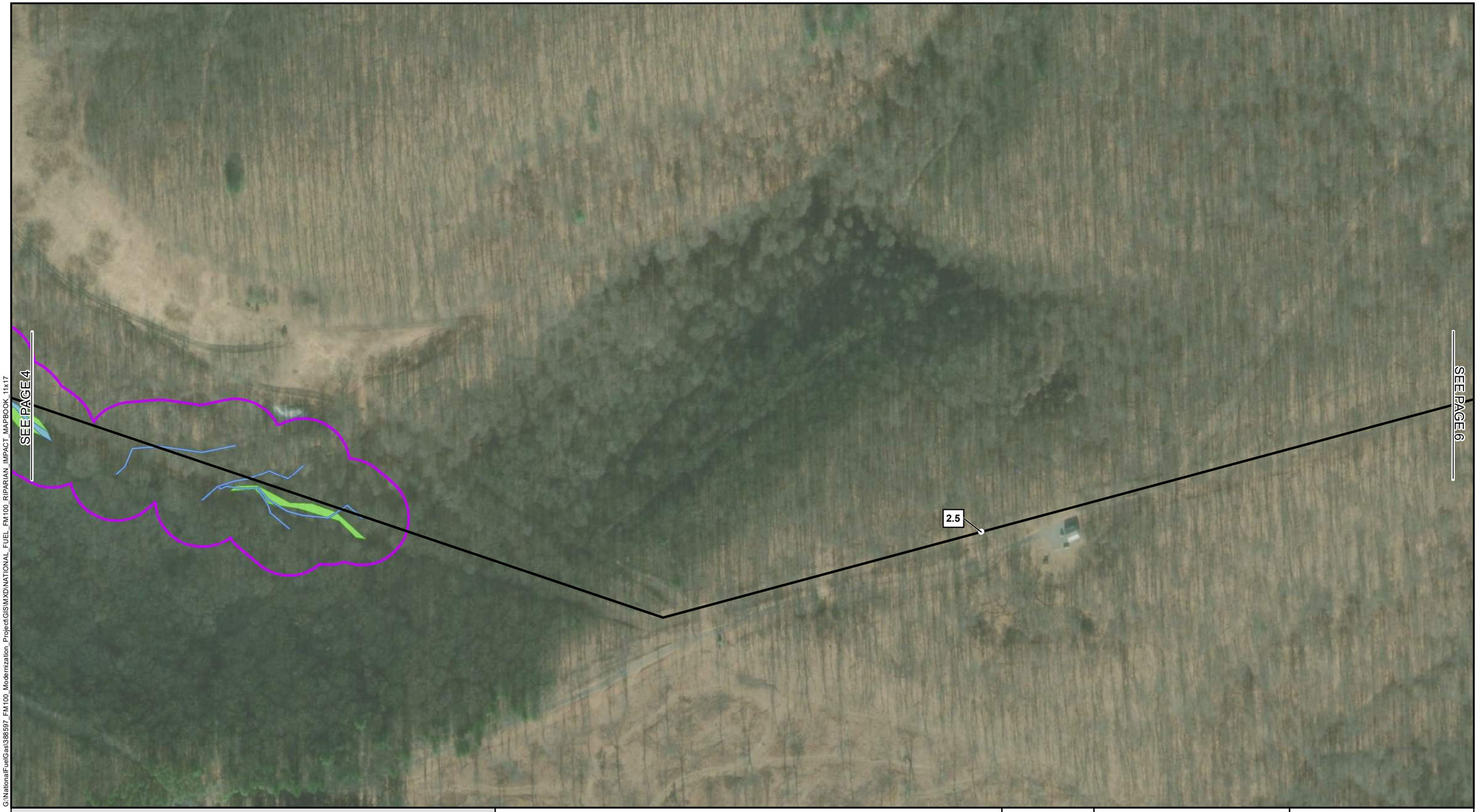

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1 MILE POST	RIPARIAN BUFFER
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ACCESS ROAD	COUNTY BOUNDARY
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FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

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FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
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FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

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1 MILE POST	RIPARIAN BUFFER
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FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

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1 MILE POST	RIPARIAN BUFFER
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FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

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FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

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CLEARFIELD, COUNTY

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
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DELINEATED WETLAND	

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FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

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FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CLEARFIELD, COUNTY

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
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DELINEATED WETLAND
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FORESTED RIPARIAN IMPACT
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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
ELK, COUNTY

200 100 0 200 400 FEET

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EXISTING PIPELINE
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FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
ELK, COUNTY

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- 1 MILE POST
- EXISTING PIPELINE
- ACCESS ROAD
- LIMITS OF DISTURBANCE
- DELINEATED WATERBODY
- DELINEATED WETLAND
- RIPARIAN BUFFER
- FORESTED RIPARIAN IMPACT
- COUNTY BOUNDARY

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FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
ELK, COUNTY

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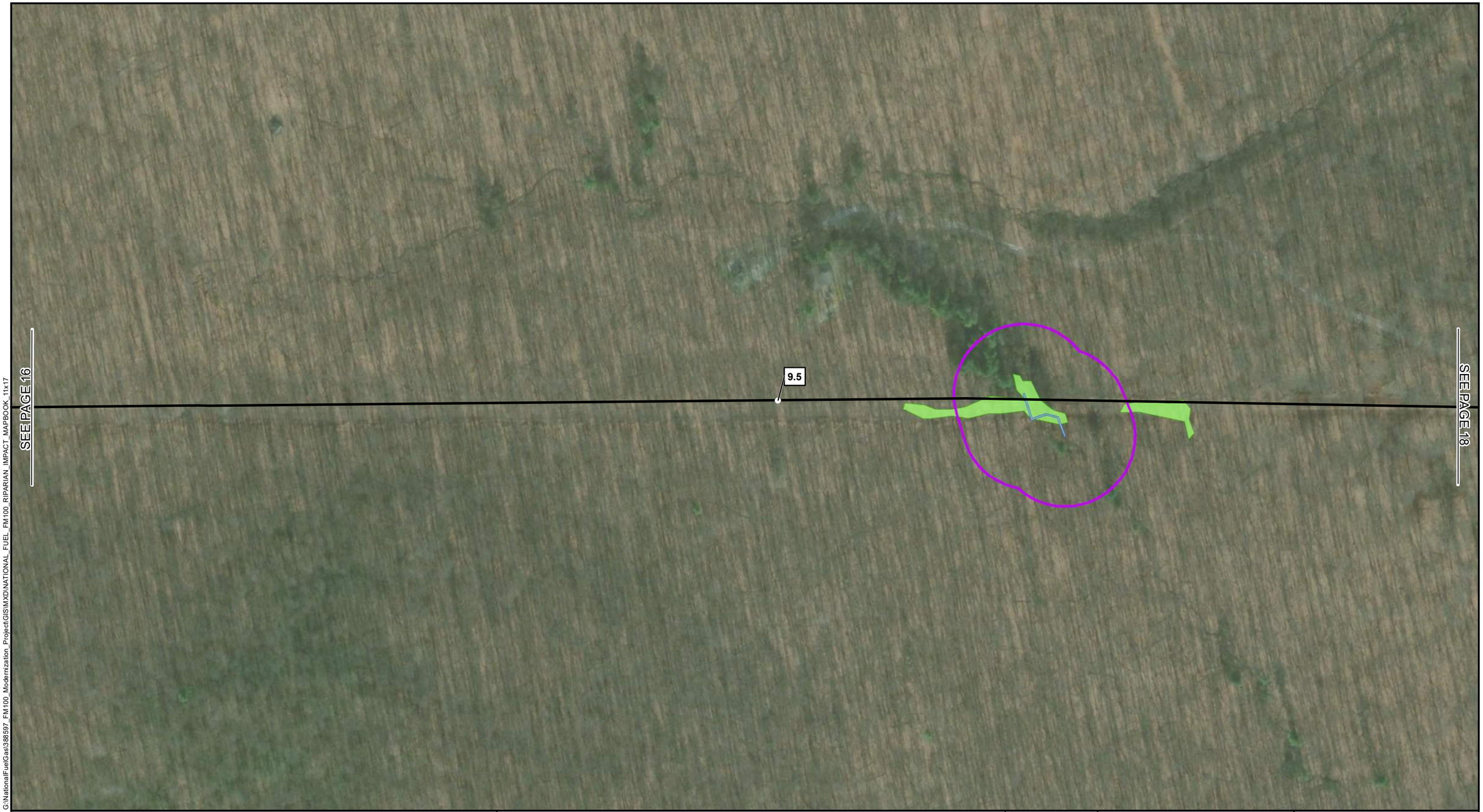

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FORESTED RIPARIAN IMPACT
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ELK, COUNTY

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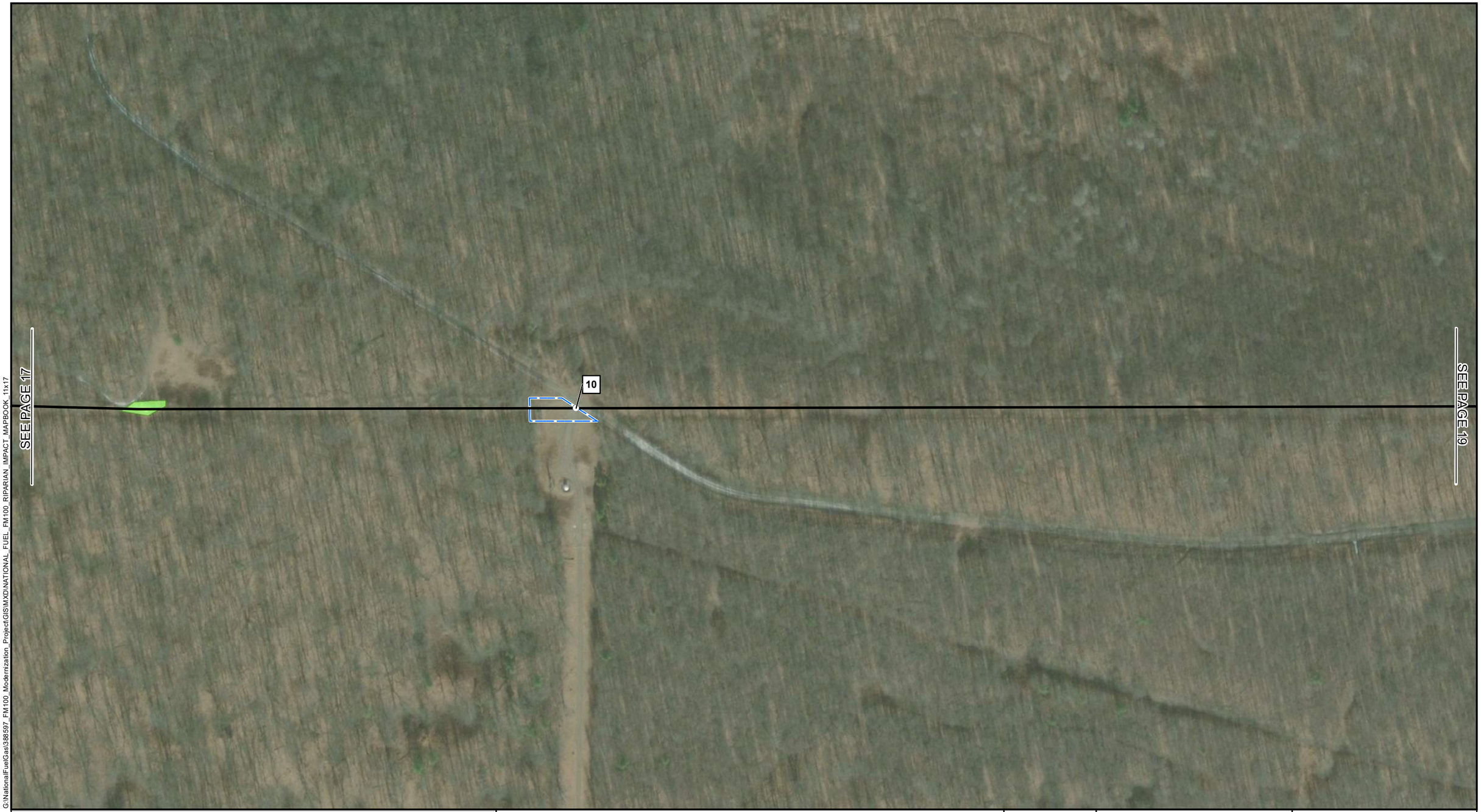

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ELK, COUNTY

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1 MILE POST	RIPARIAN BUFFER
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ELK, COUNTY

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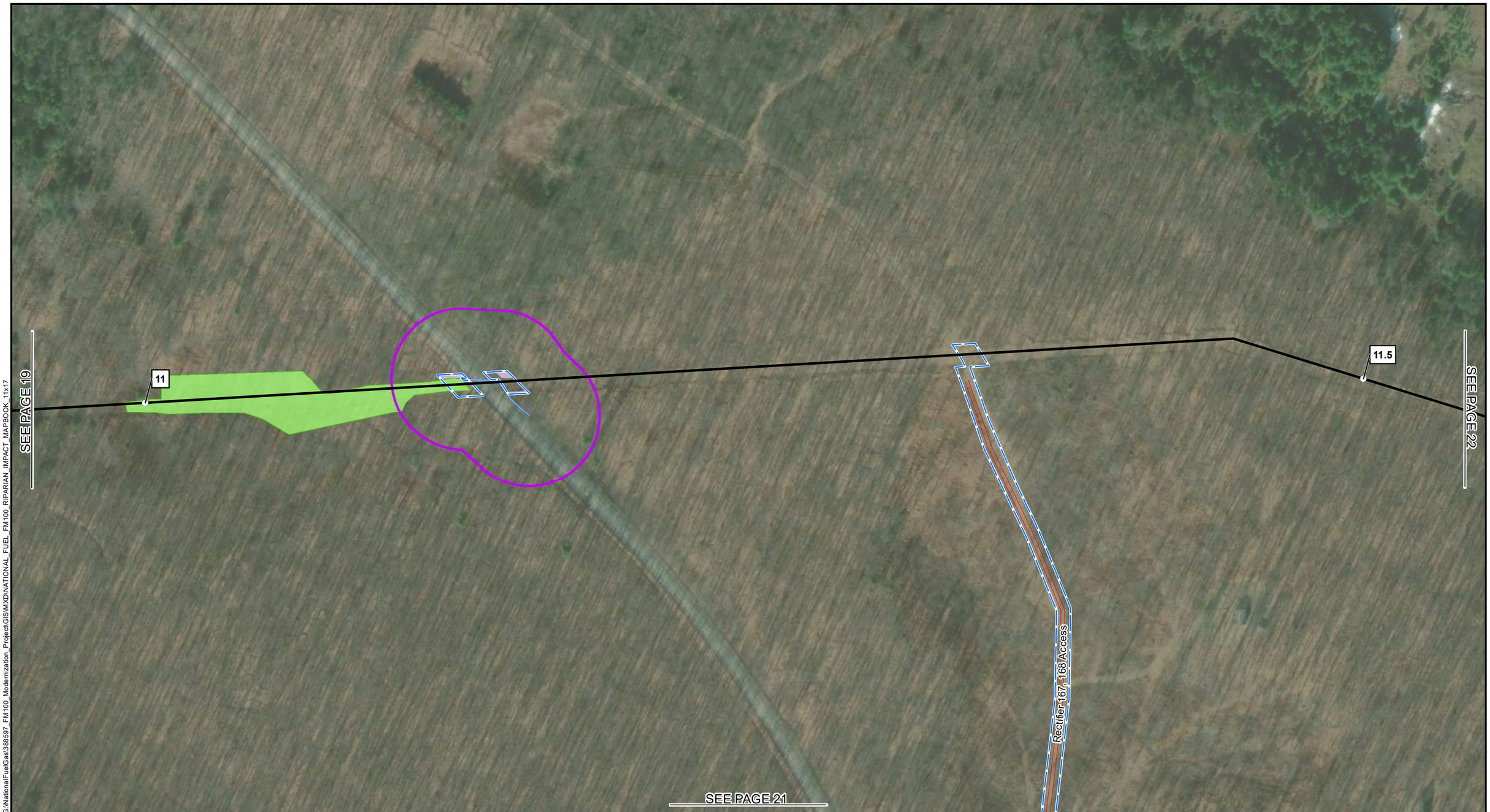

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FM100 ABANDONMENT PROJECT

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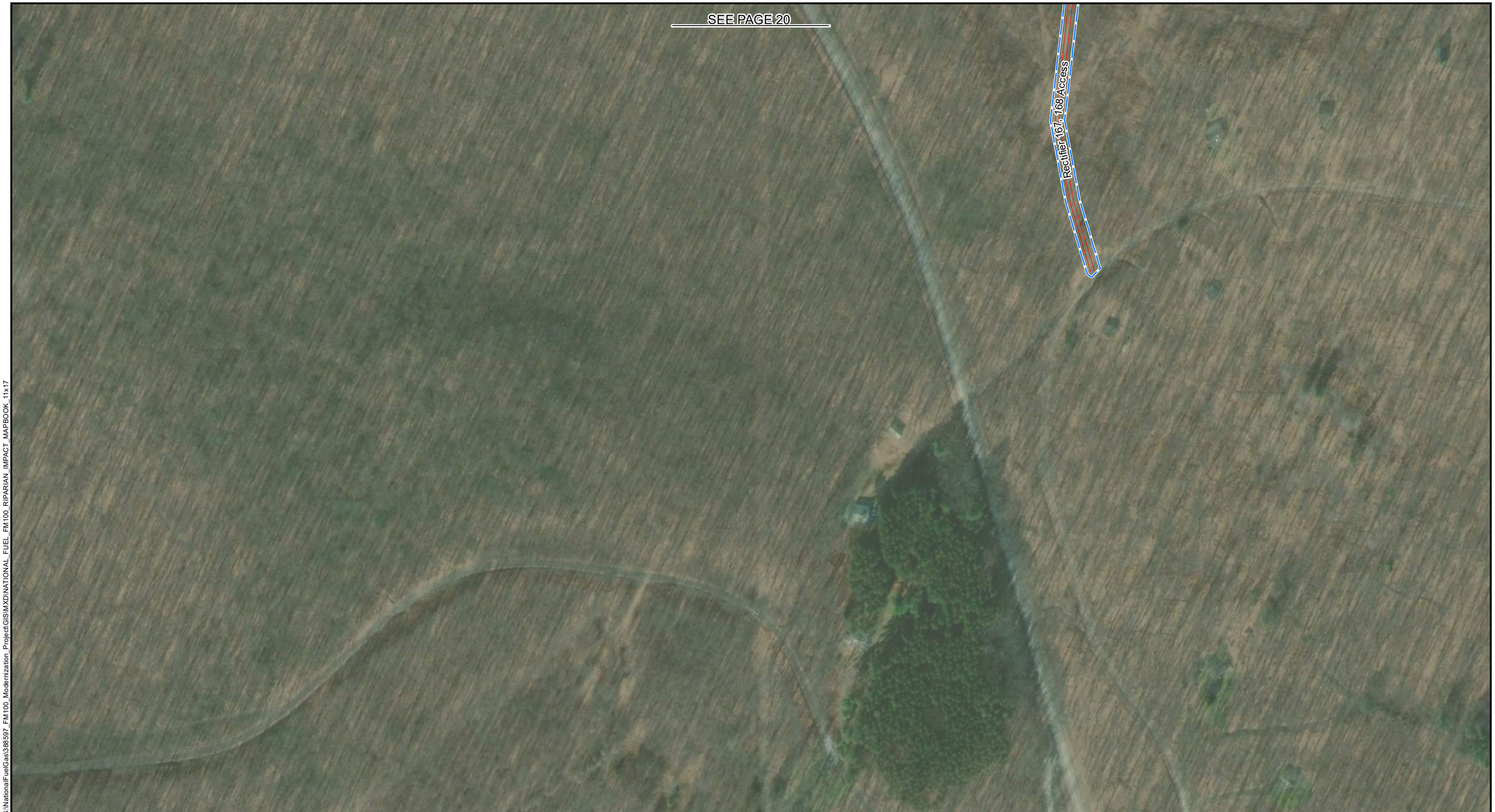

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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
ELK, COUNTY

200 100 0 200 400 FEET

W N S E

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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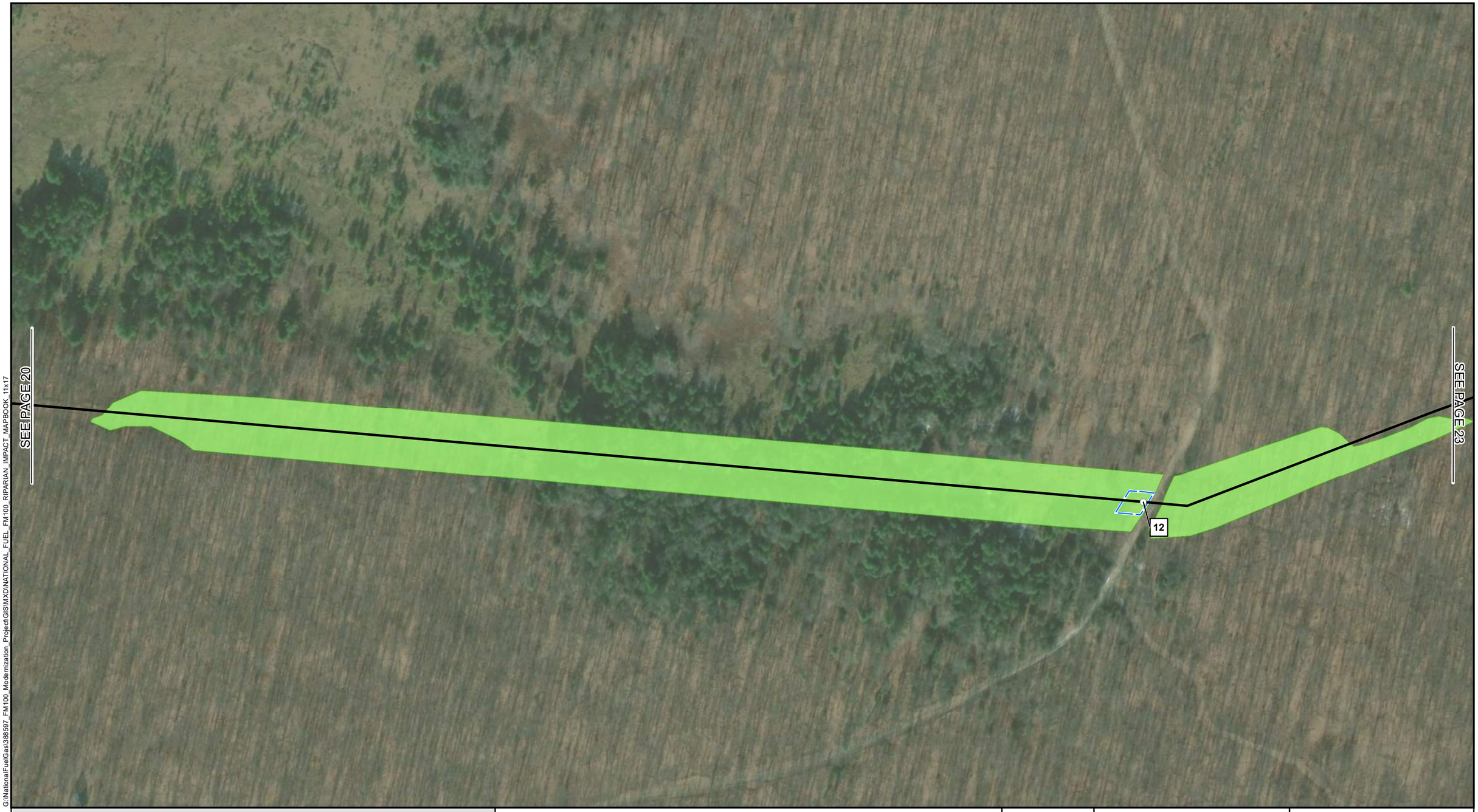

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

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ELK, COUNTY

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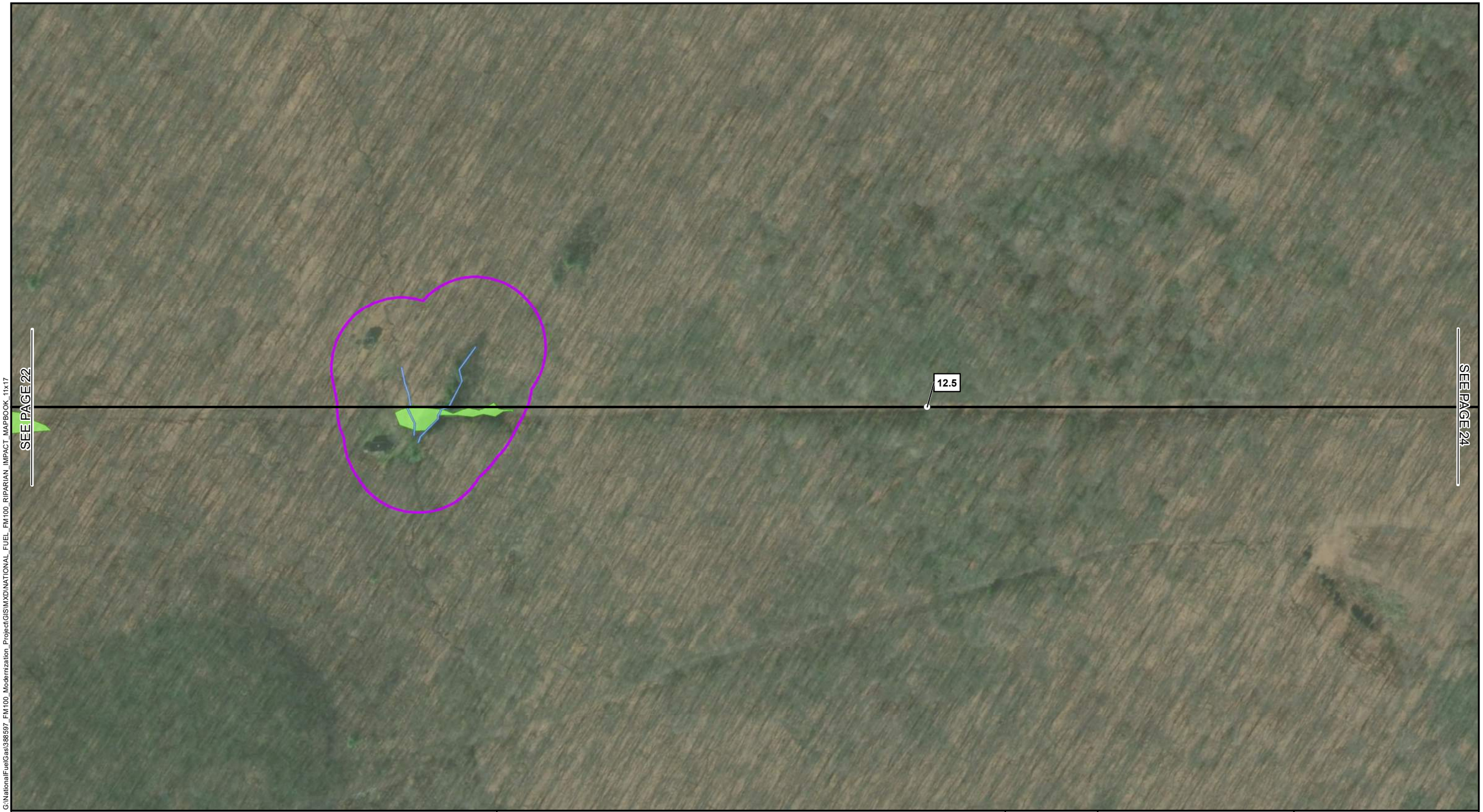

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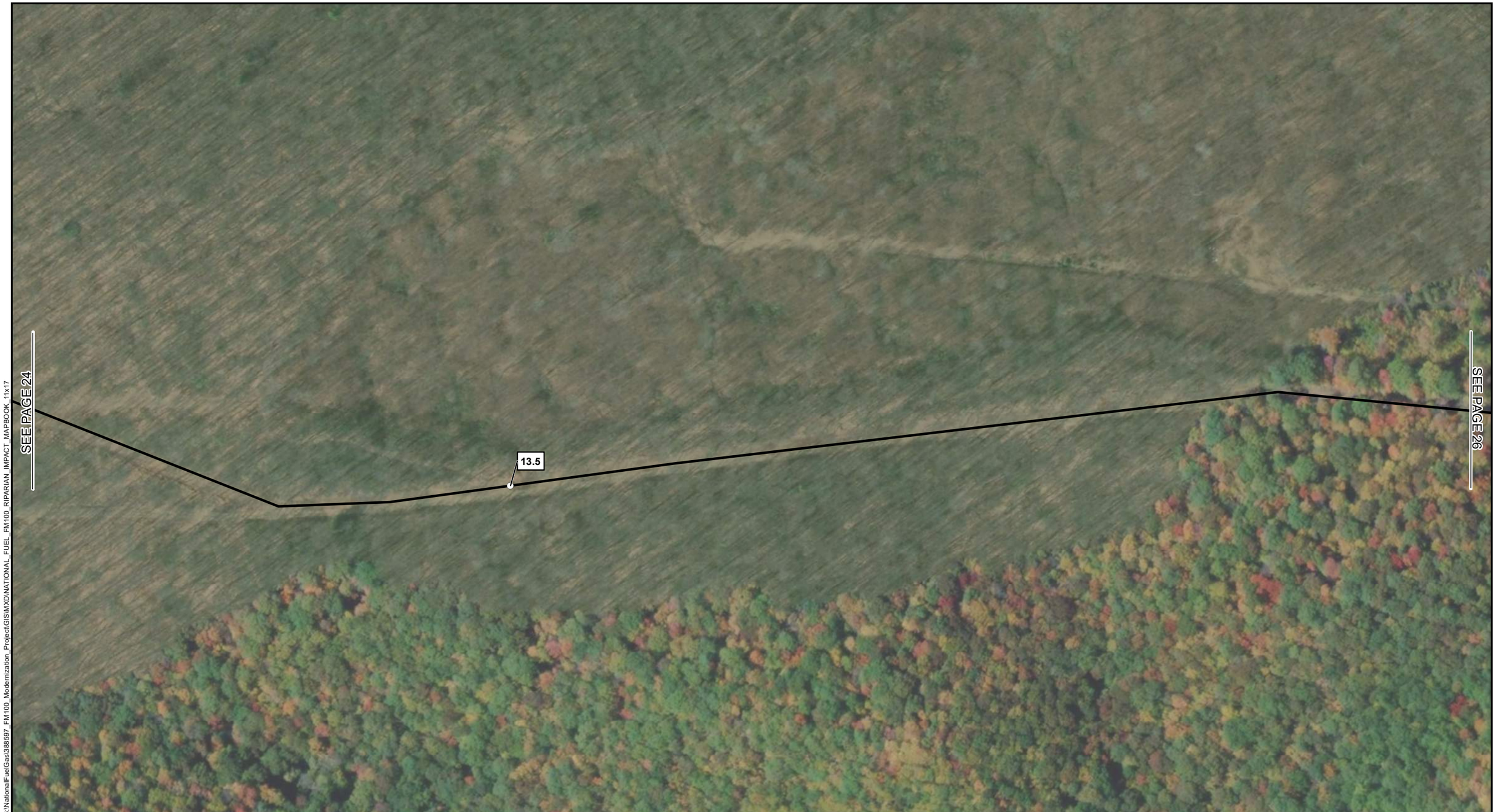

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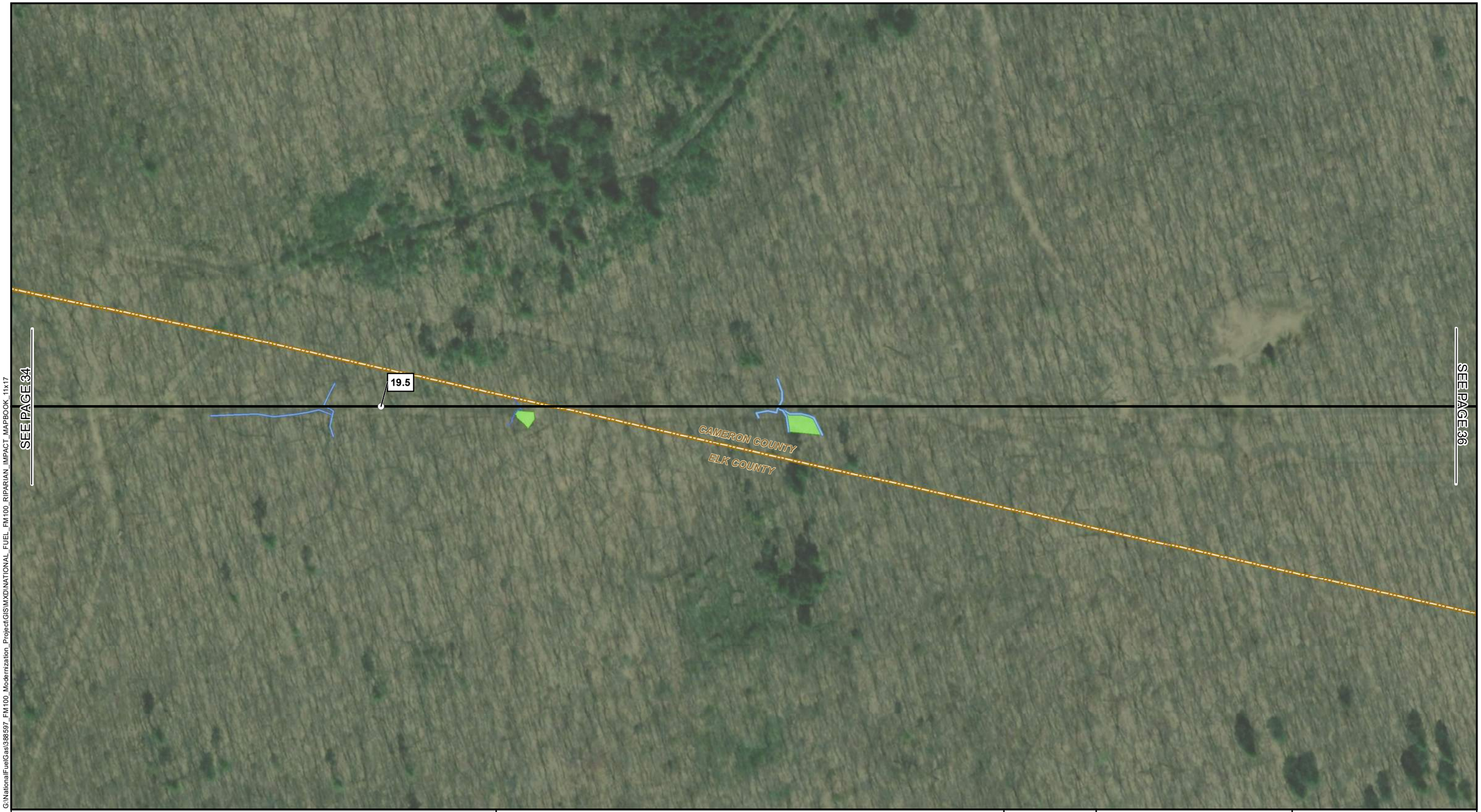

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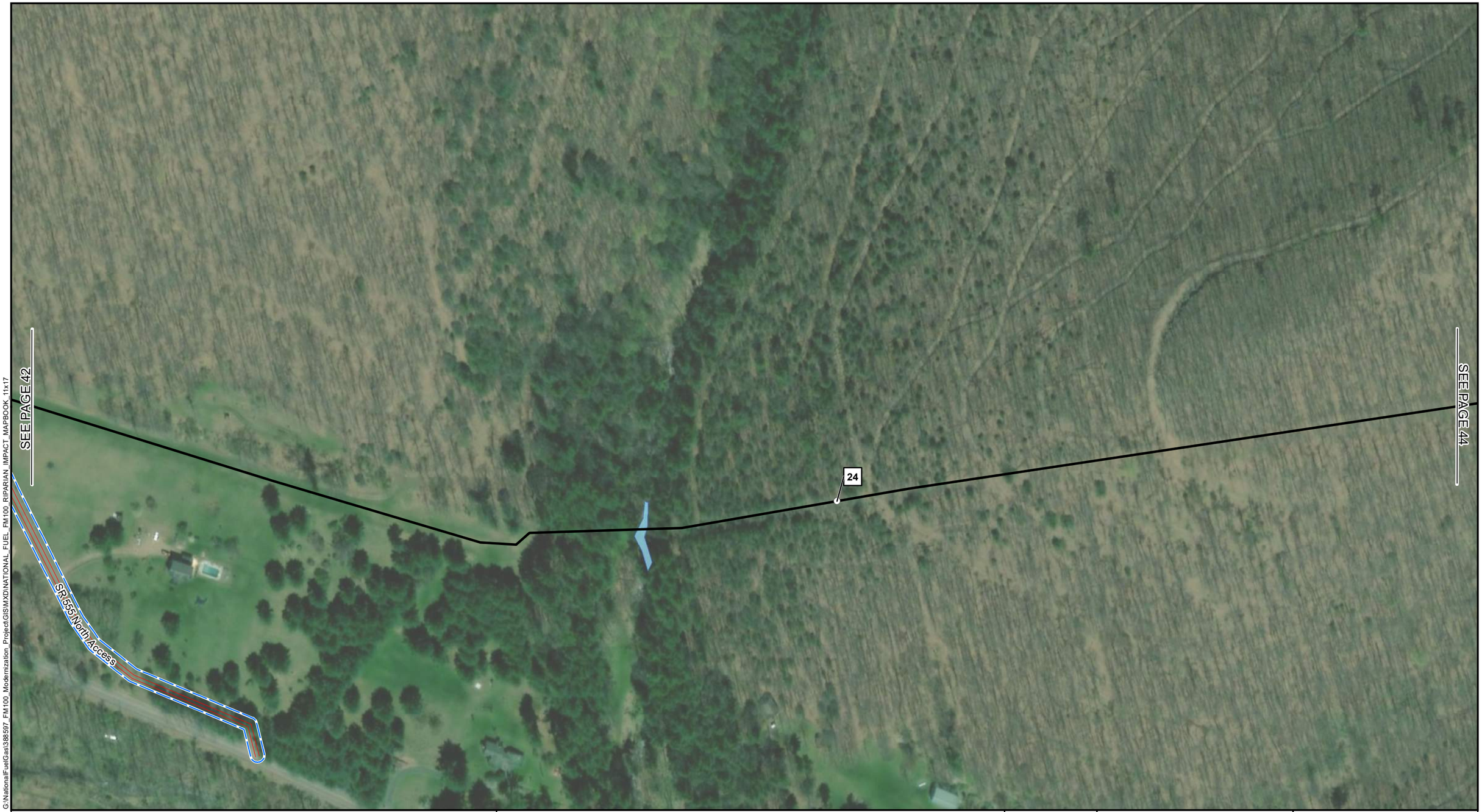

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CAMERON, COUNTY

200 100 0 200 400 FEET

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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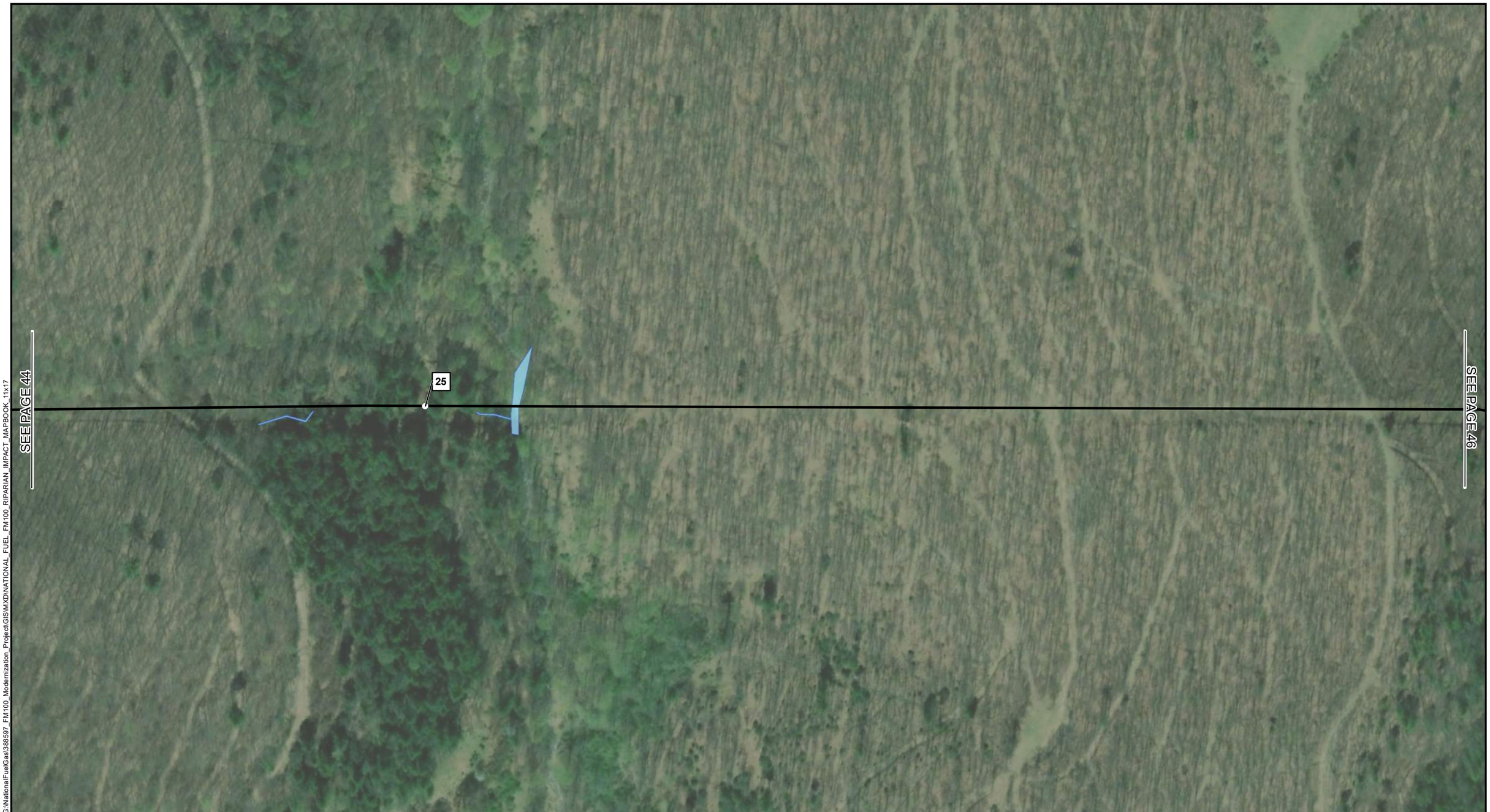

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- 1 MILE POST
- EXISTING PIPELINE
- ACCESS ROAD
- LIMITS OF DISTURBANCE
- DELINEATED WATERBODY
- DELINEATED WETLAND
- RIPARIAN BUFFER
- FORESTED RIPARIAN IMPACT
- COUNTY BOUNDARY

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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CAMERON, COUNTY

200 100 0 200 400 FEET

W N S E

ABSOLUTE SCALE: 1:2,400

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National Fuel SUPPLY CORPORATION

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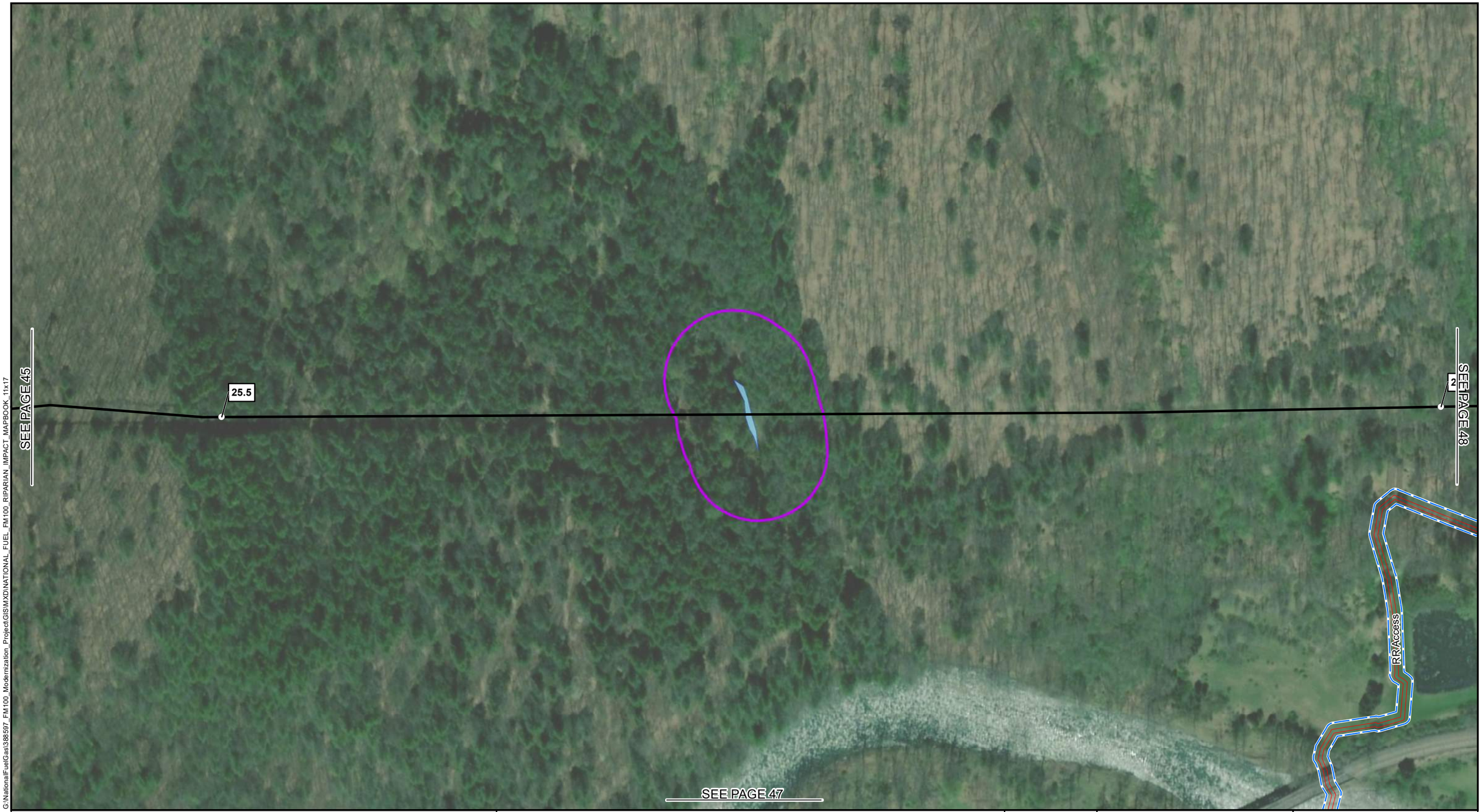

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1 MILE POST
EXISTING PIPELINE
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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CAMERON, COUNTY

200 100 0 200 400 FEET

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CAMERON, COUNTY

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N W E S

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1 MILE POST	RIPARIAN BUFFER
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CAMERON, COUNTY

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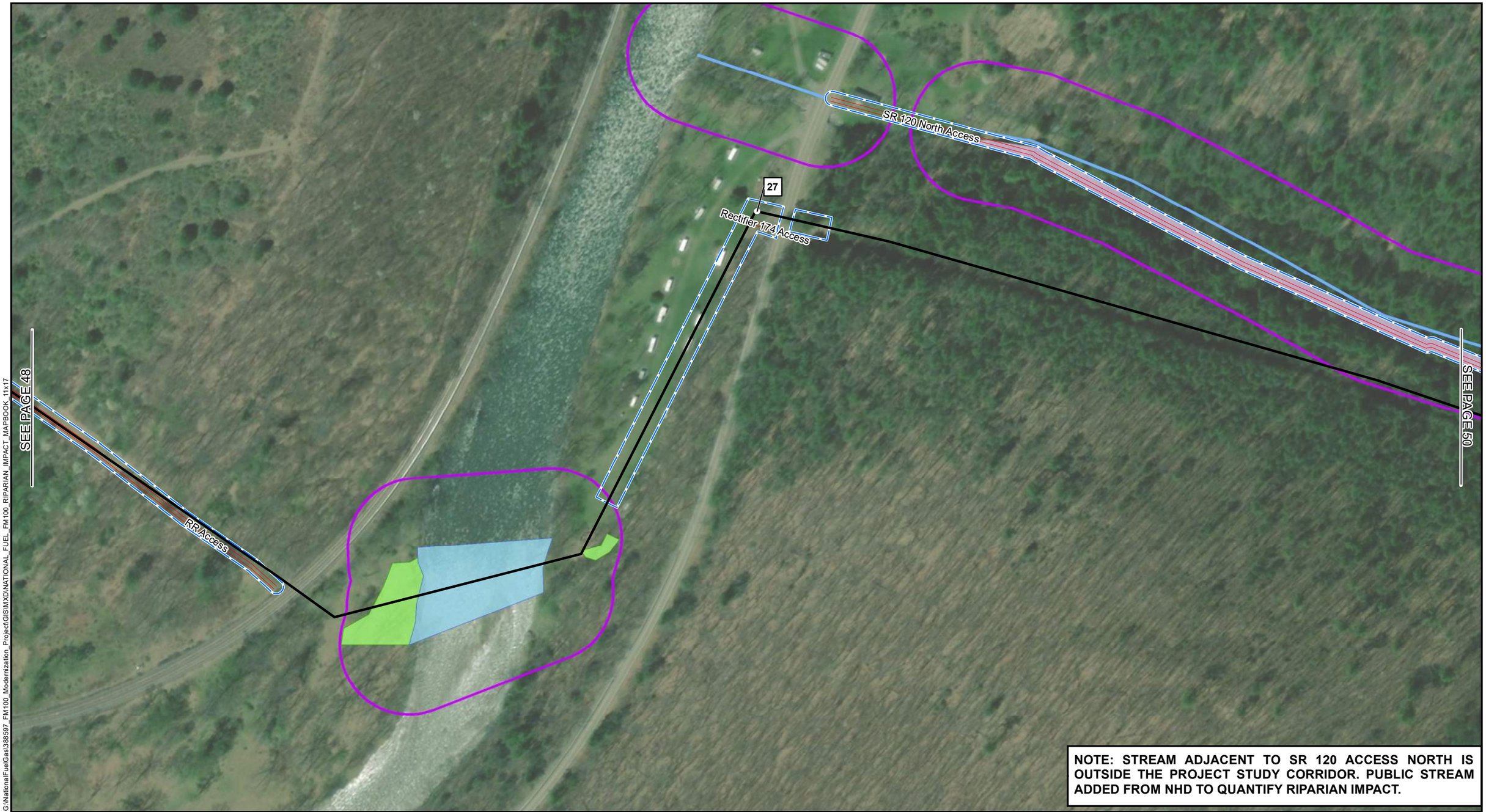

NOTE: STREAM ADJACENT TO SR 120 ACCESS NORTH IS OUTSIDE THE PROJECT STUDY CORRIDOR. PUBLIC STREAM ADDED FROM NHD TO QUANTIFY RIPARIAN IMPACT.

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CAMERON, COUNTY

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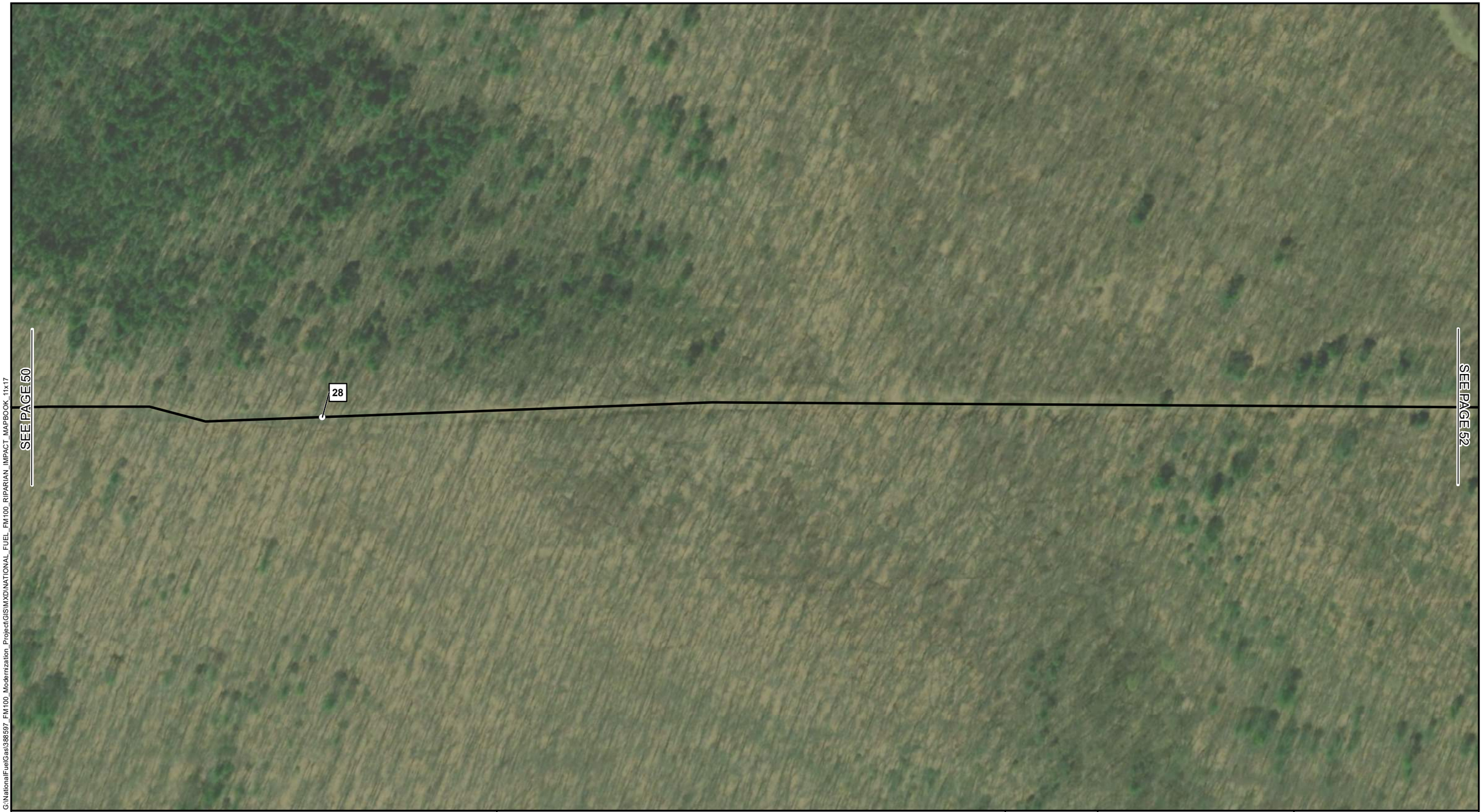

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1 MILE POST	RIPARIAN BUFFER
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CAMERON, COUNTY

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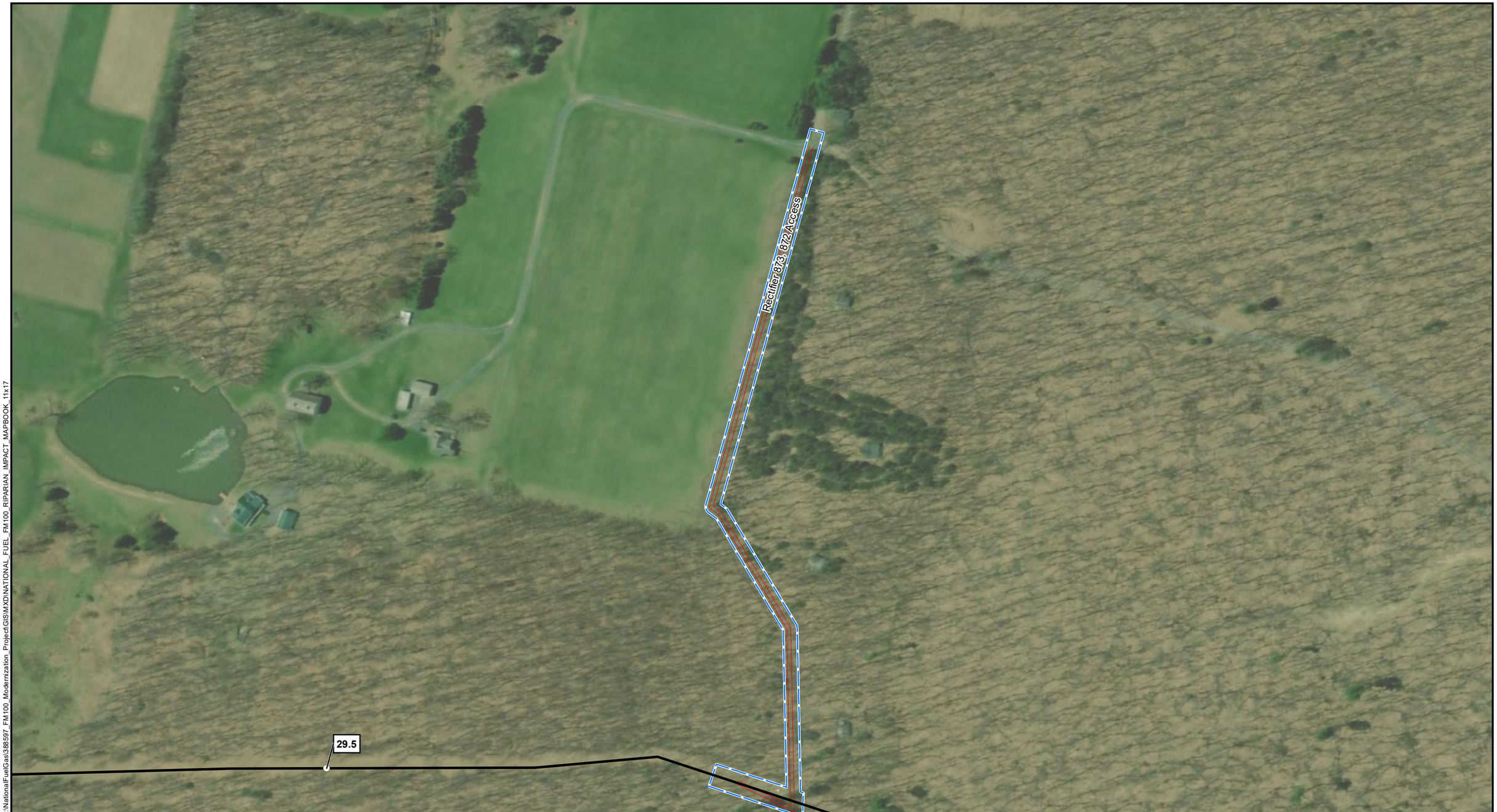

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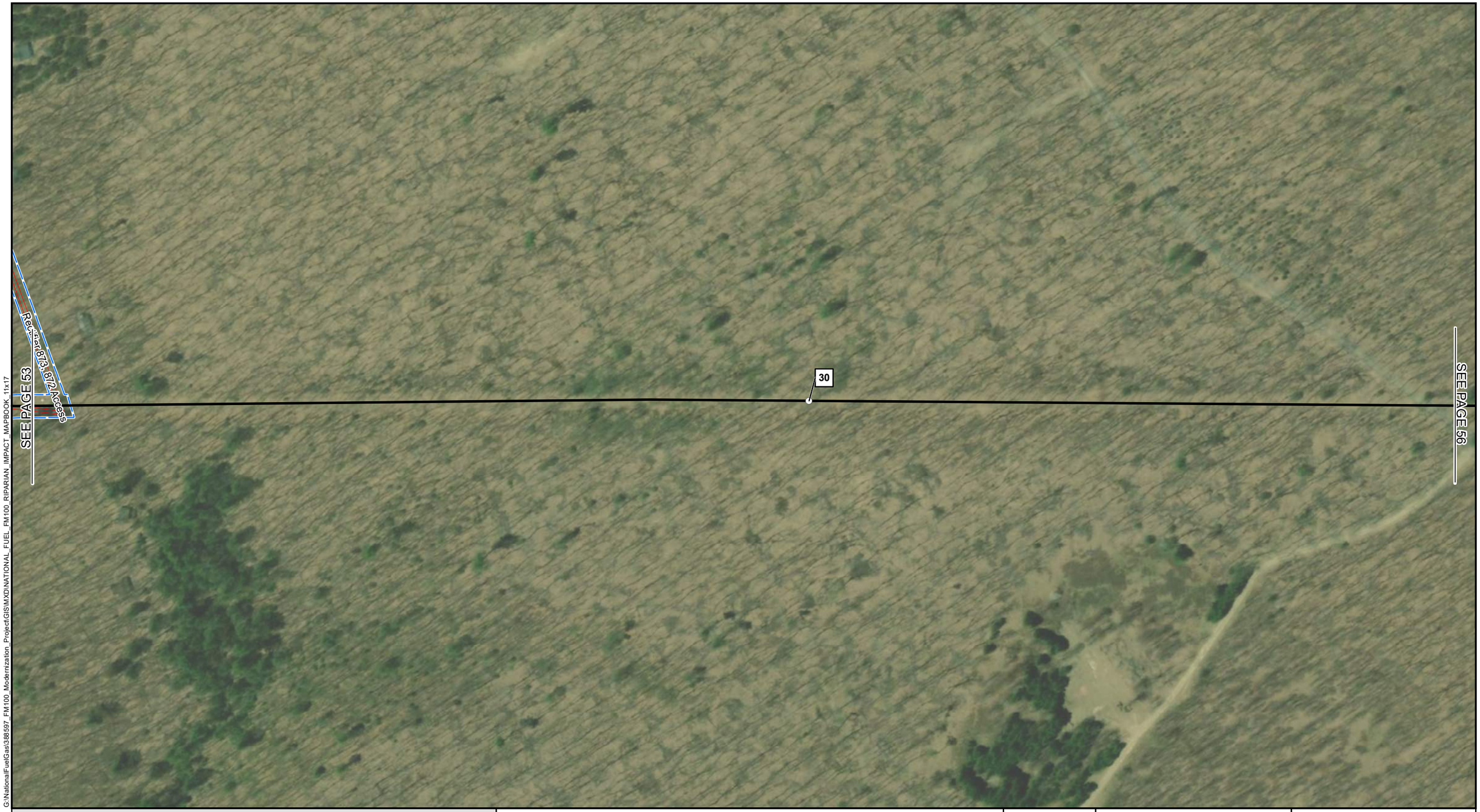

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CAMERON, COUNTY

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National Fuel SUPPLY CORPORATION

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1 MILE POST	RIPARIAN BUFFER
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FORESTED RIPARIAN IMPACT MAP
CAMERON, COUNTY

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National Fuel SUPPLY CORPORATION

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1 MILE POST	RIPARIAN BUFFER
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CAMERON, COUNTY

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1 MILE POST
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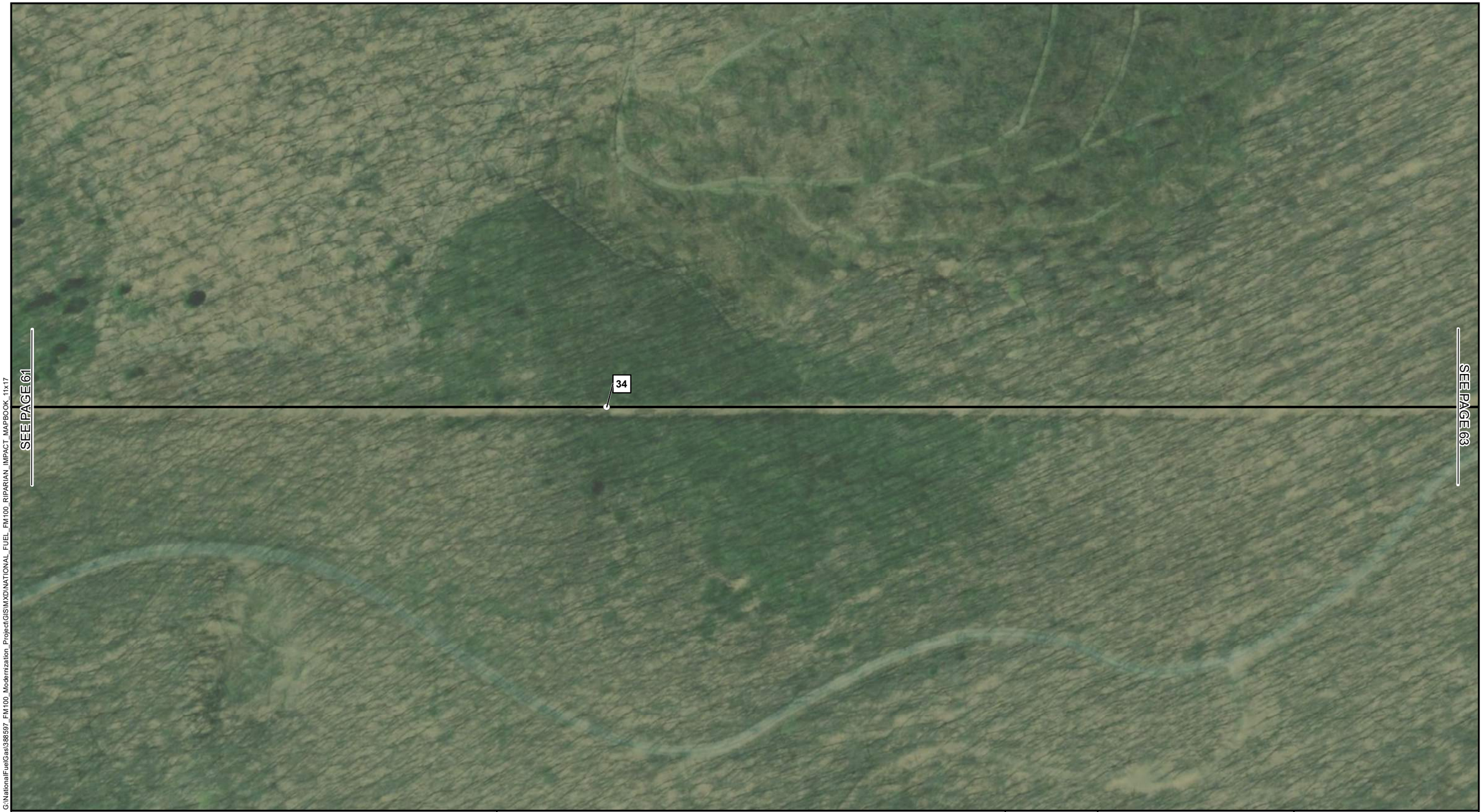

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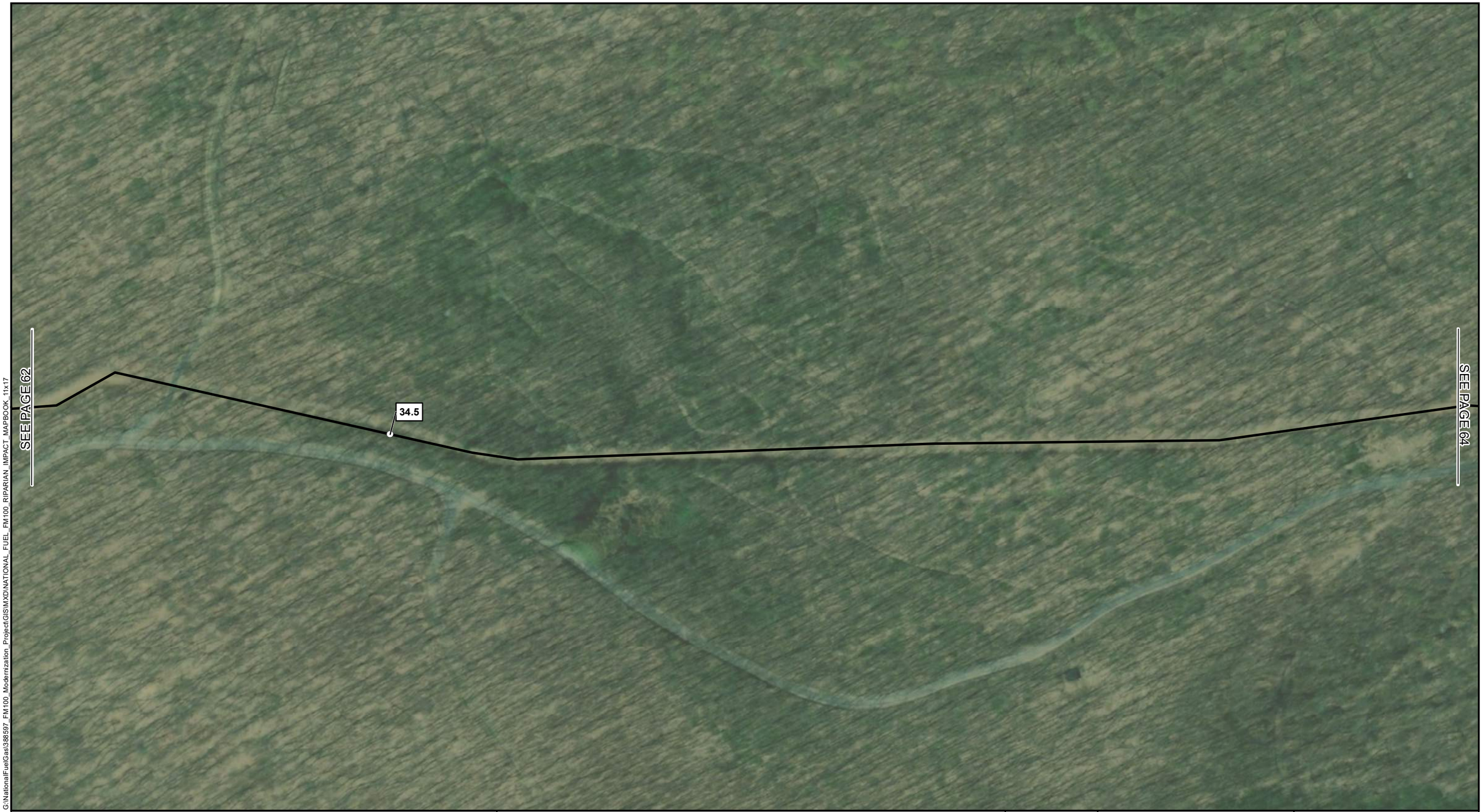

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CAMERON, COUNTY

200 100 0 200 400 FEET

N E S W

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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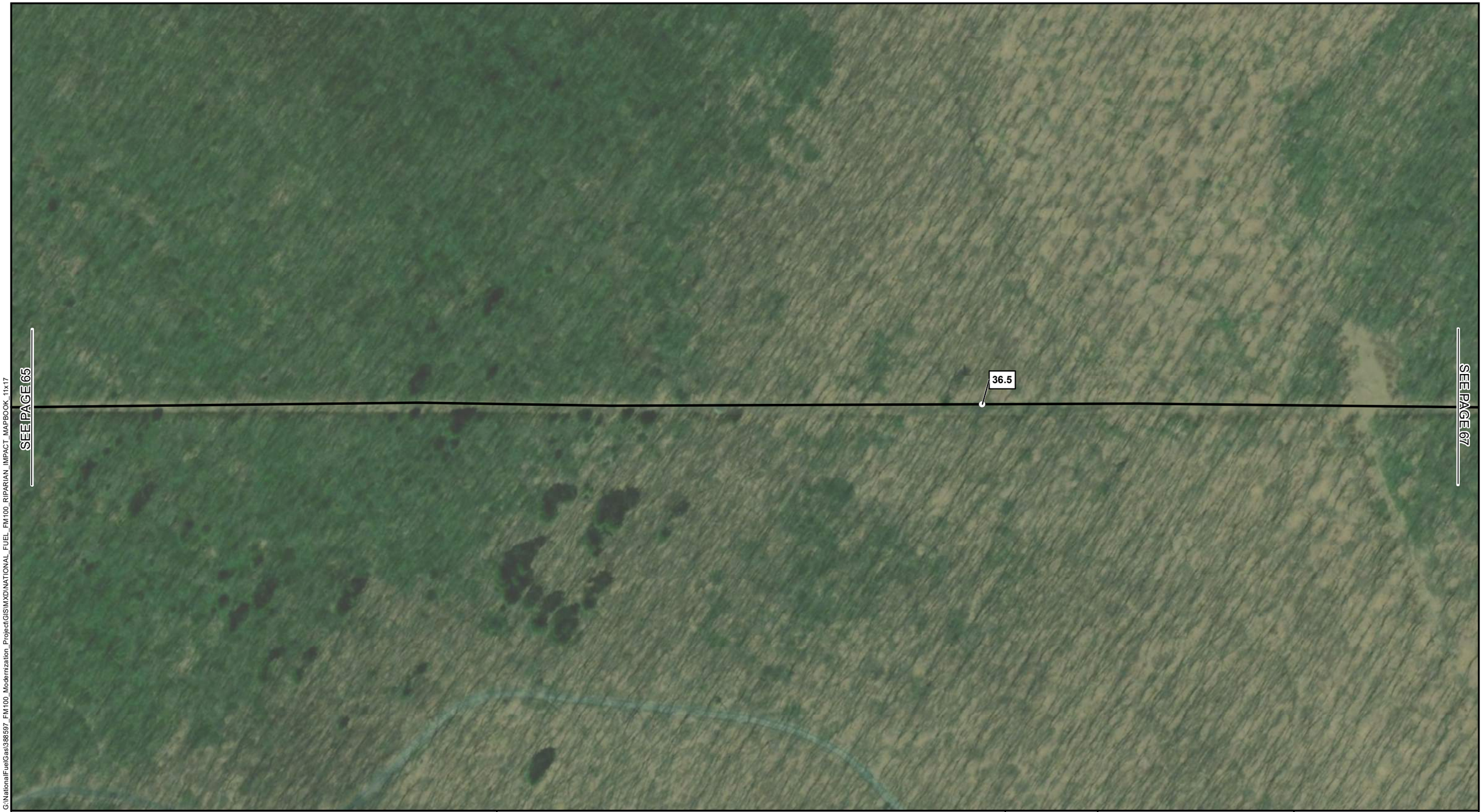

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CAMERON, COUNTY

200 100 0 200 400 FEET

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CAMERON, COUNTY

200 100 0 200 400 FEET

W N S E

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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- 1 MILE POST
- EXISTING PIPELINE
- ACCESS ROAD
- LIMITS OF DISTURBANCE
- DELINEATED WATERBODY
- DELINEATED WETLAND
- RIPARIAN BUFFER
- FORESTED RIPARIAN IMPACT
- COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CAMERON, COUNTY

200 100 0 200 400 FEET

W N S E

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

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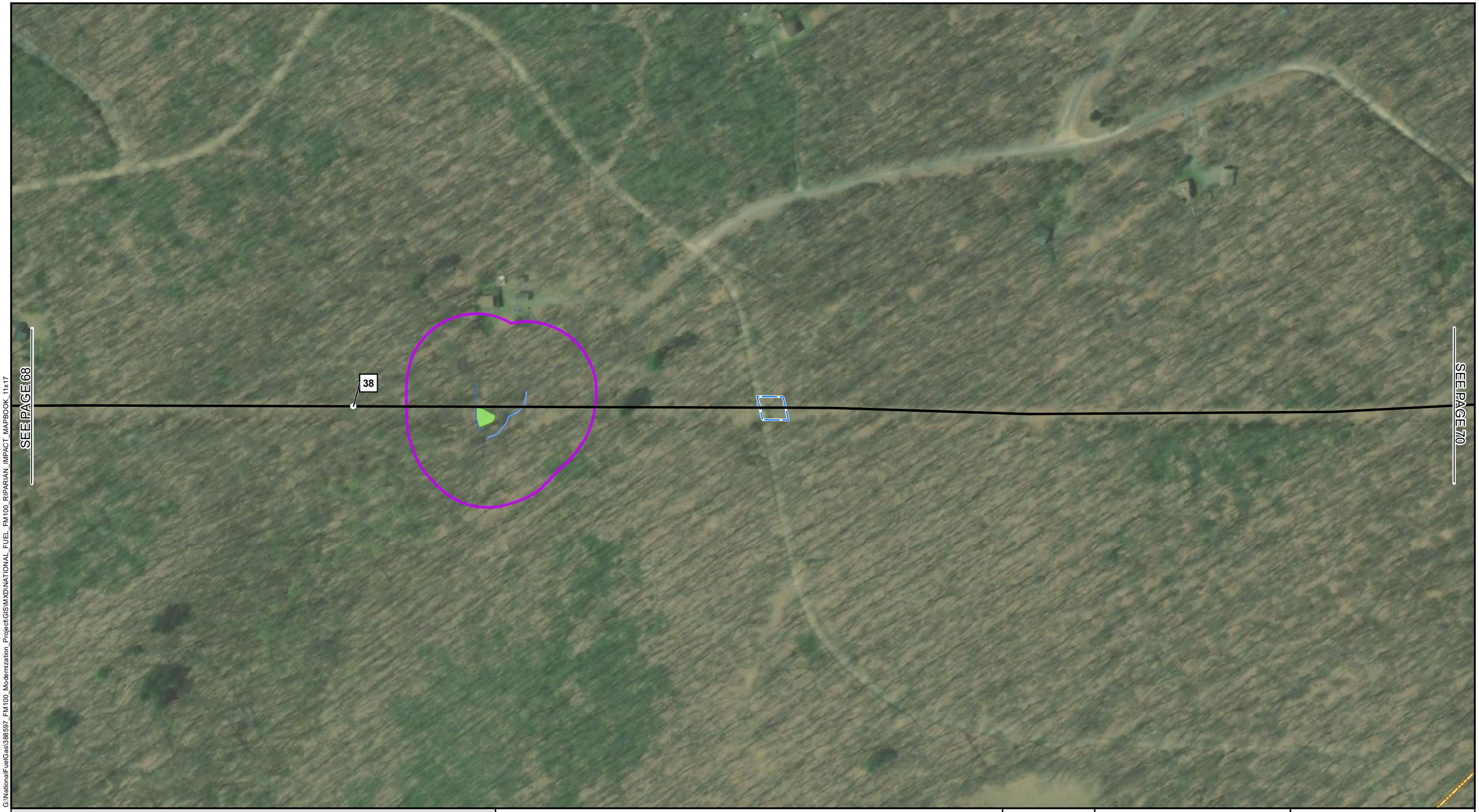

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
CAMERON, COUNTY

200 100 0 200 400 FEET

W N S E

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

W S N E

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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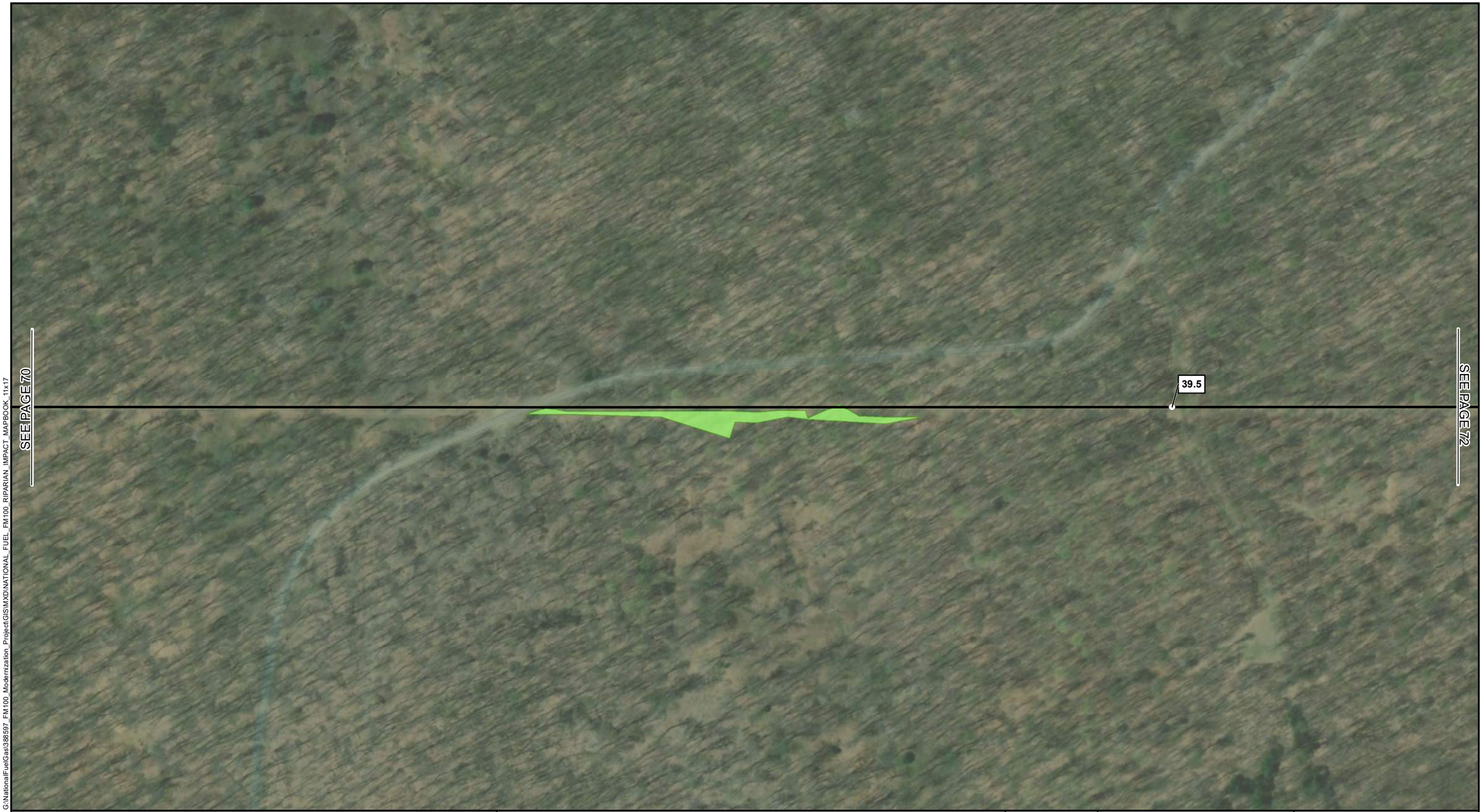

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

W S N E

ABSOLUTE SCALE: 1:2,400

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National Fuel SUPPLY CORPORATION

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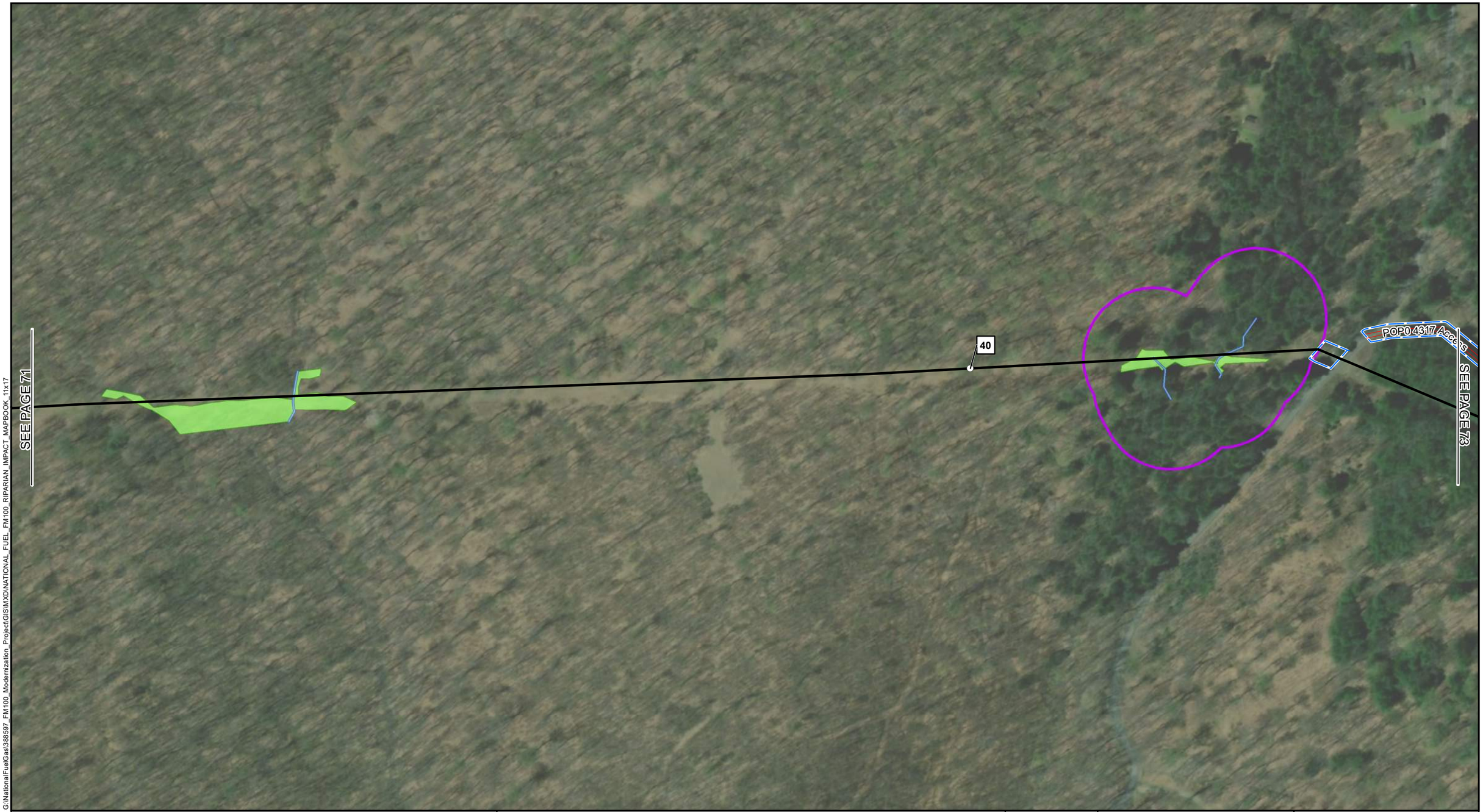

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- 1 MILE POST
- EXISTING PIPELINE
- ACCESS ROAD
- LIMITS OF DISTURBANCE
- DELINEATED WATERBODY
- DELINEATED WETLAND
- RIPARIAN BUFFER
- FORESTED RIPARIAN IMPACT
- COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

W N S E

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

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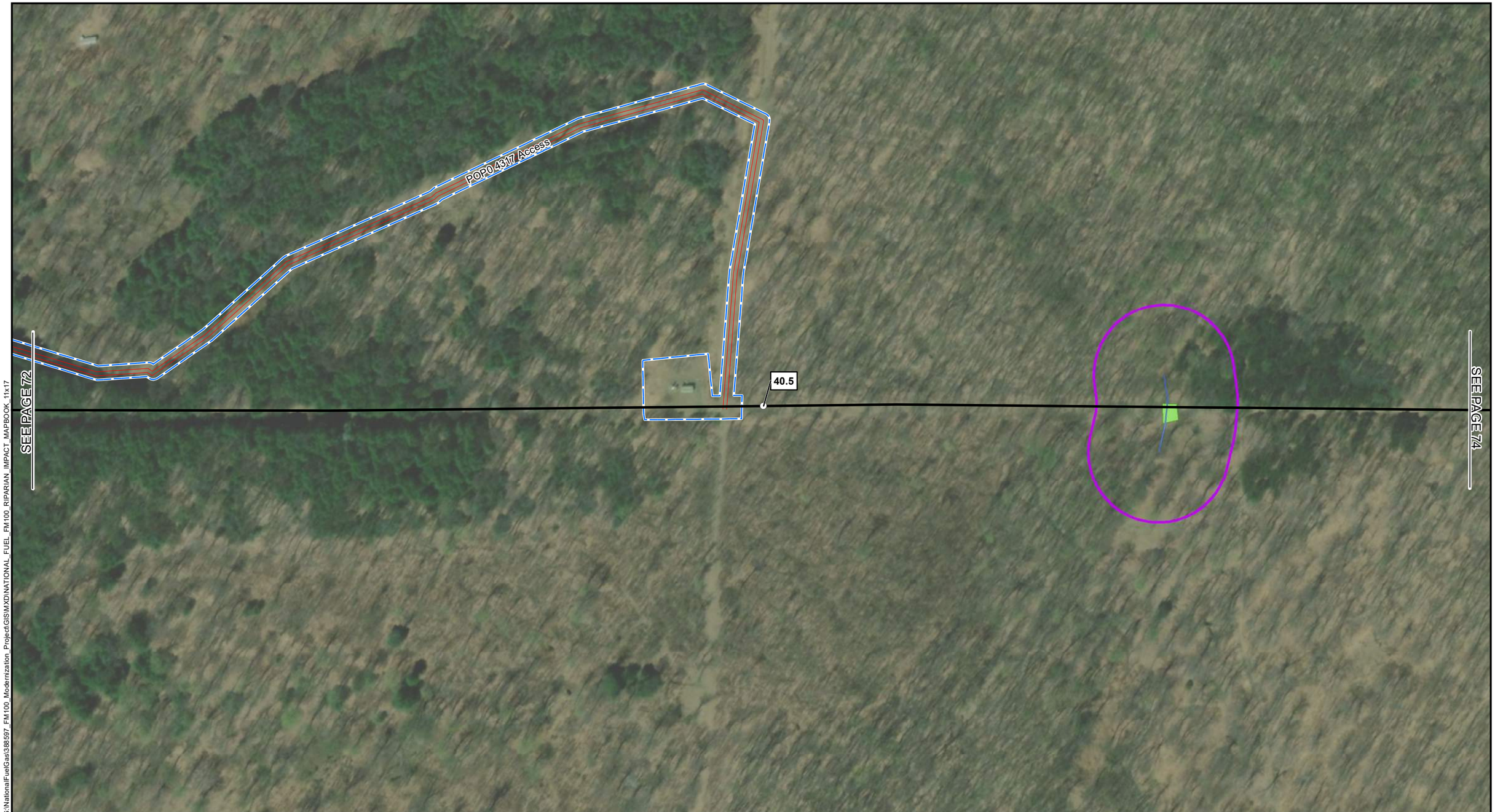

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

NOTES:
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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

N W E S

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

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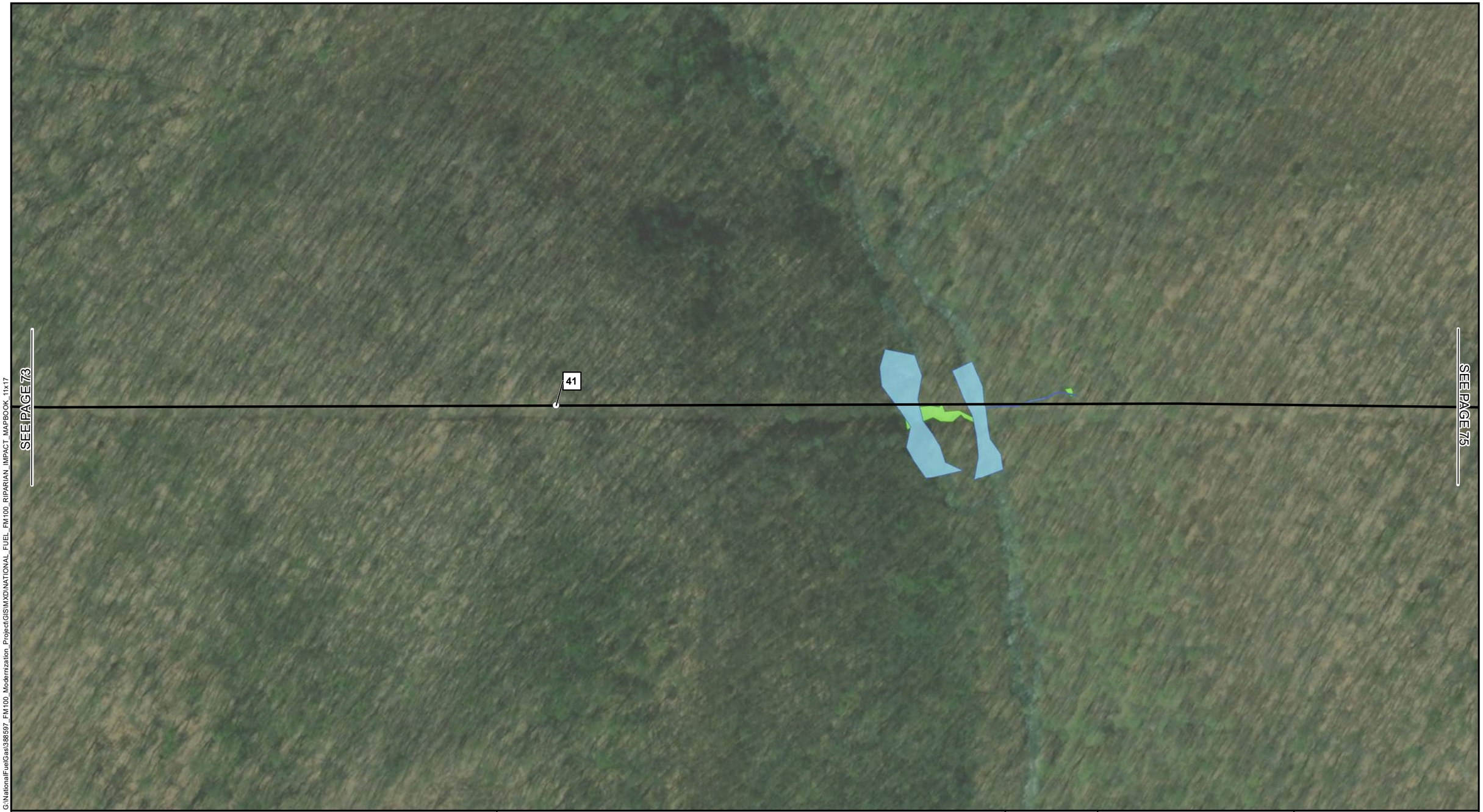

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

N S E

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

N W E S

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

N W E S

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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1 MILE POST
EXISTING PIPELINE
ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

W N S E

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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1 MILE POST	RIPARIAN BUFFER
EXISTING PIPELINE	FORESTED RIPARIAN IMPACT
ACCESS ROAD	COUNTY BOUNDARY
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 ABANDONMENT PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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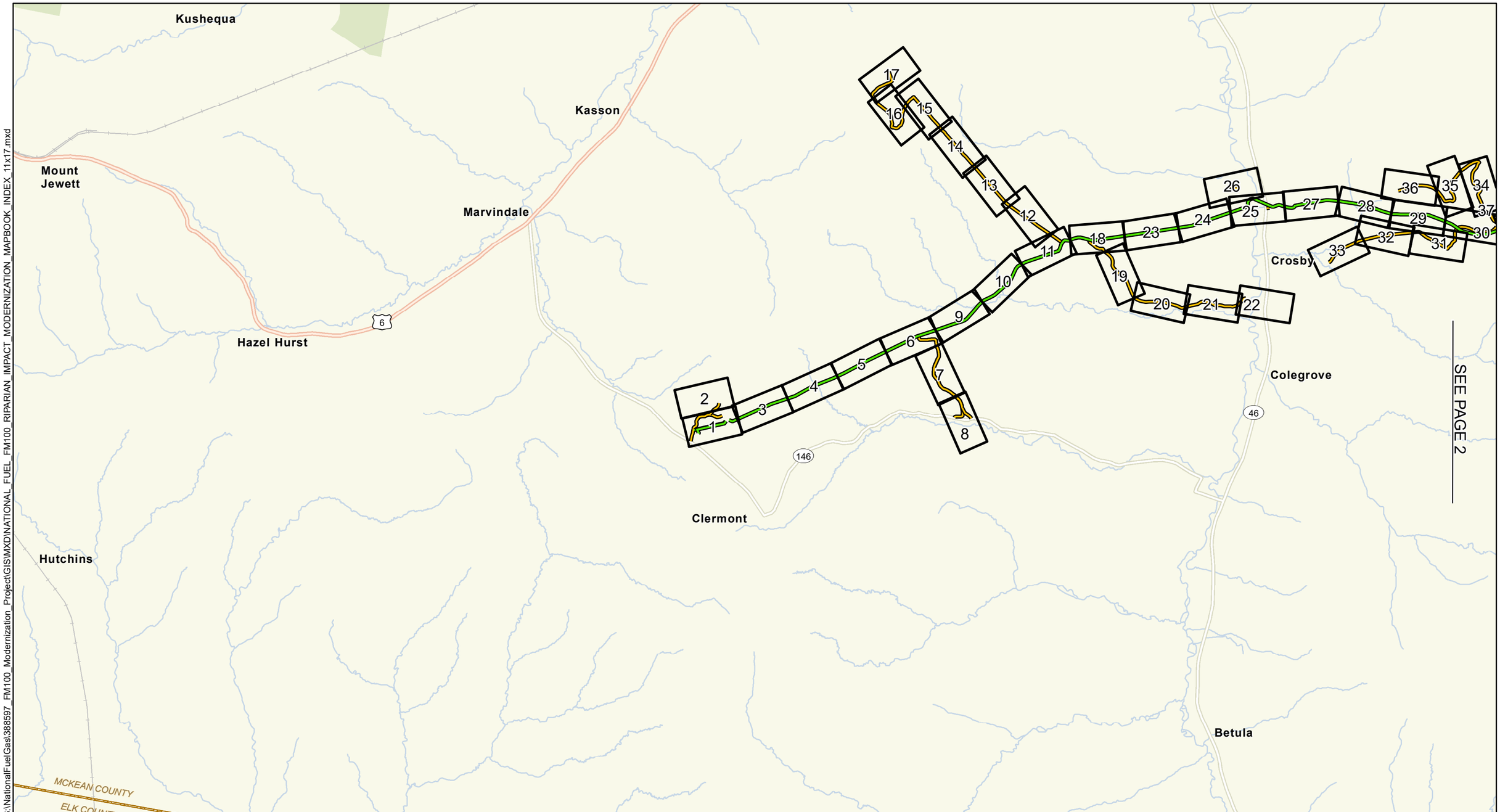

PROPOSED PIPELINE
PROPOSED ACCESS ROAD
MAJOR HIGHWAY
HIGHWAY
WATERBODY
CITY AREA
PARKS
COUNTY BOUNDARY

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT INDEX
PENNSYLVANIA

1 0.5 0 1 2 MILE

N W E S

ABSOLUTE SCALE: 1:63,360

REFERENCE SCALE: 1 INCH = 1 MILE

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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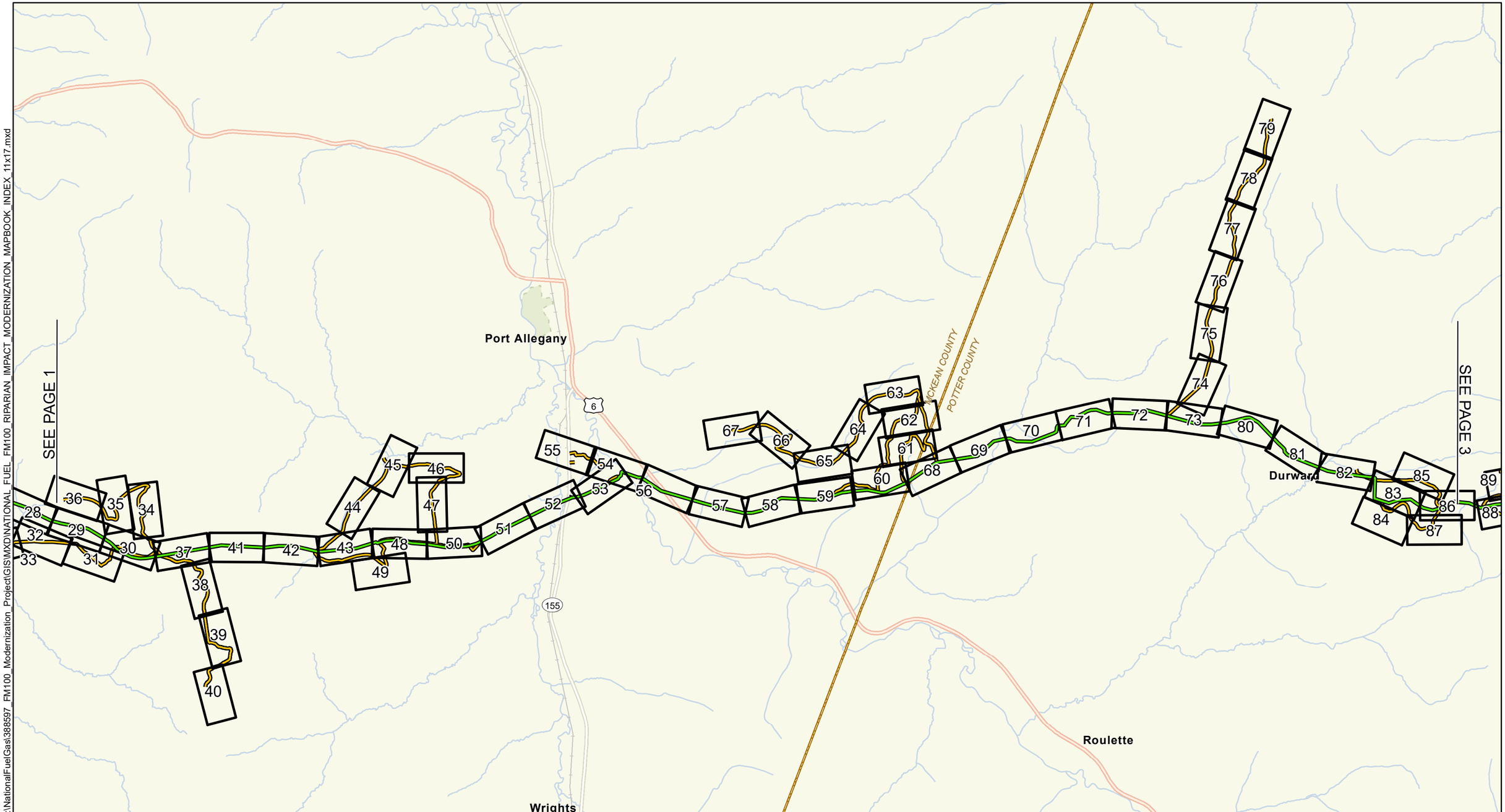

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PROPOSED PIPELINE
PROPOSED ACCESS ROAD
MAJOR HIGHWAY
HIGHWAY
WATERBODY
CITY AREA
PARKS
COUNTY BOUNDARY

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT INDEX
PENNSYLVANIA

1 0.5 0 1 2 MILE

N W E S

ABSOLUTE SCALE: 1:63,360

REFERENCE SCALE: 1 INCH = 1 MILE

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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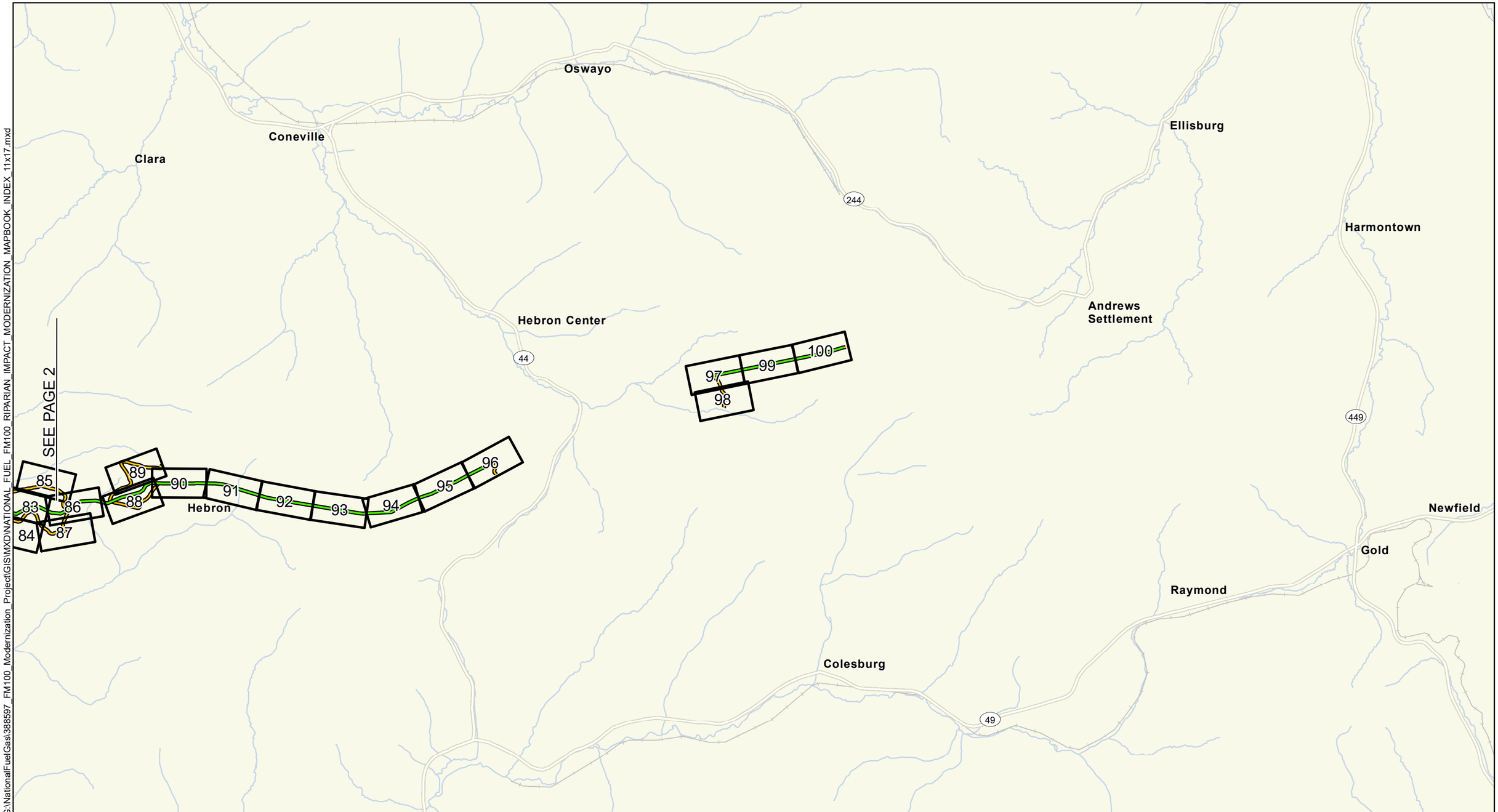

PROPOSED PIPELINE
PROPOSED ACCESS ROAD
MAJOR HIGHWAY
HIGHWAY
WATERBODY
CITY AREA
PARKS
COUNTY BOUNDARY

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT INDEX
PENNSYLVANIA

1 0.5 0 1 2 MILE

N W E S

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National Fuel SUPPLY CORPORATION

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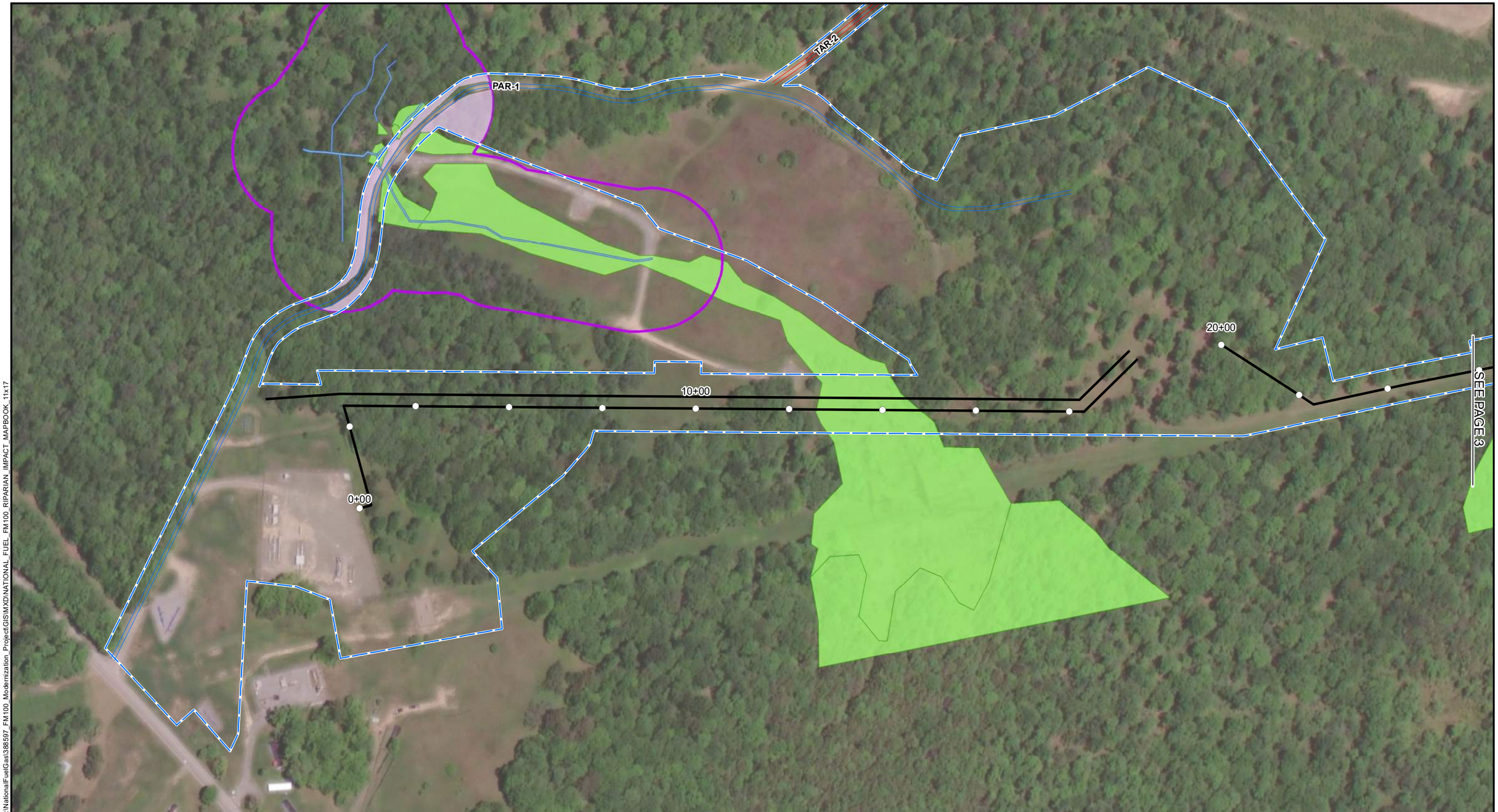

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1+00 STATION POINT
PROPOSED PIPELINE
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
MCKEAN, COUNTY

200 100 0 200 400 FEET

N W E S

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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1+00 STATION POINT
PROPOSED PIPELINE
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
MCKEAN, COUNTY

200 100 0 200 400 FEET

N W E S

ABSOLUTE SCALE: 1:2,400

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National Fuel SUPPLY CORPORATION

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1+00 STATION POINT
PROPOSED PIPELINE
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
MCKEAN, COUNTY

200 100 0 200 400 FEET

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1+00 STATION POINT
PROPOSED PIPELINE
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
MCKEAN, COUNTY

200 100 0 200 400 FEET

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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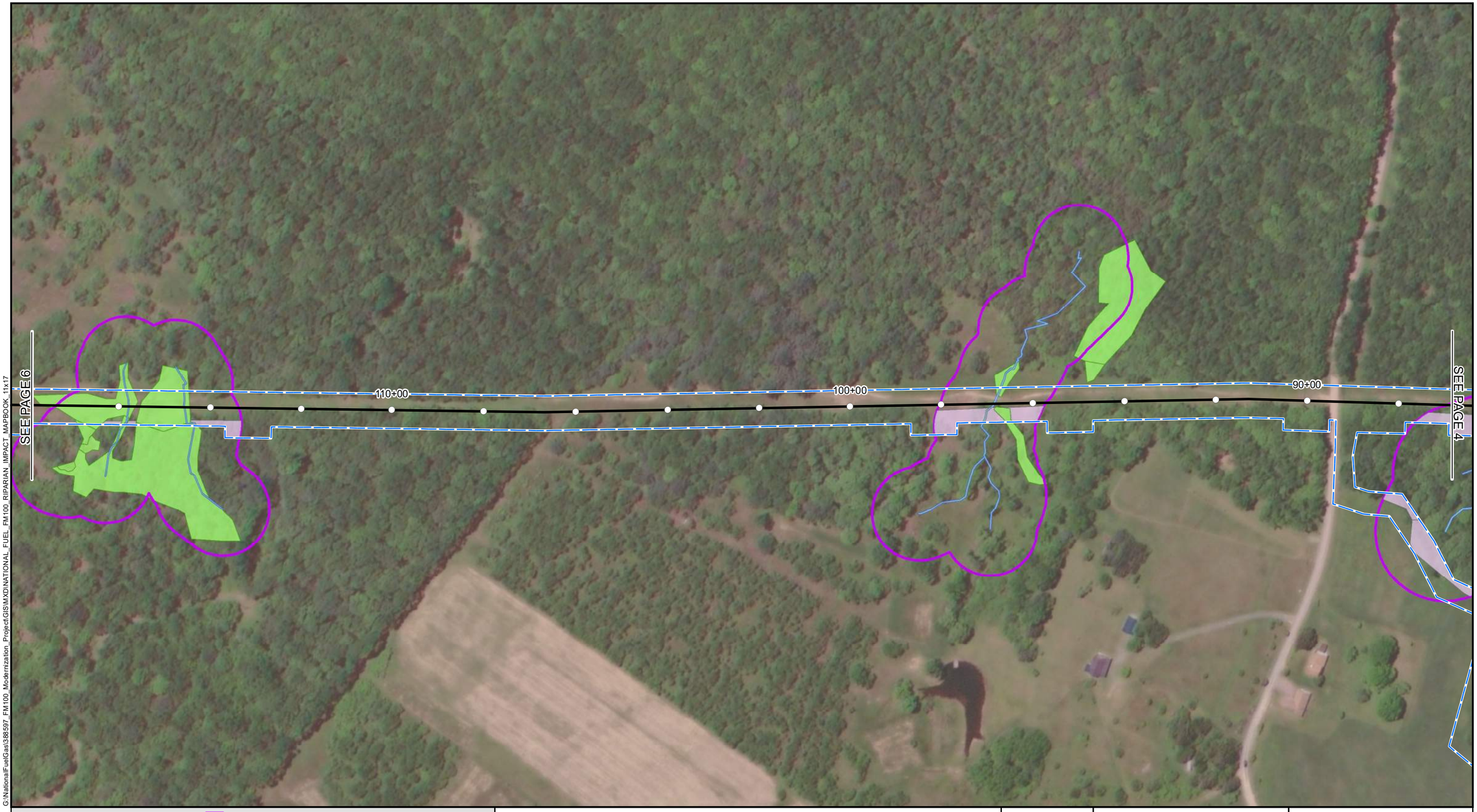

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FORESTED RIPARIAN IMPACT MAP
MCKEAN, COUNTY

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National Fuel SUPPLY CORPORATION

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MCKEAN, COUNTY

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1+00 STATION POINT
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MCKEAN, COUNTY

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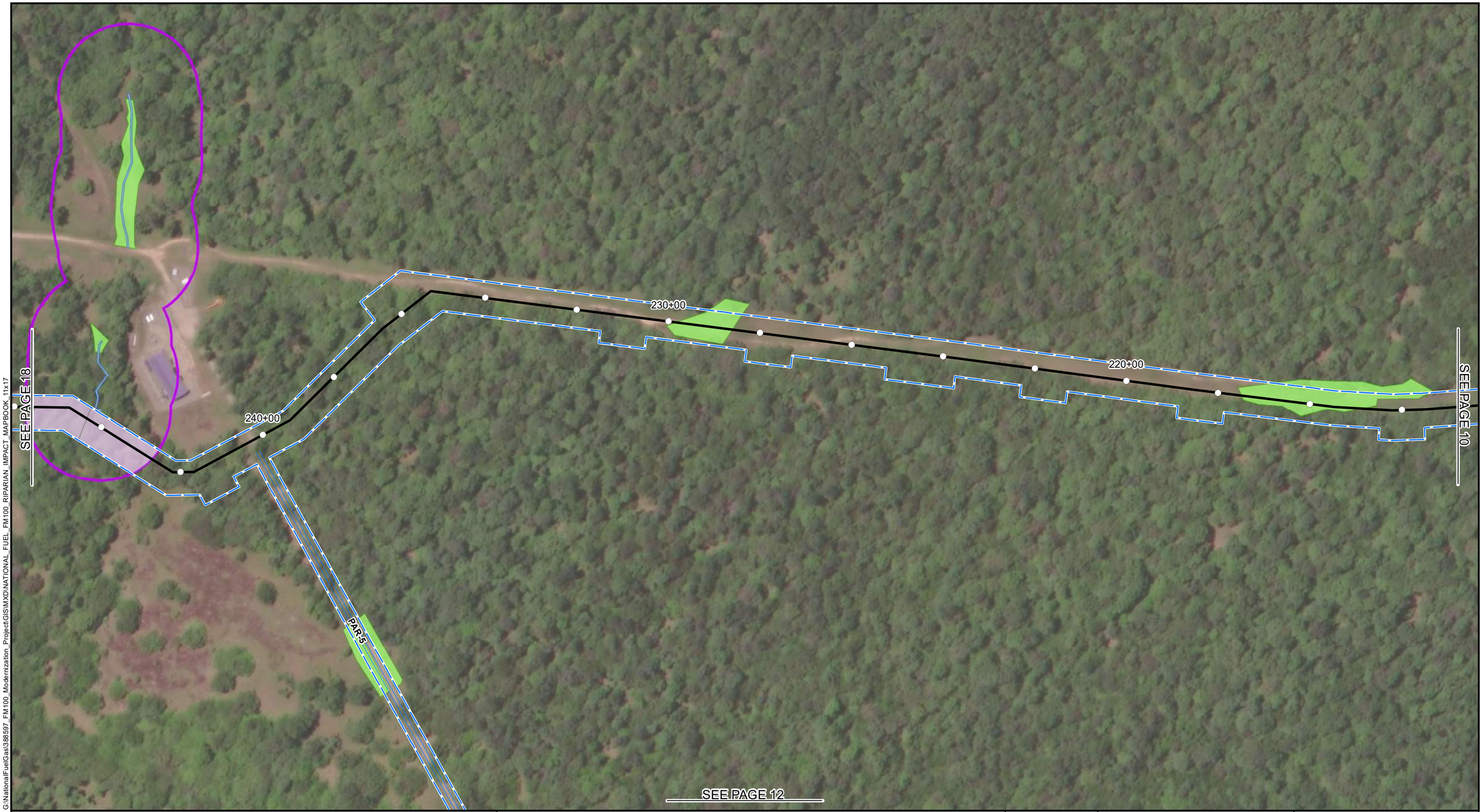

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MCKEAN, COUNTY

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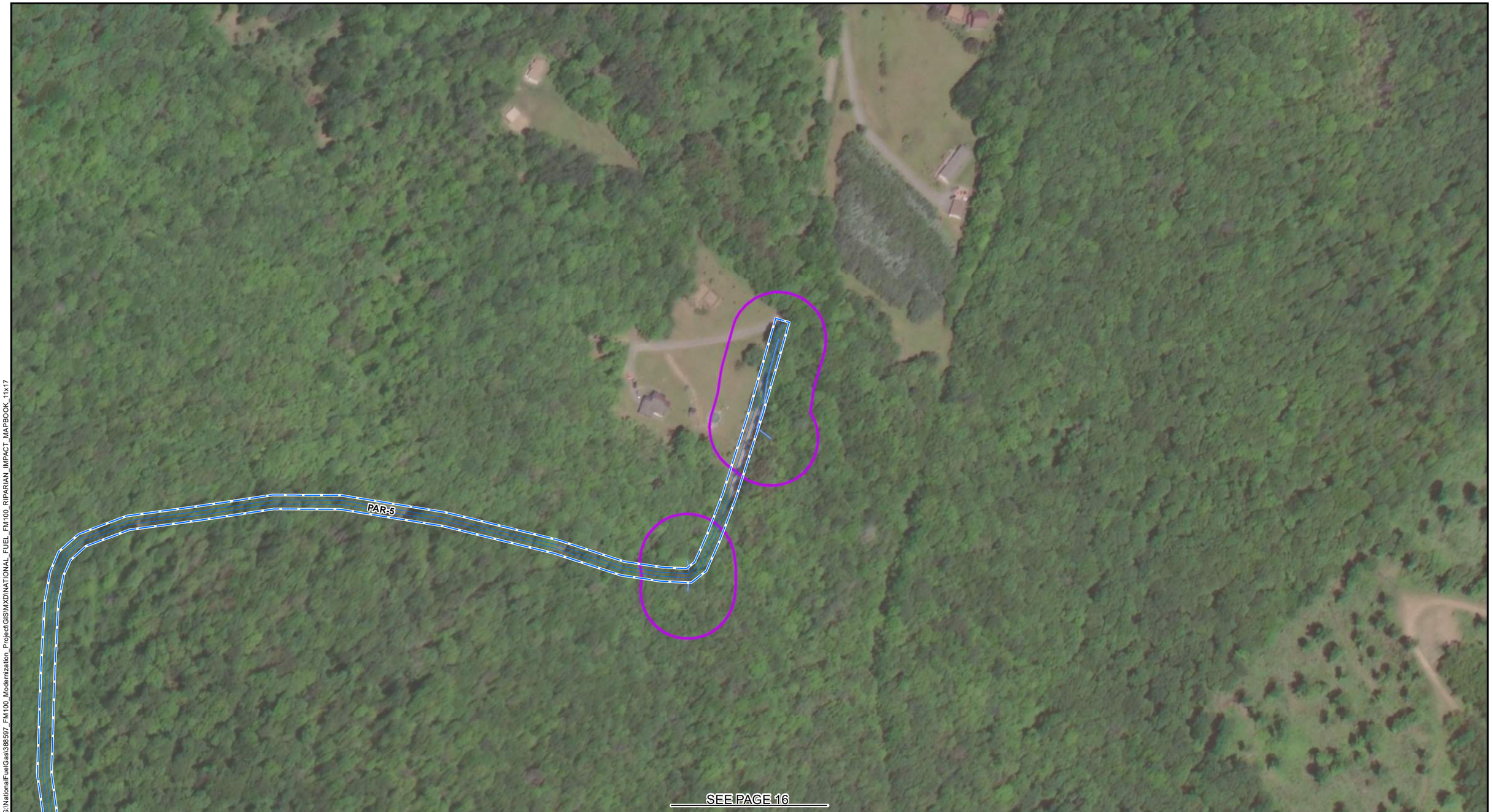

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FM100 MODERNIZATION PROJECT

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MCKEAN, COUNTY

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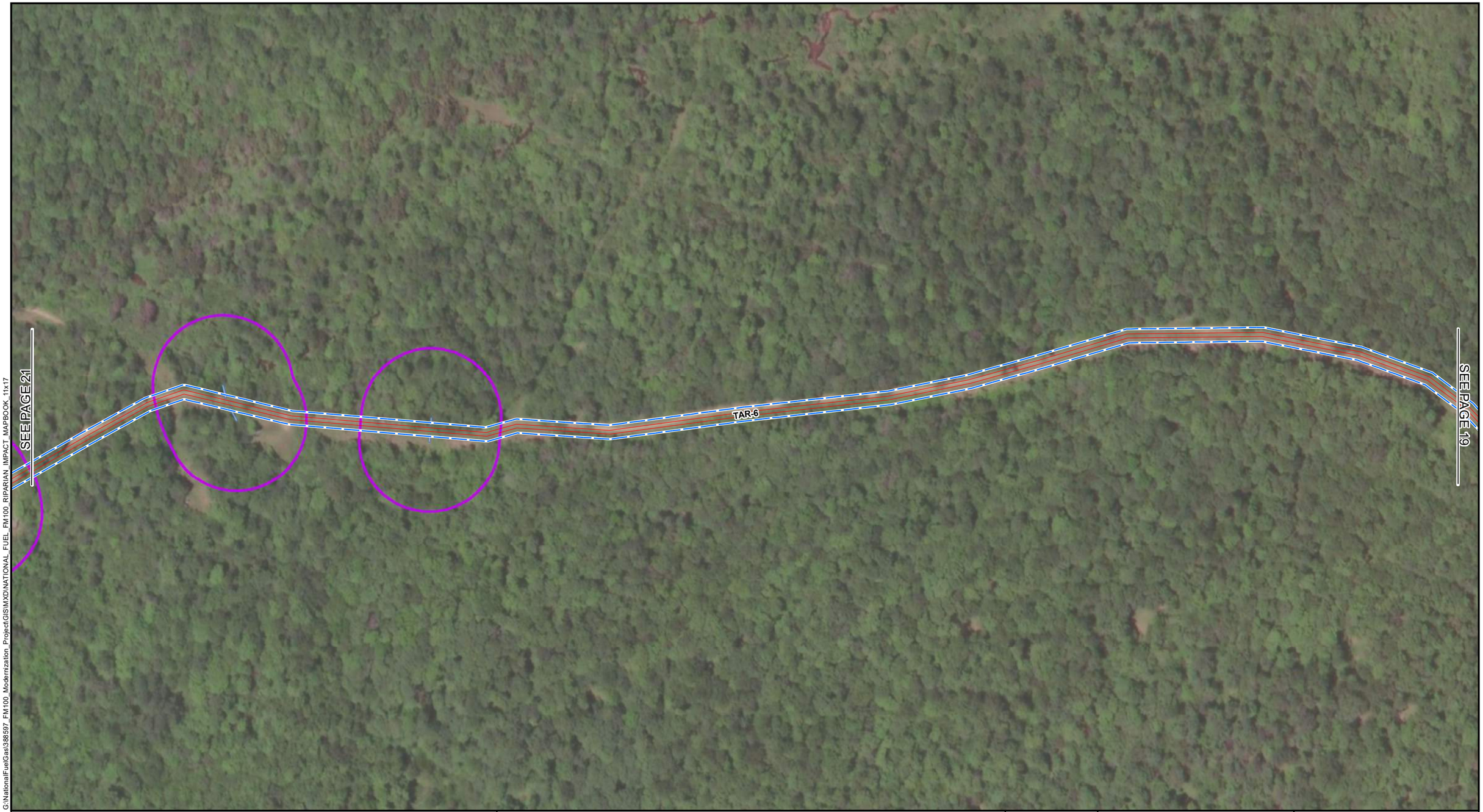

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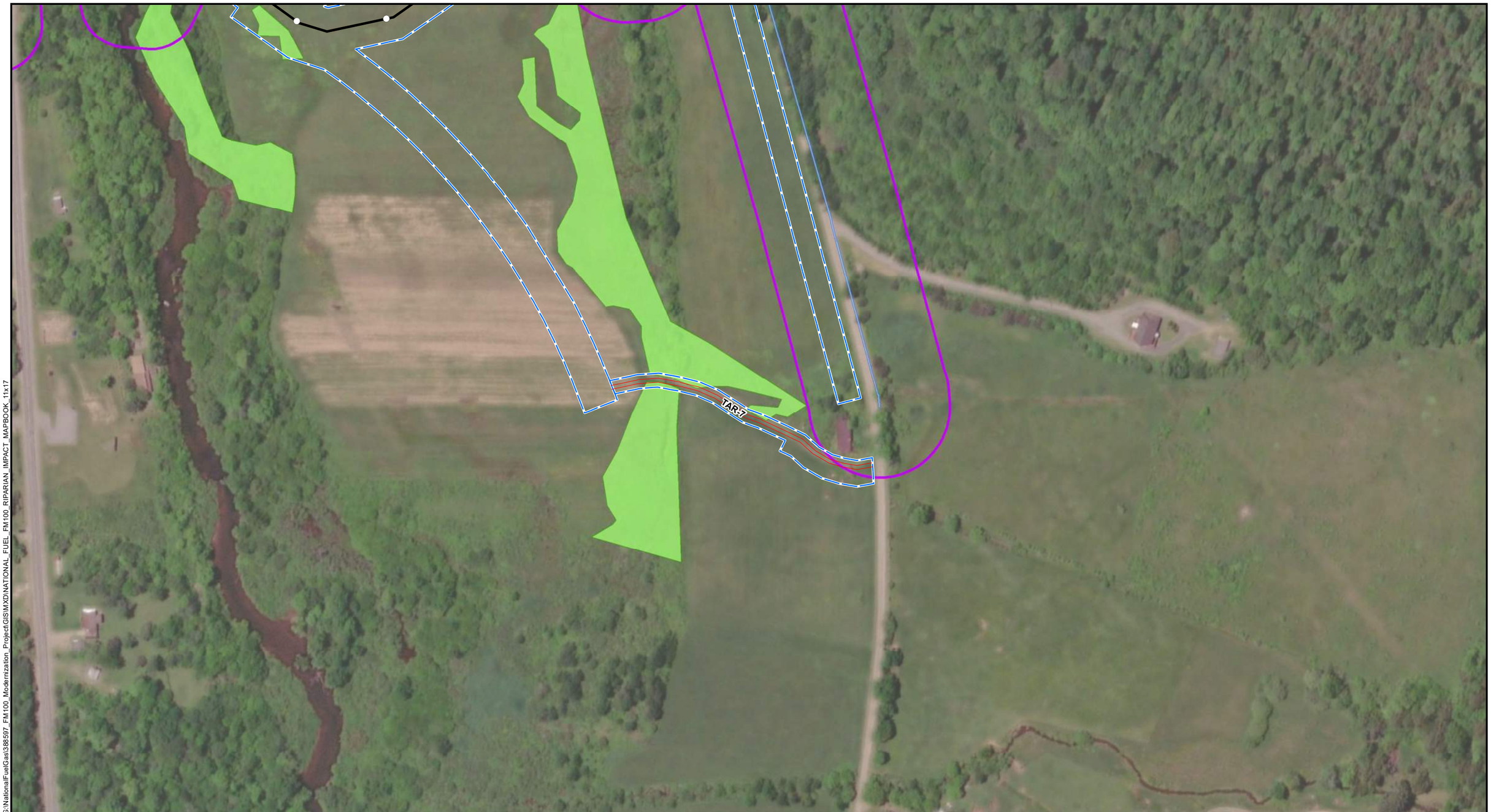

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1+00 STATION POINT
PROPOSED PIPELINE
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 MODERNIZATION PROJECT

FORESTED RIPARIAN IMPACT MAP

MCKEAN, COUNTY

200 100 0 200 400 FEET

S E W N

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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1+00 STATION POINT
PROPOSED PIPELINE
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FM100 MODERNIZATION PROJECT
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MCKEAN, COUNTY

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1+00 STATION POINT
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MCKEAN, COUNTY

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MCKEAN, COUNTY

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MCKEAN, COUNTY

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MCKEAN, COUNTY

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1+00 STATION POINT	RIPARIAN BUFFER
PROPOSED PIPELINE	FORESTED RIPARIAN IMPACT
PERMANENT ACCESS ROAD	COUNTY BOUNDARY
TEMPORARY ACCESS ROAD	
LIMITS OF DISTURBANCE	
DELINEATED WATERBODY	
DELINEATED WETLAND	

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FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
MCKEAN, COUNTY

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PROPOSED PIPELINE
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NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 MODERNIZATION PROJECT

FORESTED RIPARIAN IMPACT MAP

MCKEAN, COUNTY

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MCKEAN, COUNTY

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National Fuel SUPPLY CORPORATION

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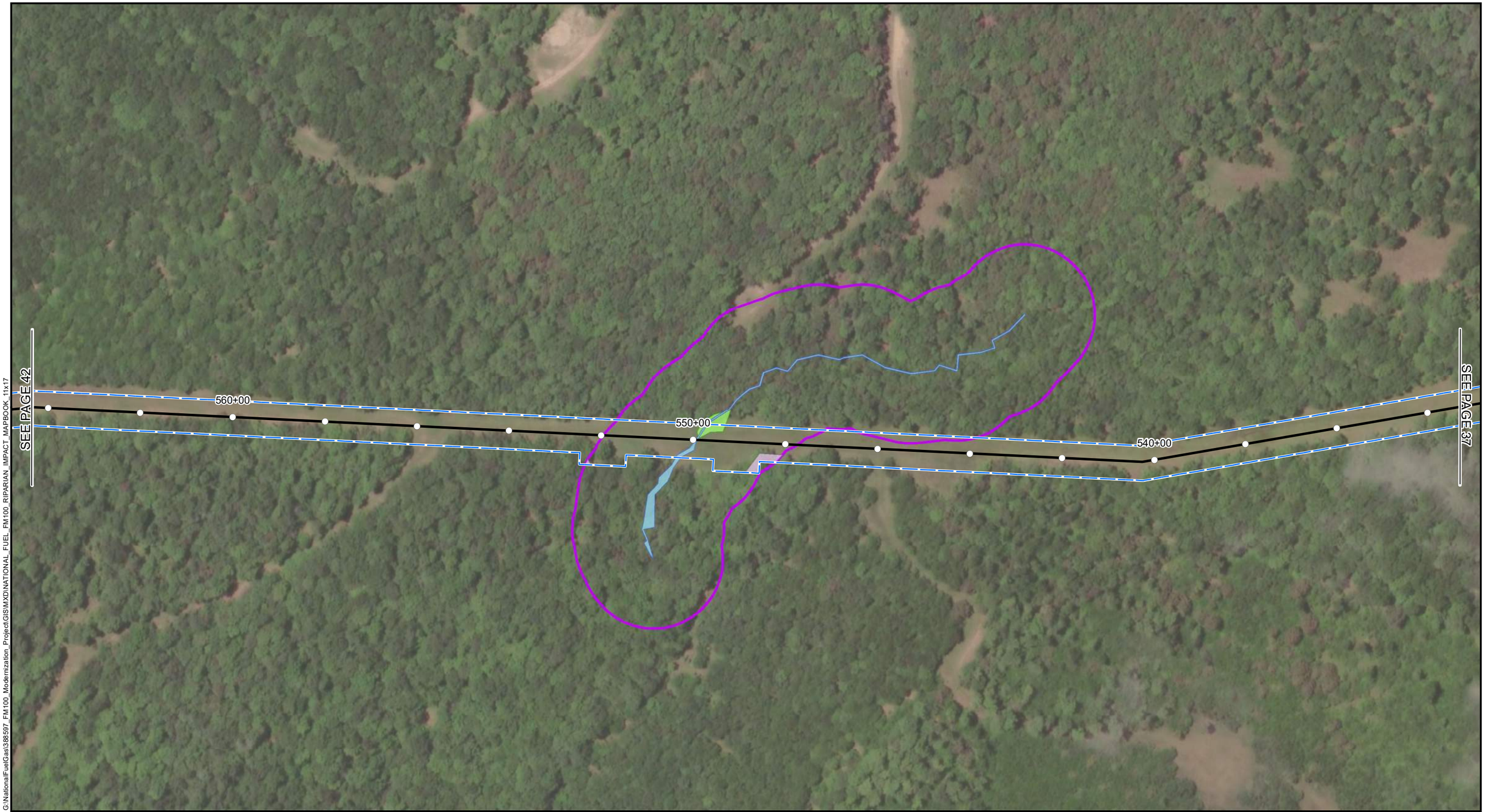

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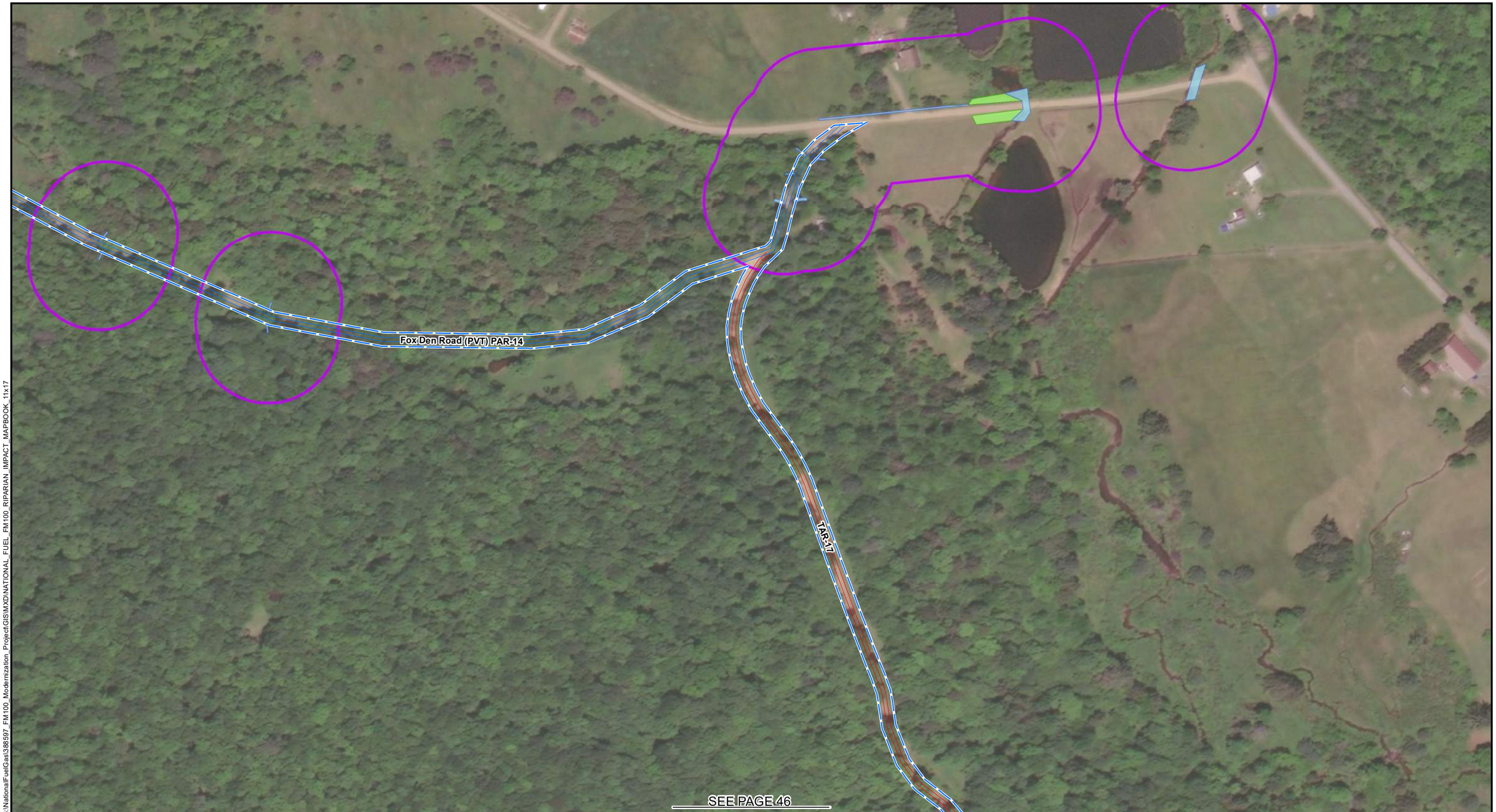

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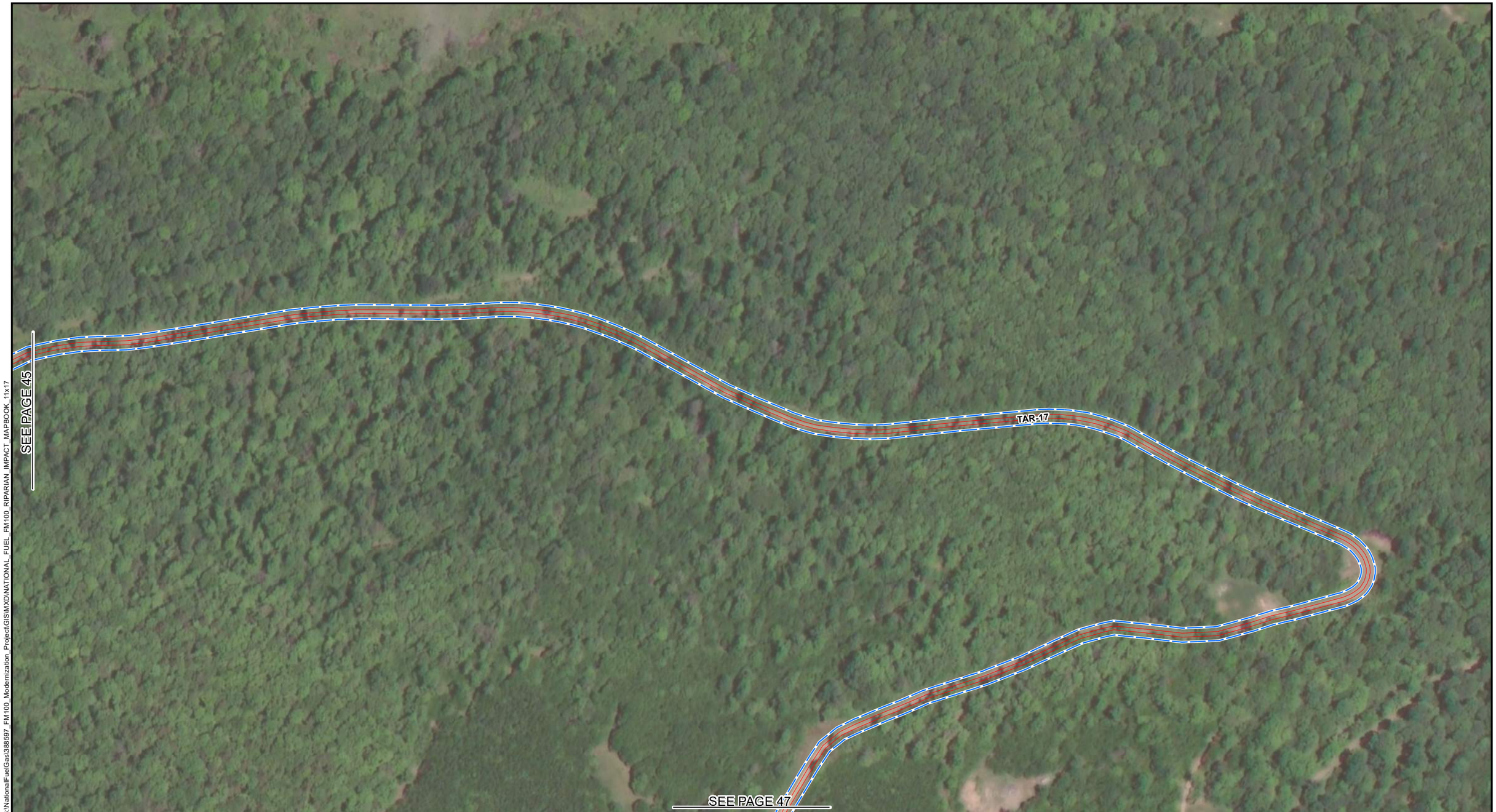

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1+00 STATION POINT
PROPOSED PIPELINE
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 MODERNIZATION PROJECT

FORESTED RIPARIAN IMPACT MAP

MCKEAN, COUNTY

200 100 0 200 400 FEET

S E W N

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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NOTE: STREAM ADJACENT TO SR 120 ACCESS NORTH IS OUTSIDE THE PROJECT STUDY CORRIDOR. PUBLIC STREAM ADDED FROM NHD TO QUANTIFY RIPARIAN IMPACT.

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1+00 STATION POINT
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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
MCKEAN, COUNTY

200 100 0 200 400 FEET

N W E S

ABSOLUTE SCALE: 1:2,400

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National Fuel SUPPLY CORPORATION

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MCKEAN, COUNTY

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National Fuel SUPPLY CORPORATION

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MCKEAN, COUNTY

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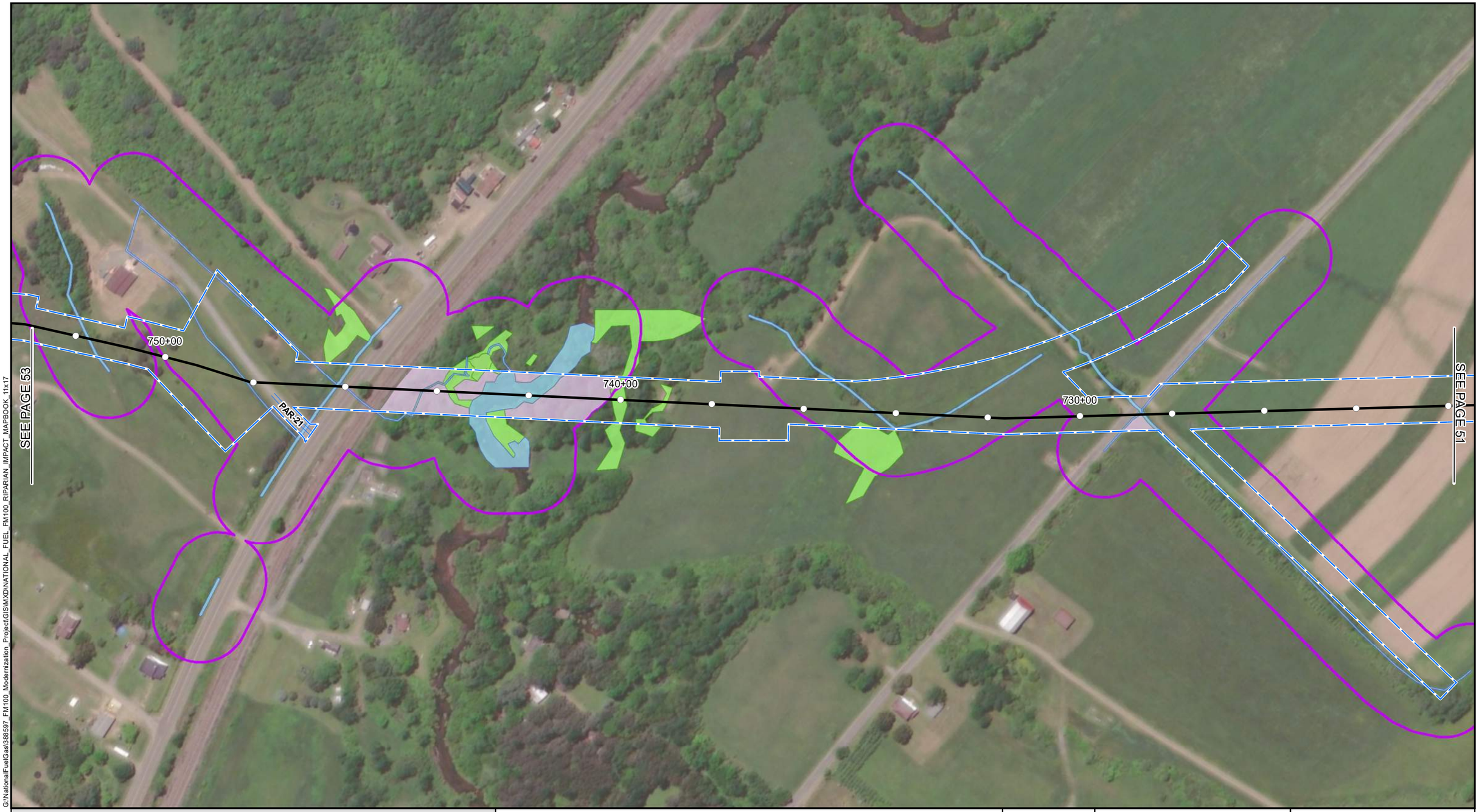

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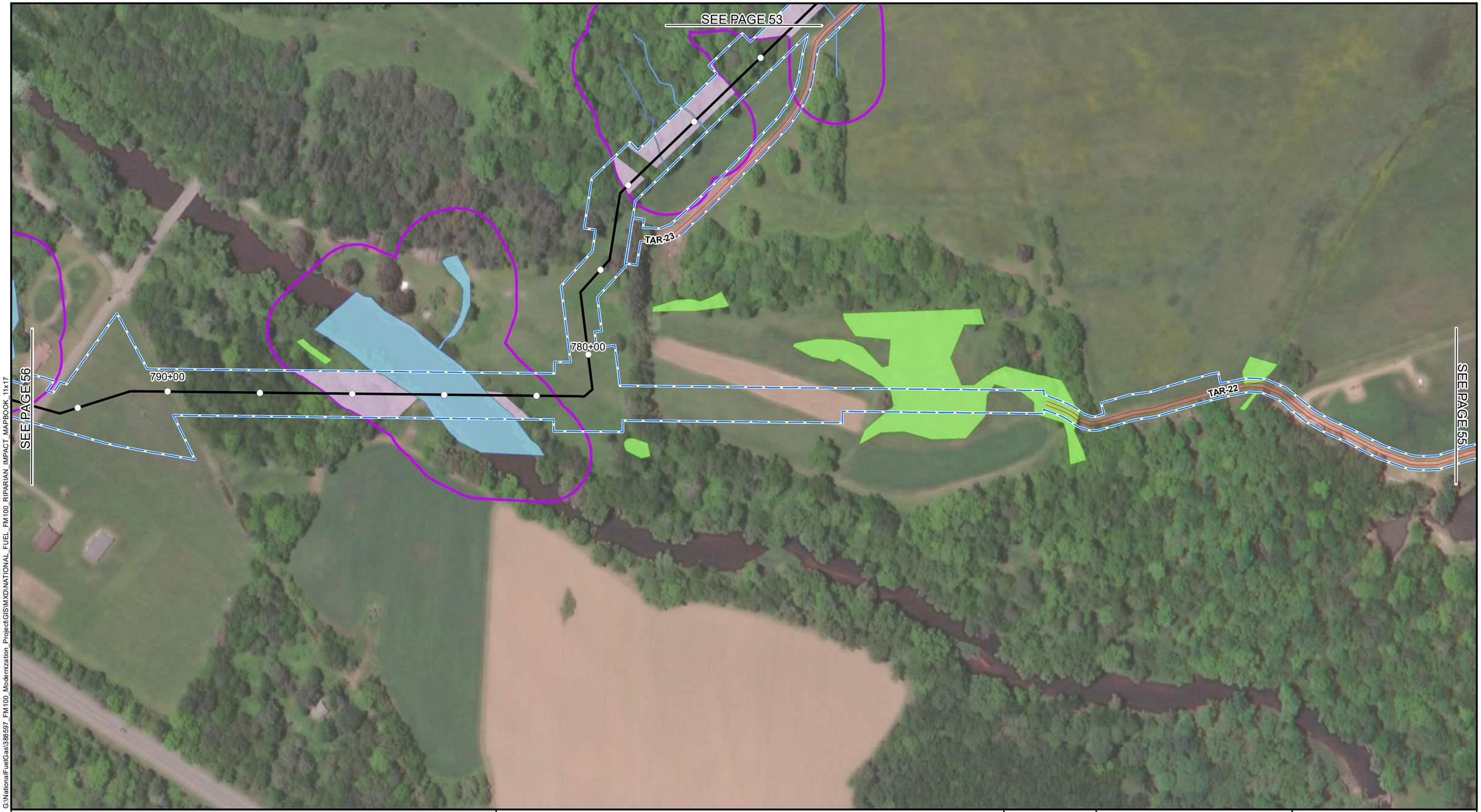

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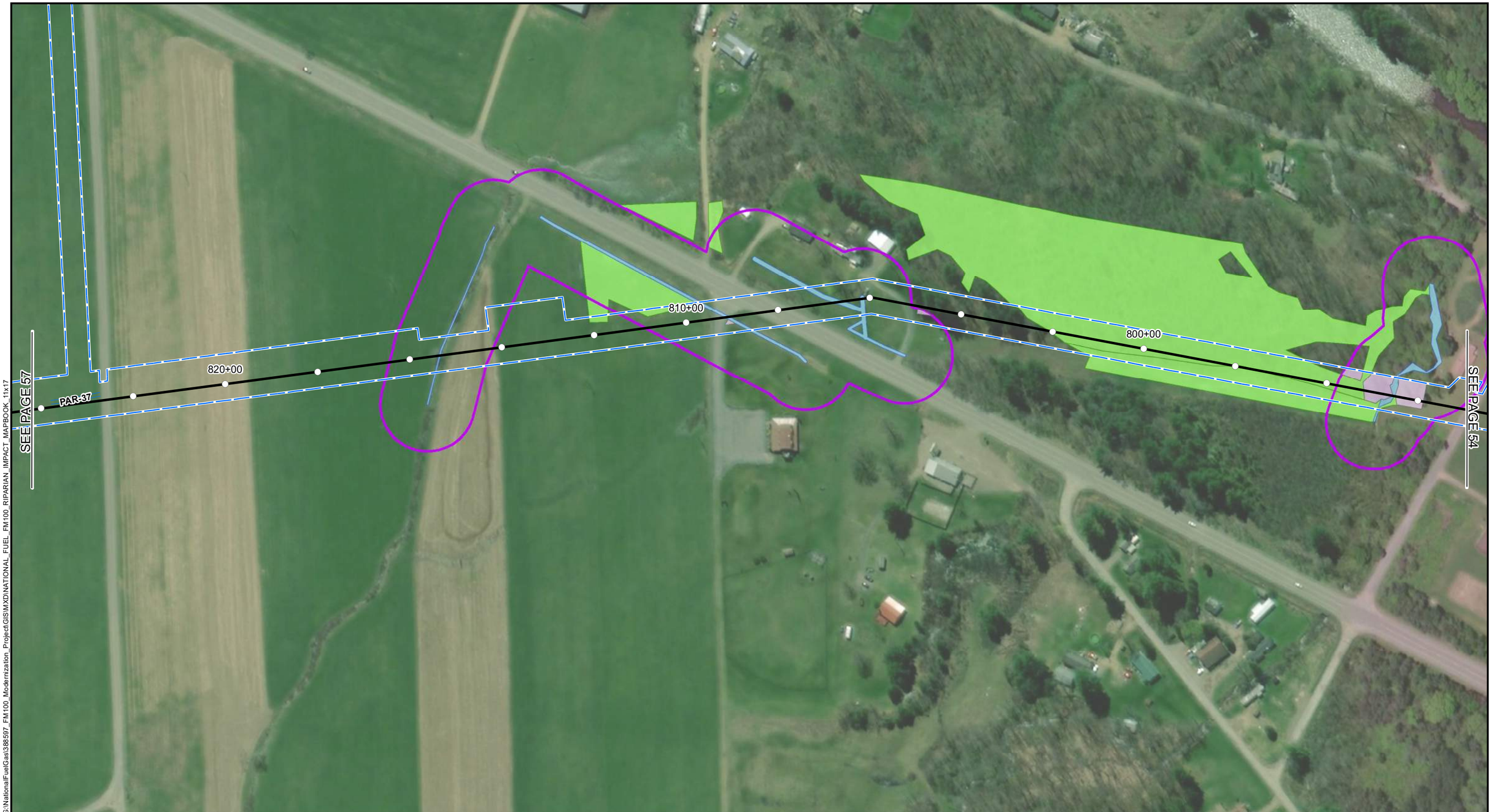

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NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 MODERNIZATION PROJECT

FORESTED RIPARIAN IMPACT MAP

MCKEAN, COUNTY

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National Fuel SUPPLY CORPORATION

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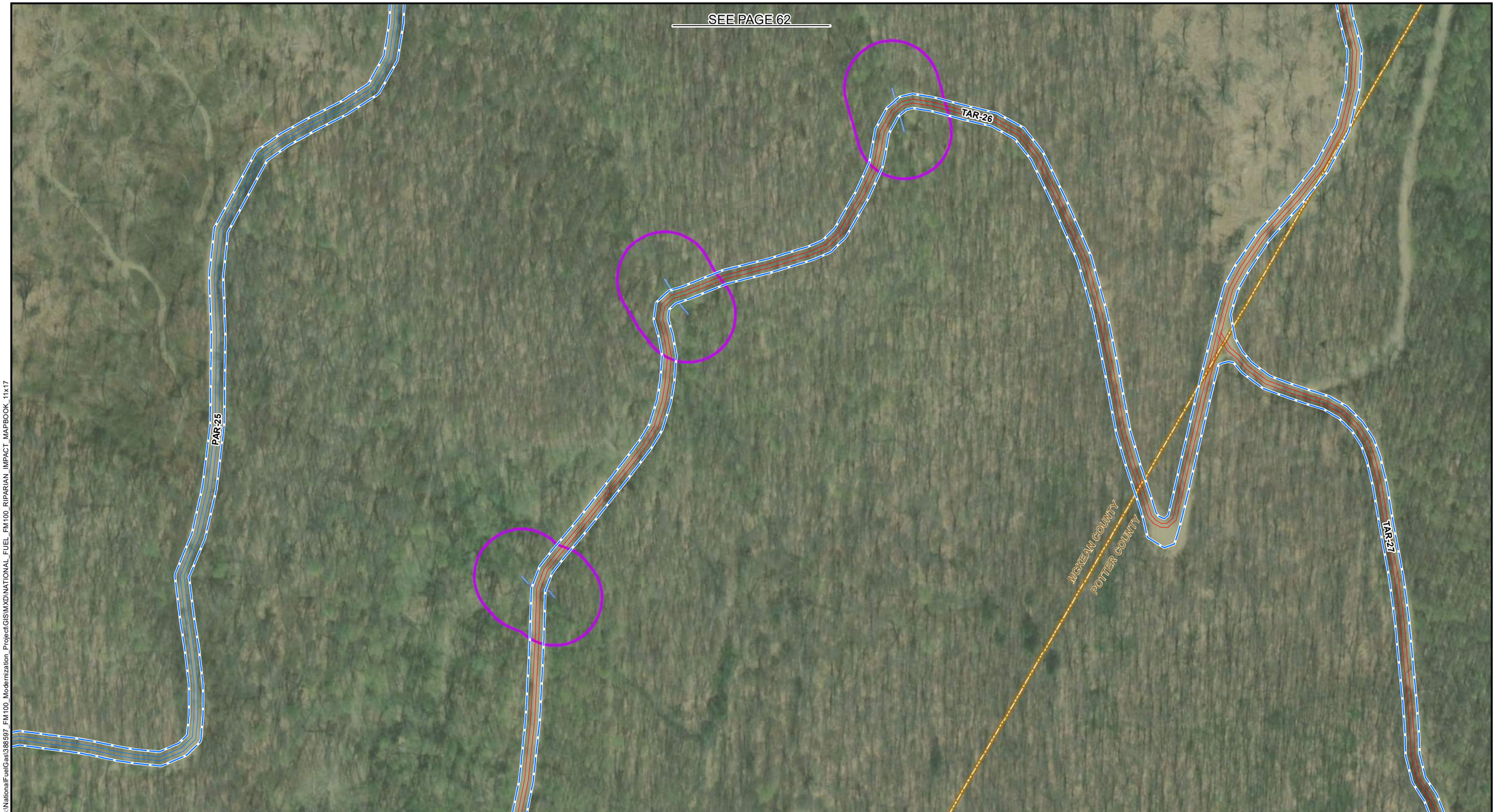

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MCKEAN, COUNTY

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National Fuel SUPPLY CORPORATION

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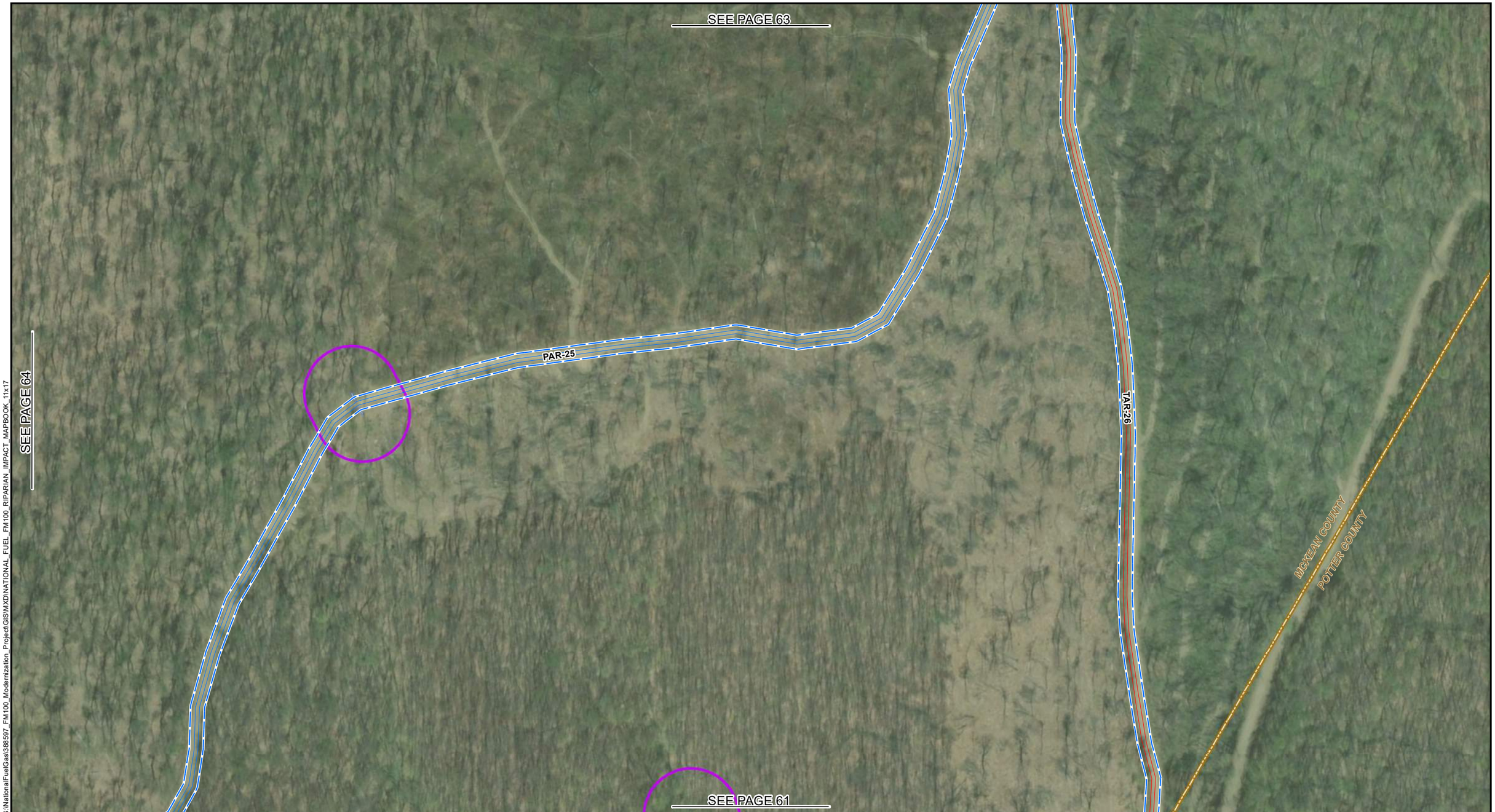

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MCKEAN, COUNTY

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MCKEAN, COUNTY

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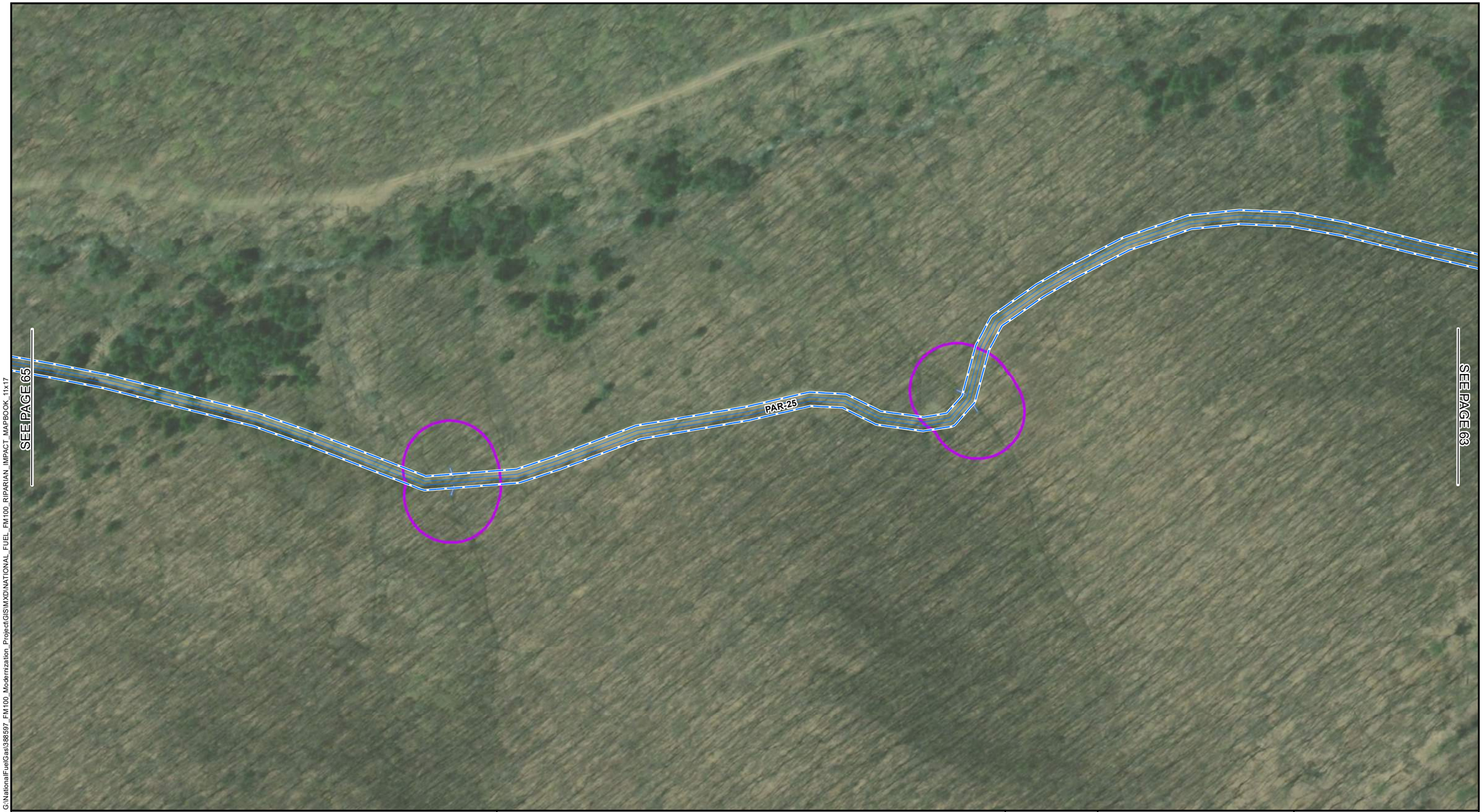

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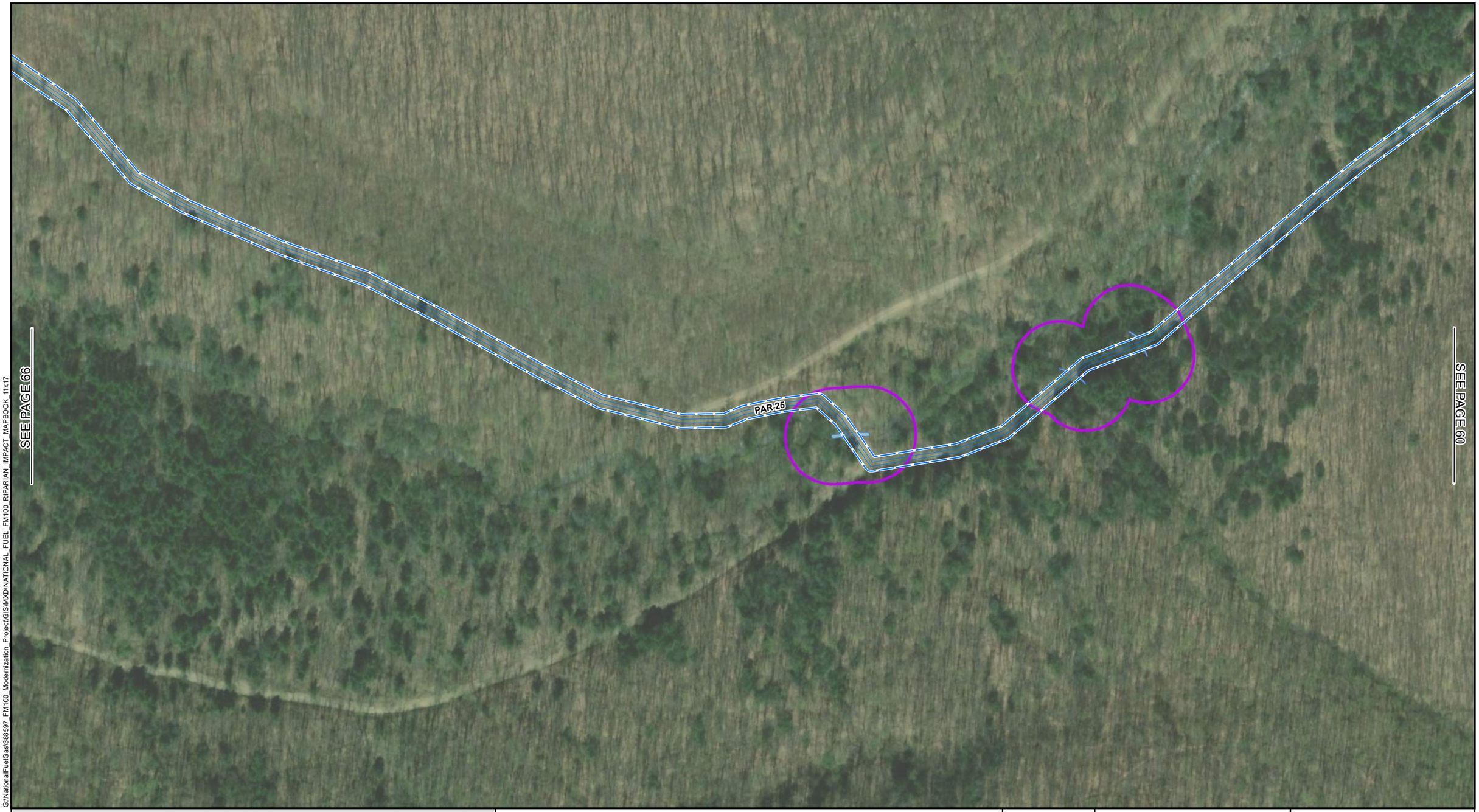

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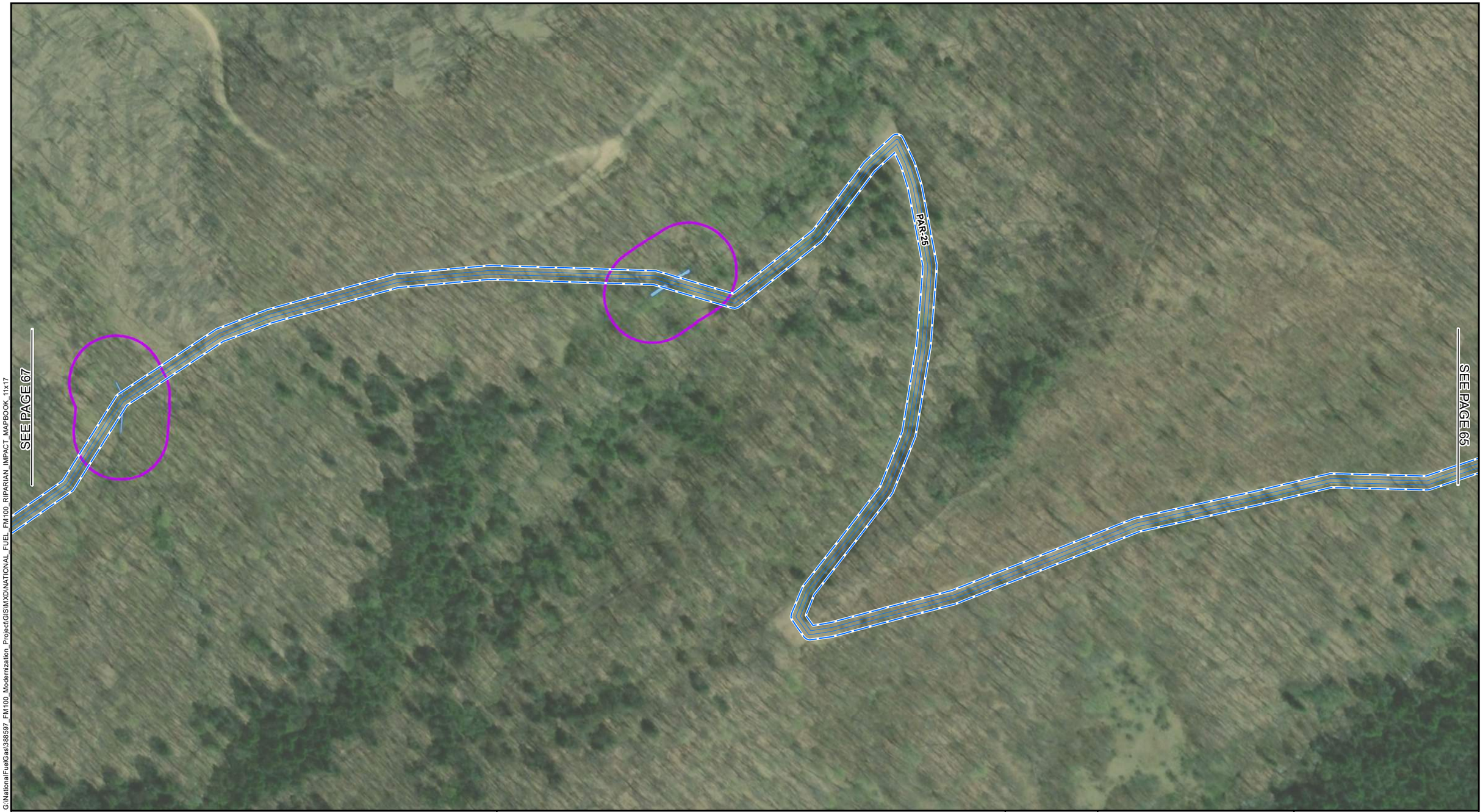

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RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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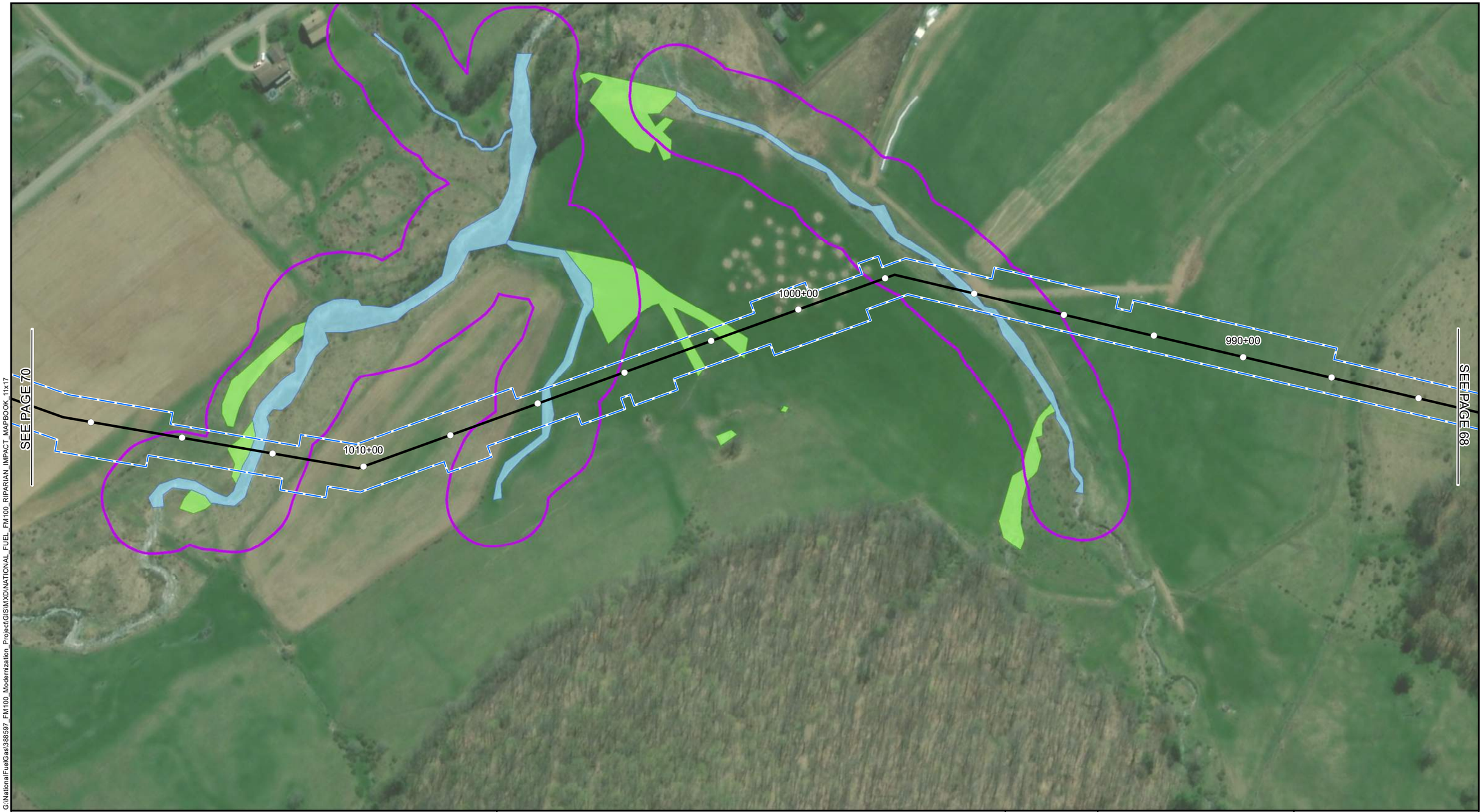

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1+00 STATION POINT
PROPOSED PIPELINE
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
LIMITS OF DISTURBANCE
DELINEATED WATERBODY
DELINEATED WETLAND
RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
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FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

ABSOLUTE SCALE: 1:2,400

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National Fuel SUPPLY CORPORATION

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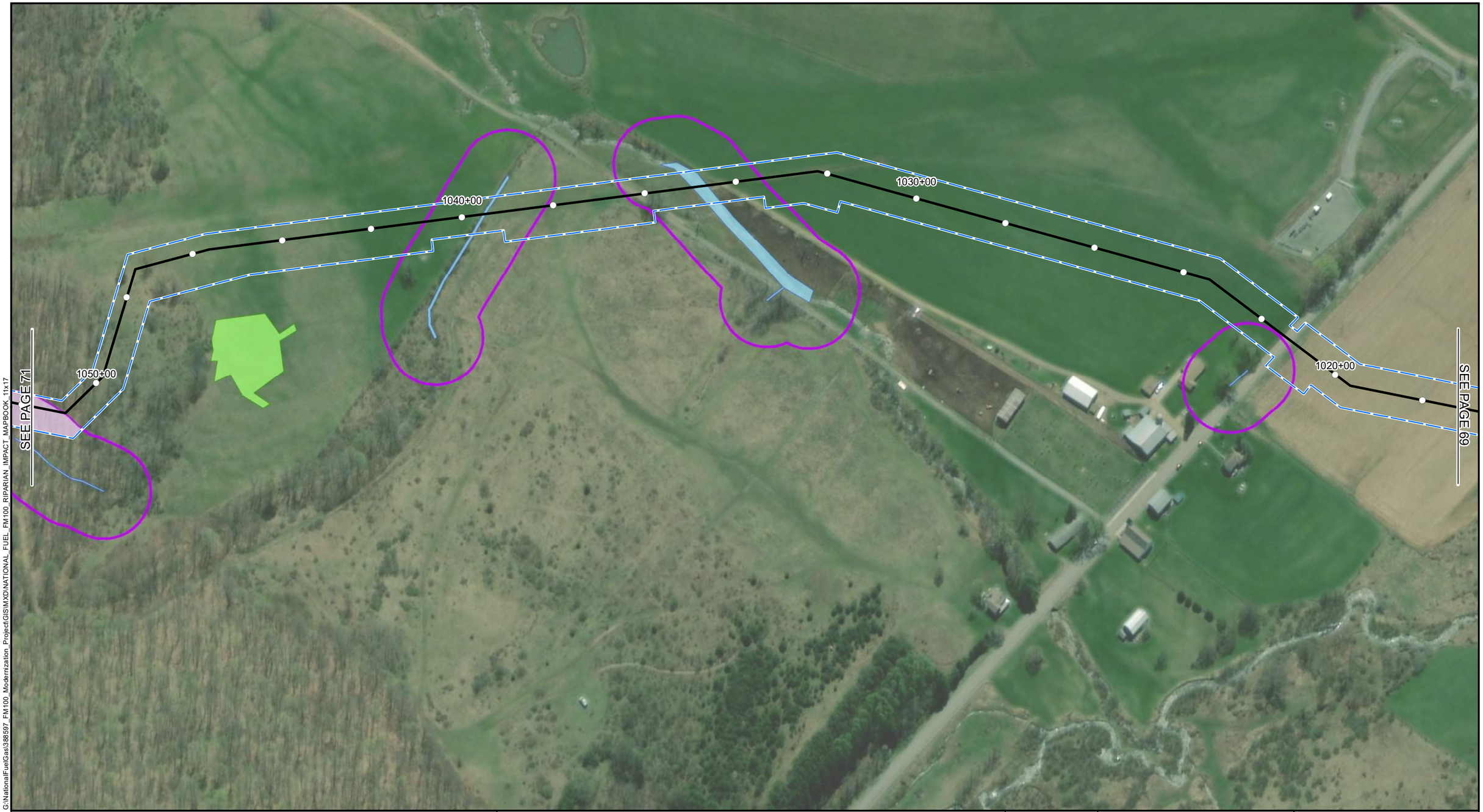

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1+00 STATION POINT
PROPOSED PIPELINE
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
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NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

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1+00 STATION POINT
PROPOSED PIPELINE
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POTTER, COUNTY

FEET
200 100 0 200 400

ABSOLUTE SCALE: 1:2,400
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MOTT MACDONALD

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1+00 STATION POINT
PROPOSED PIPELINE
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FM100 MODERNIZATION PROJECT
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POTTER, COUNTY

200 100 0 200 400 FEET

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ABSOLUTE SCALE: 1:2,400

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1+00 STATION POINT
PROPOSED PIPELINE
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FM100 MODERNIZATION PROJECT

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POTTER, COUNTY

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FM100 MODERNIZATION PROJECT

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POTTER, COUNTY

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POTTER, COUNTY

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National Fuel SUPPLY CORPORATION

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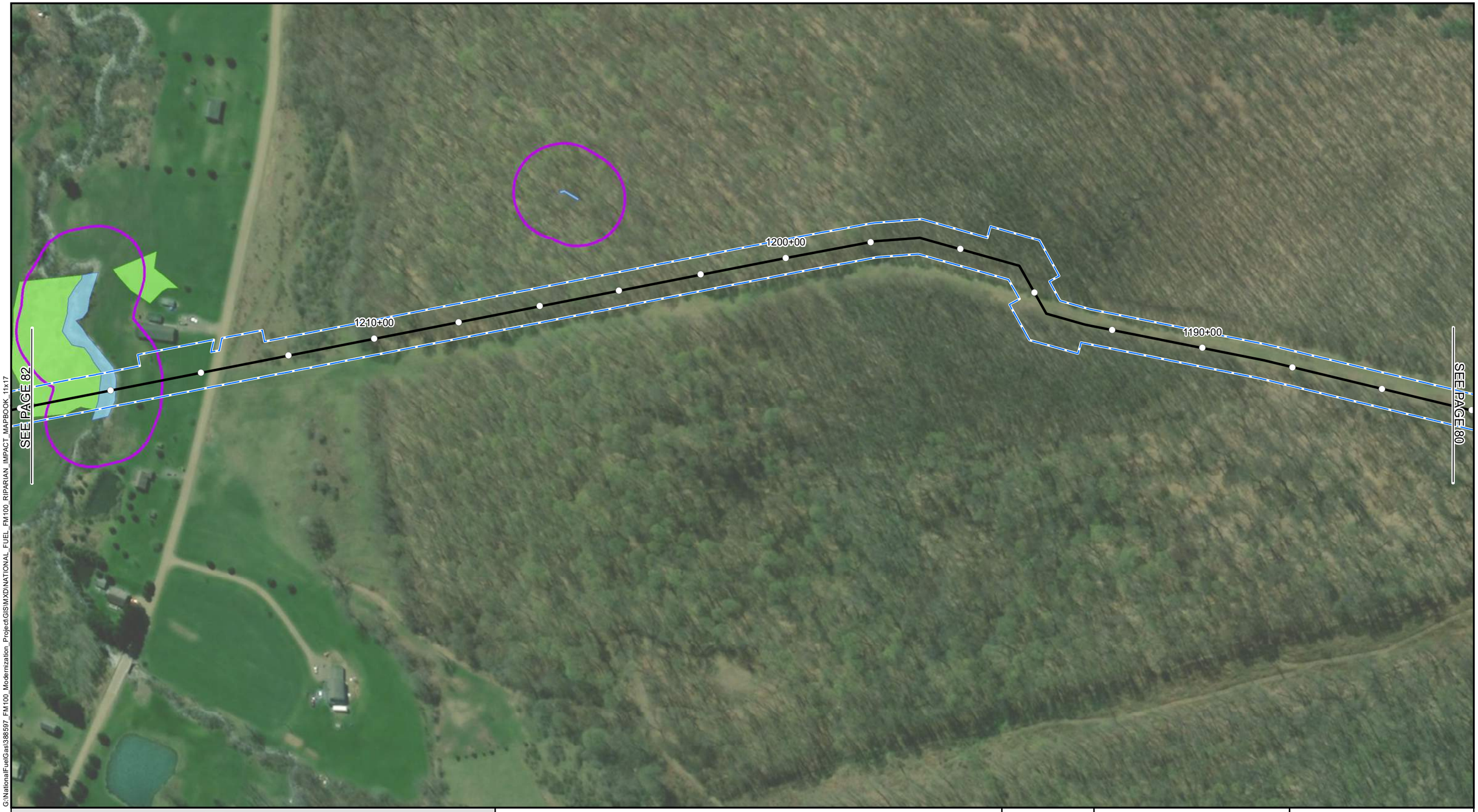

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National Fuel SUPPLY CORPORATION

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1+00 STATION POINT
PROPOSED PIPELINE
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POTTER, COUNTY

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1+00 STATION POINT
PROPOSED PIPELINE
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NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 MODERNIZATION PROJECT

FORESTED RIPARIAN IMPACT MAP

POTTER, COUNTY

200 100 0 200 400 FEET

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National Fuel SUPPLY CORPORATION

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1+00 STATION POINT
PROPOSED PIPELINE
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NATIONAL FUEL GAS SUPPLY CORPORATION

FM100 MODERNIZATION PROJECT

FORESTED RIPARIAN IMPACT MAP

POTTER, COUNTY

200 100 0 200 400 FEET

N W E S

ABSOLUTE SCALE: 1:2,400

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National Fuel SUPPLY CORPORATION

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POTTER, COUNTY

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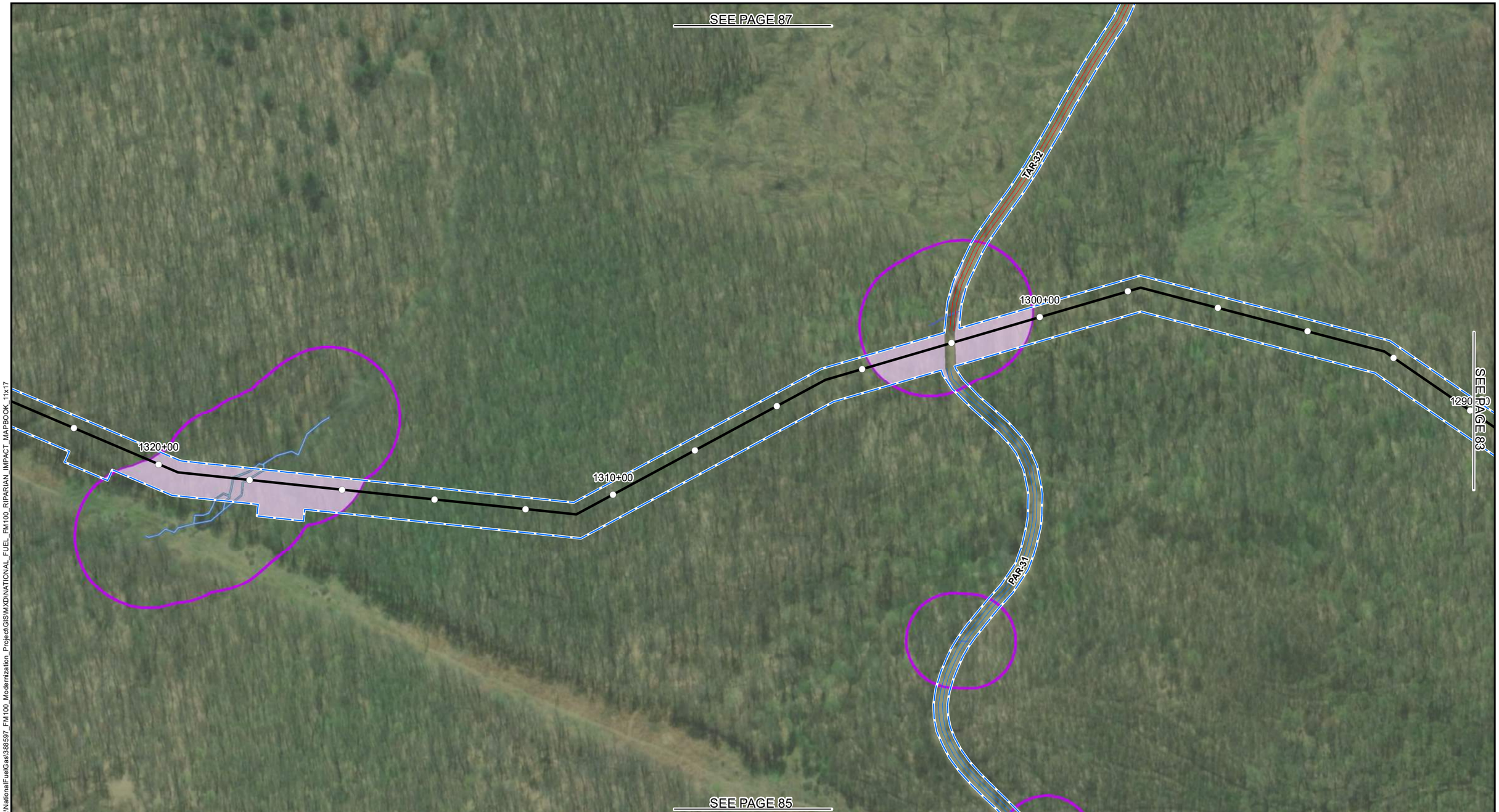

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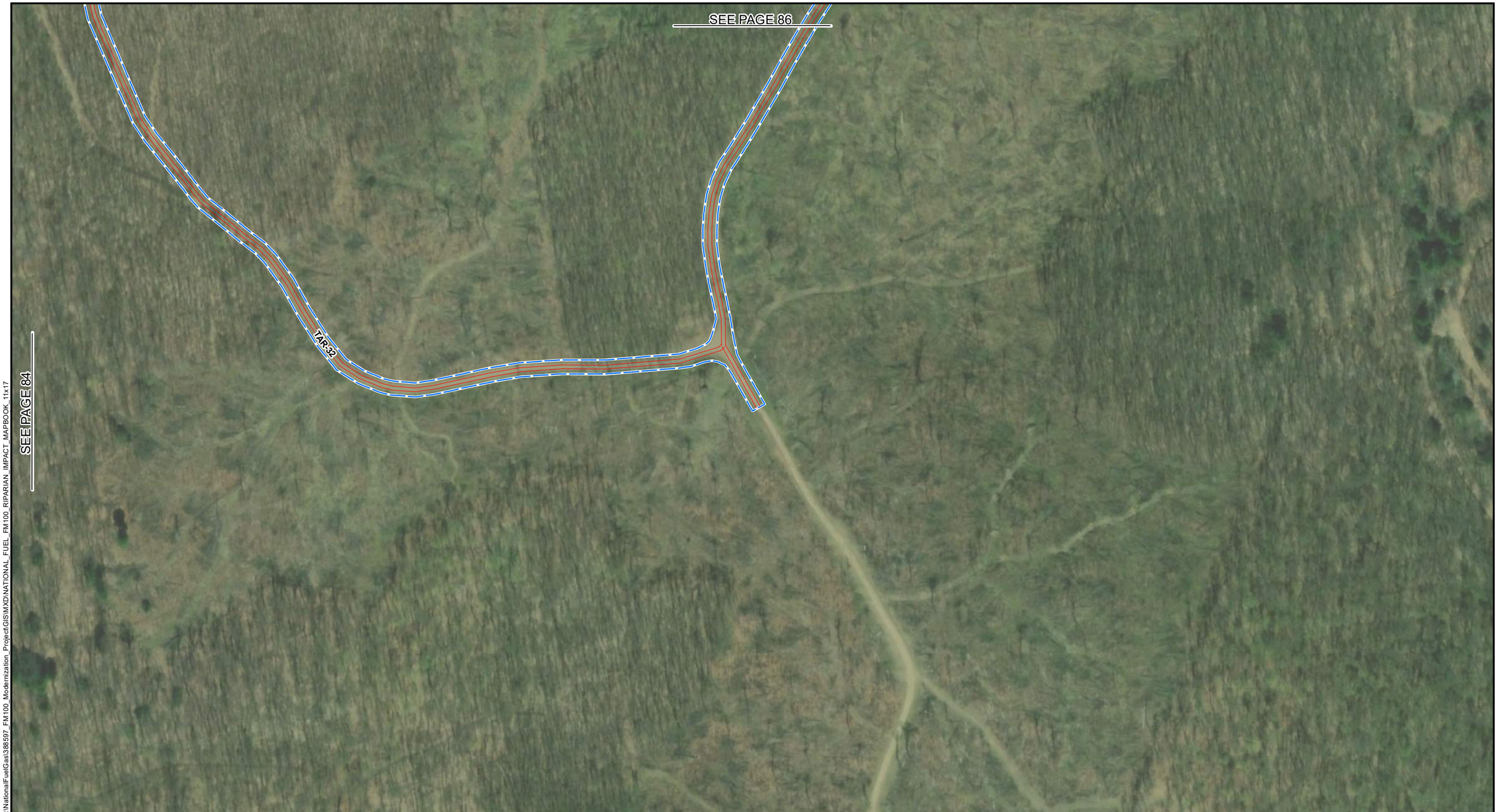

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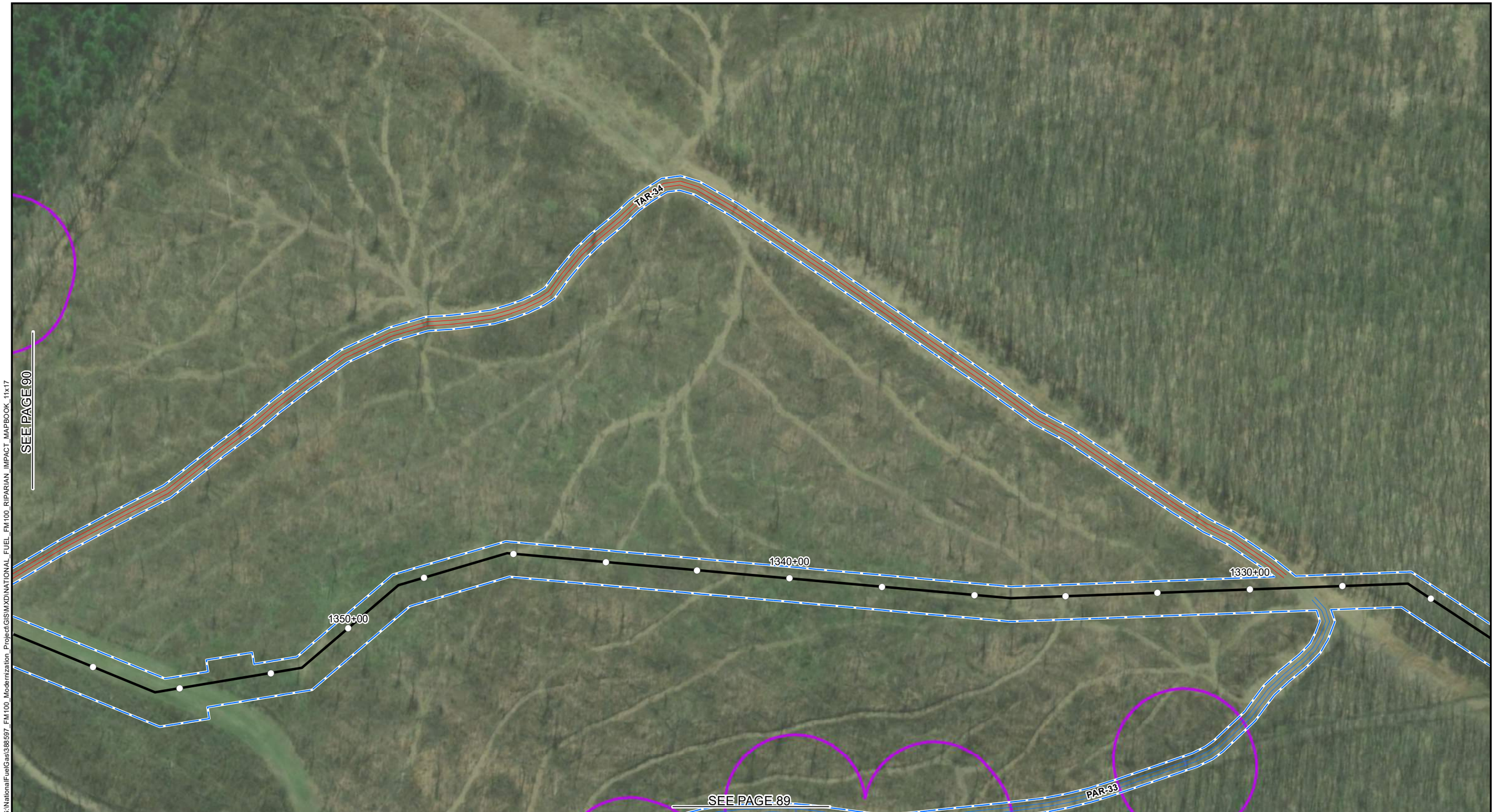

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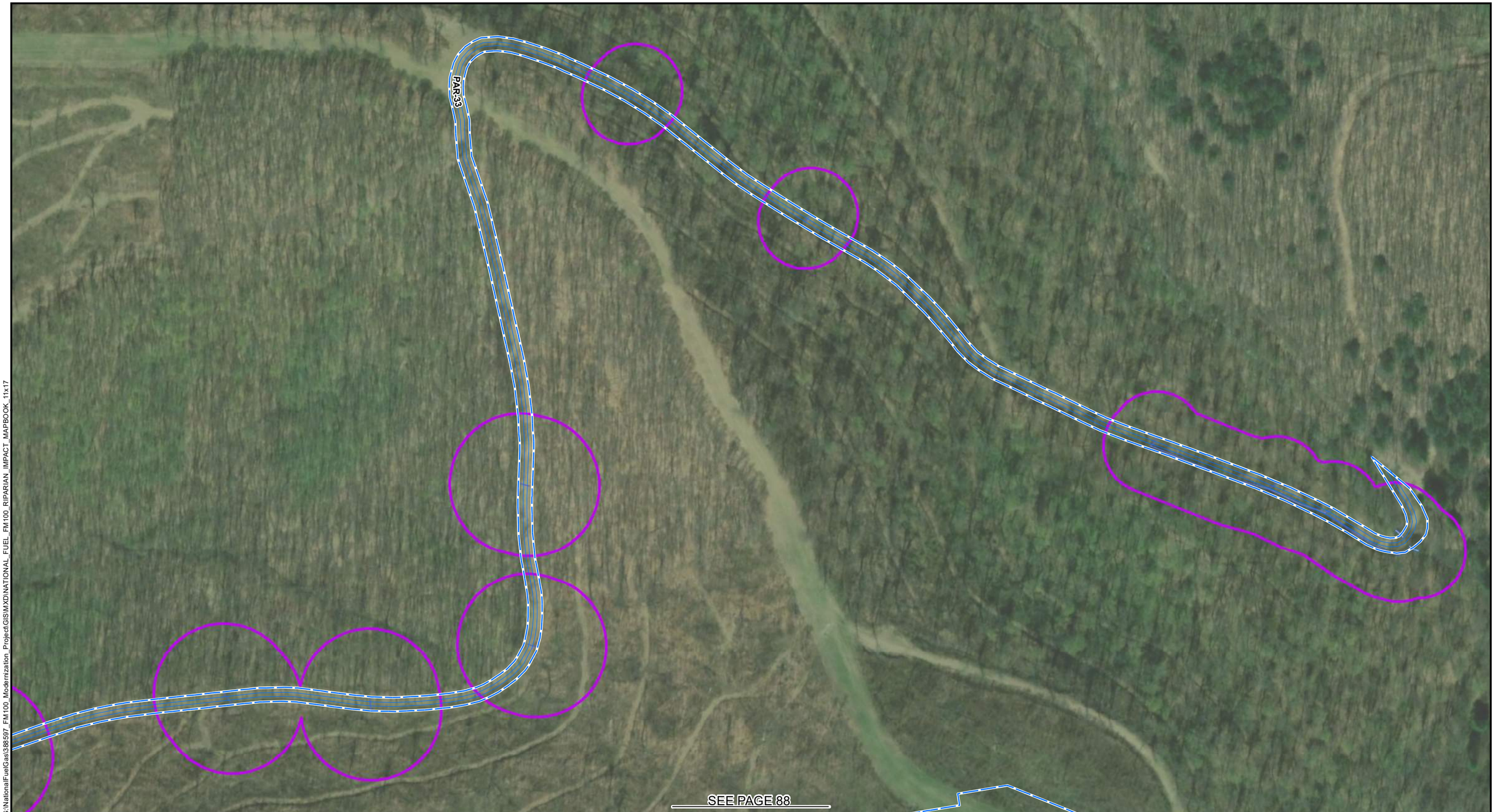

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RIPARIAN BUFFER
FORESTED RIPARIAN IMPACT
COUNTY BOUNDARY

NOTES:
1) MAPS COMPILED UTILIZING ESRI BASEMAP AERIAL IMAGERY.

NATIONAL FUEL GAS SUPPLY CORPORATION
FM100 MODERNIZATION PROJECT
FORESTED RIPARIAN IMPACT MAP
POTTER, COUNTY

200 100 0 200 400 FEET

W N S E

ABSOLUTE SCALE: 1:2,400

REFERENCE SCALE: 1 IN = 200 FT

National Fuel SUPPLY CORPORATION

MOTT MACDONALD

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1+00 STATION POINT
PROPOSED PIPELINE
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
LIMITS OF DISTURBANCE
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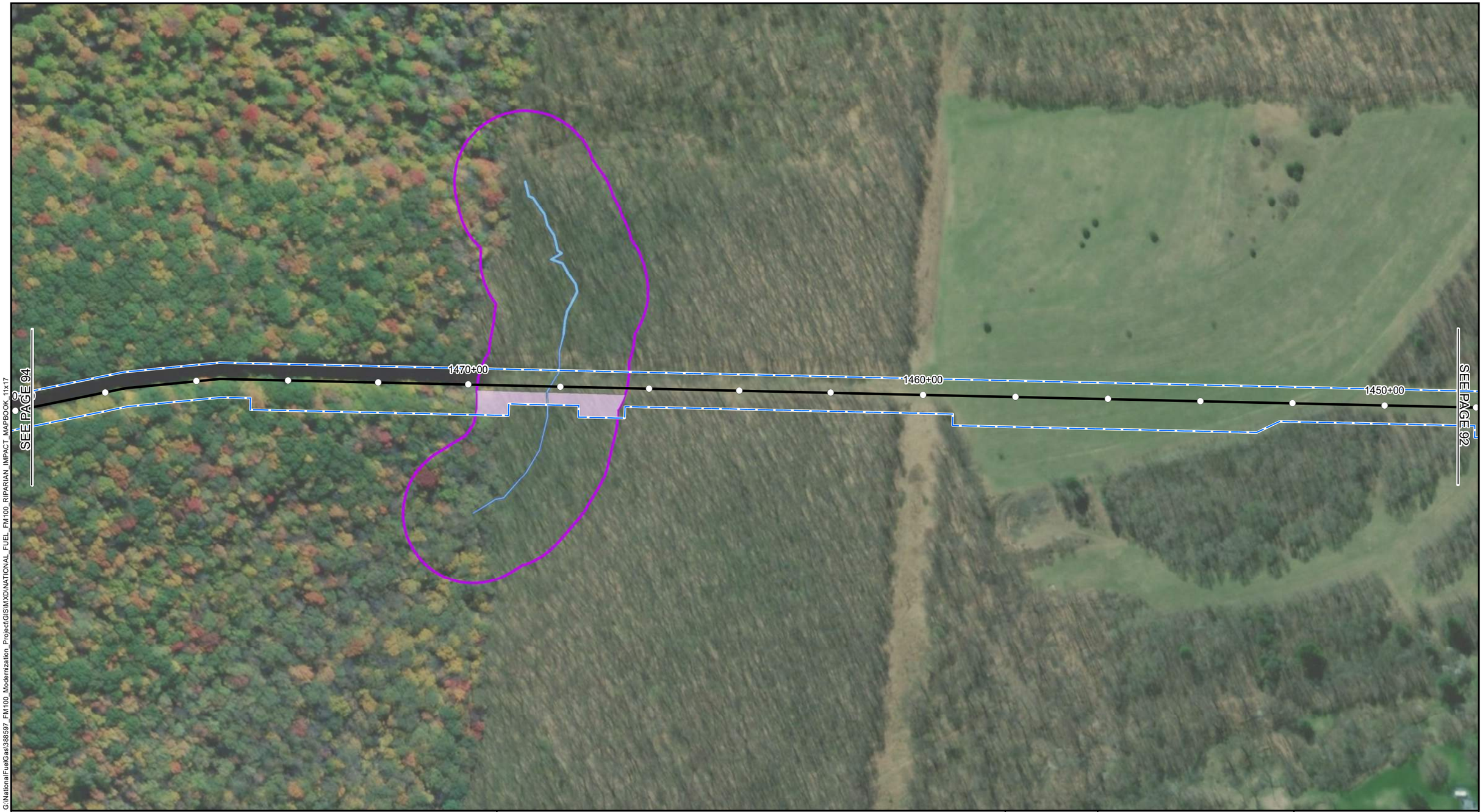

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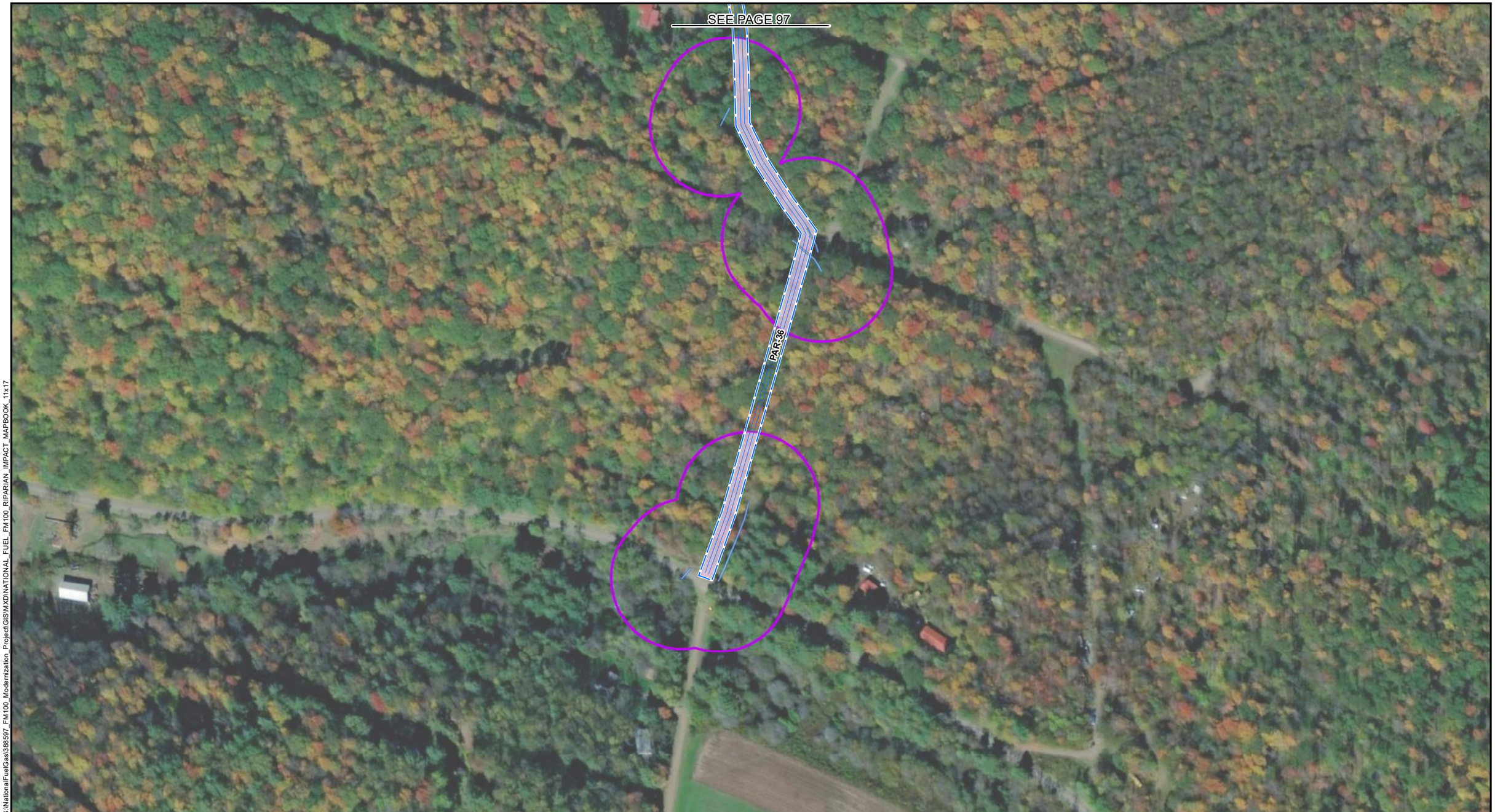

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