STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL DIVISION
SUITE 900, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-3655

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

MEMORANDUM

To: Freddy Miller
Region 1 Design

From: Matt Bowling
Region 1 Ecology

Matt Bowling
Digitally signed by Matt Bowling
Date: 2016.05.04 14:24:16 -04'00'

Date: May 04, 2016

Subject: **Environmental Boundaries For**: Jefferson County, I-40 over French Broad River @ L.M. 14.70.

PE: 45002-1135-94 **PIN:** 106301.00

An ecological evaluation of the subject project has been conducted with the following results:

SPRINGS/STREAMS

There are 2 streams within the project limits.

- One ephemeral stream (WWC-1/EPH-1) at STA 106+50 CL
- One perennial stream (STR-1, French Broad River) from STA 135+00 CL to STA 156+00 CL

WET WEATHER CONVEYANCES/UPLAND DRAINAGE FEATURES

N/A

WETLANDS

There is one wetland WTL-1 within the project limits from STA 198+00 RT to STA 203+00 RT

OTHER FEATURES

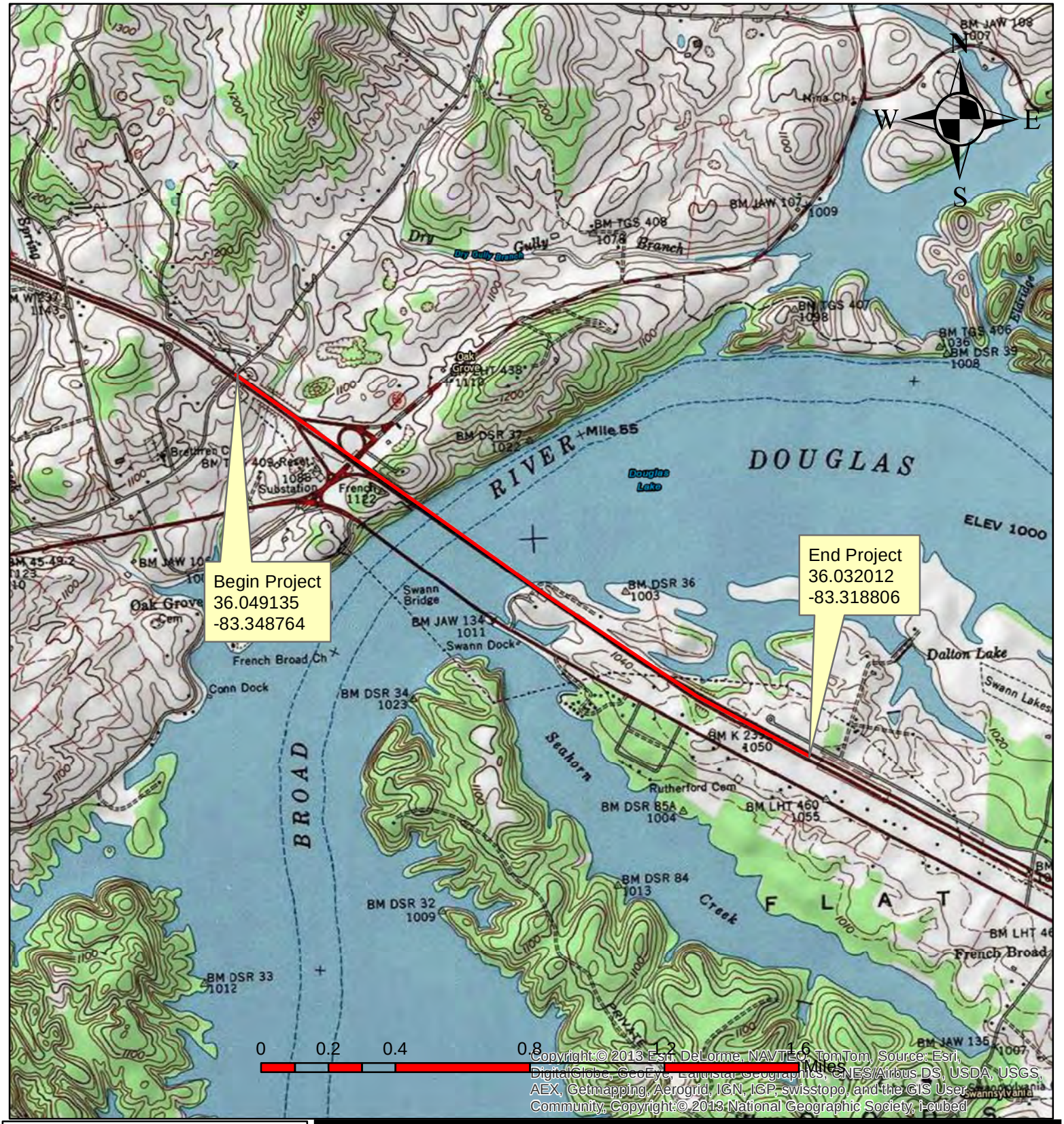
There are four sinkholes within th project limits. SNK-1 at SR-133 STA 313+00 RT, SNK-2 at SR-113 STA 316+00 RT, SNK-3 at SR-113 STA 317+50 RTand SNK-4 at SR-113 STA 317+60 RT.

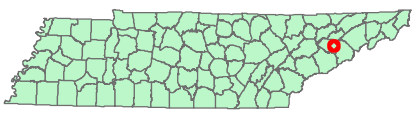
PROTECTED SPECIES

- A search of the TDEC rare species database was done on July 24, 2015. Results of that search are attached to this report.
- In response to a July 24, 2015 request for a species list, the USFWS indicated that there may be Indiana bat (*Myotis sodalis*) and Northern long-eared bat (*Myotis septentrionalis*) summer roost habitat present on site. Results of the bat survey will be forwarded upon completion. USFWS also requested that containment measures be implemented to prevent fish kills during any blasting activities. (see attached Fish and Wildlife Service letter dated August 20, 2015).
- In an E-mail sent Friday August 28, 2015 (attached), TWRA indicated that proper implementation of BMPs would be sufficient to satisfy their needs.

Your assistance is appreciated. If you have any questions or comments, please contact Matt Bowling in the Ecology Division at 865-594-2439 or matt.bowling@tn.gov.

Copy: Danny Oliver – Design, w/attachment
John Hewitt – Permits/Ecology, w/attachments
Wesley Peck – Structures, w/attachments
Kent Fox – Survey, w/attachments
Carma Smith – Planning, w/attachments
DJ Wiseman – Permits, w/attachments
Robbie Stephens – Permits, w/attachments
Project File – w/attachments





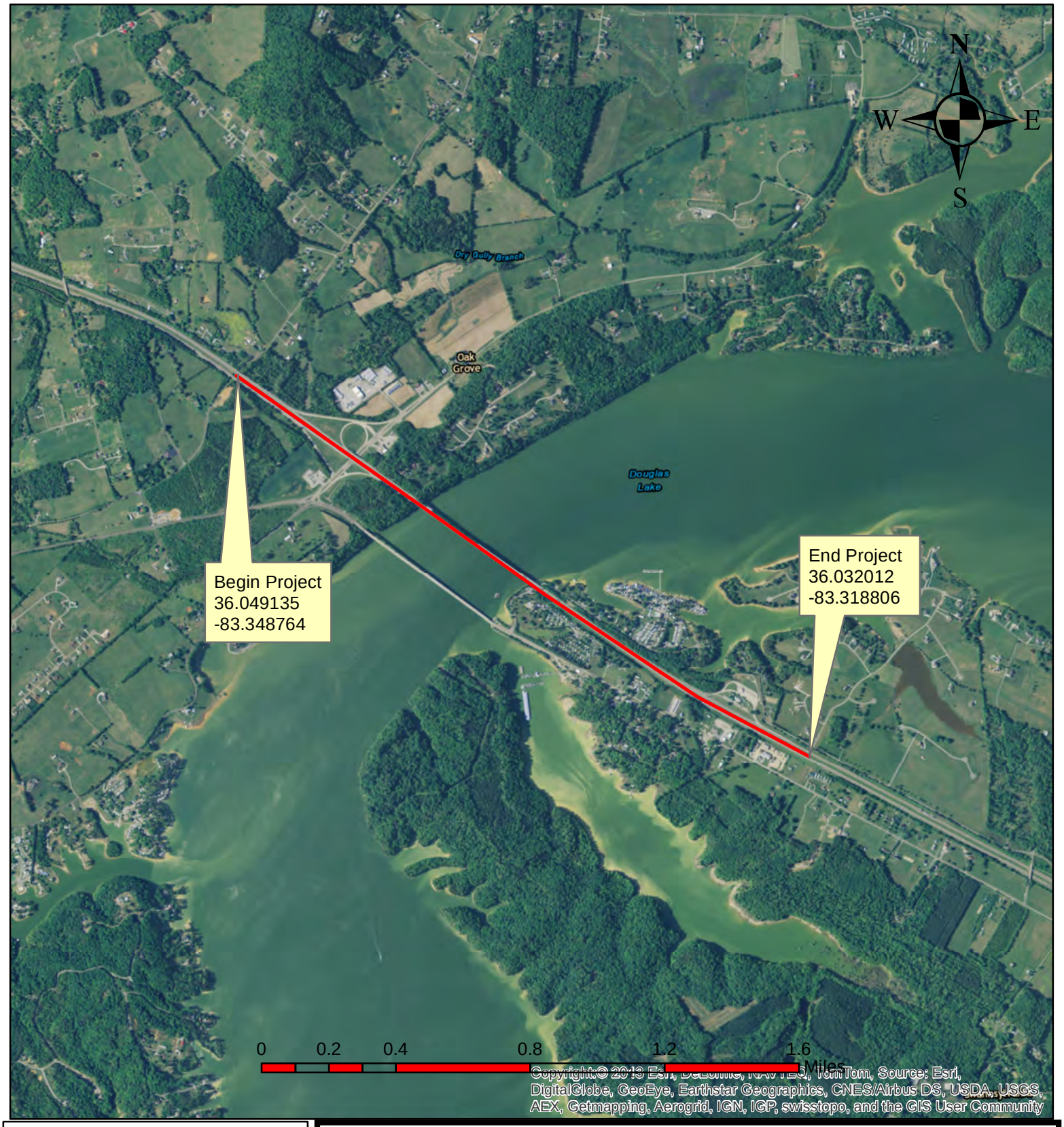
Project Location Map
I-40, Bridge Over French Broad River, L.M. 14.70
Jefferson County, TN

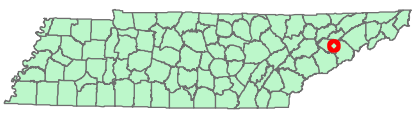
White Pine, TN Quadrangle, 163 SE

Date: 07/24/15

P.E. No. 45002-1135-94
PIN 106301.00

TN TDOT Department of Transportation





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I-40, Bridge Over French Broad River, L.M. 14.70
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White Pine, TN Quadrangle, 163 SE

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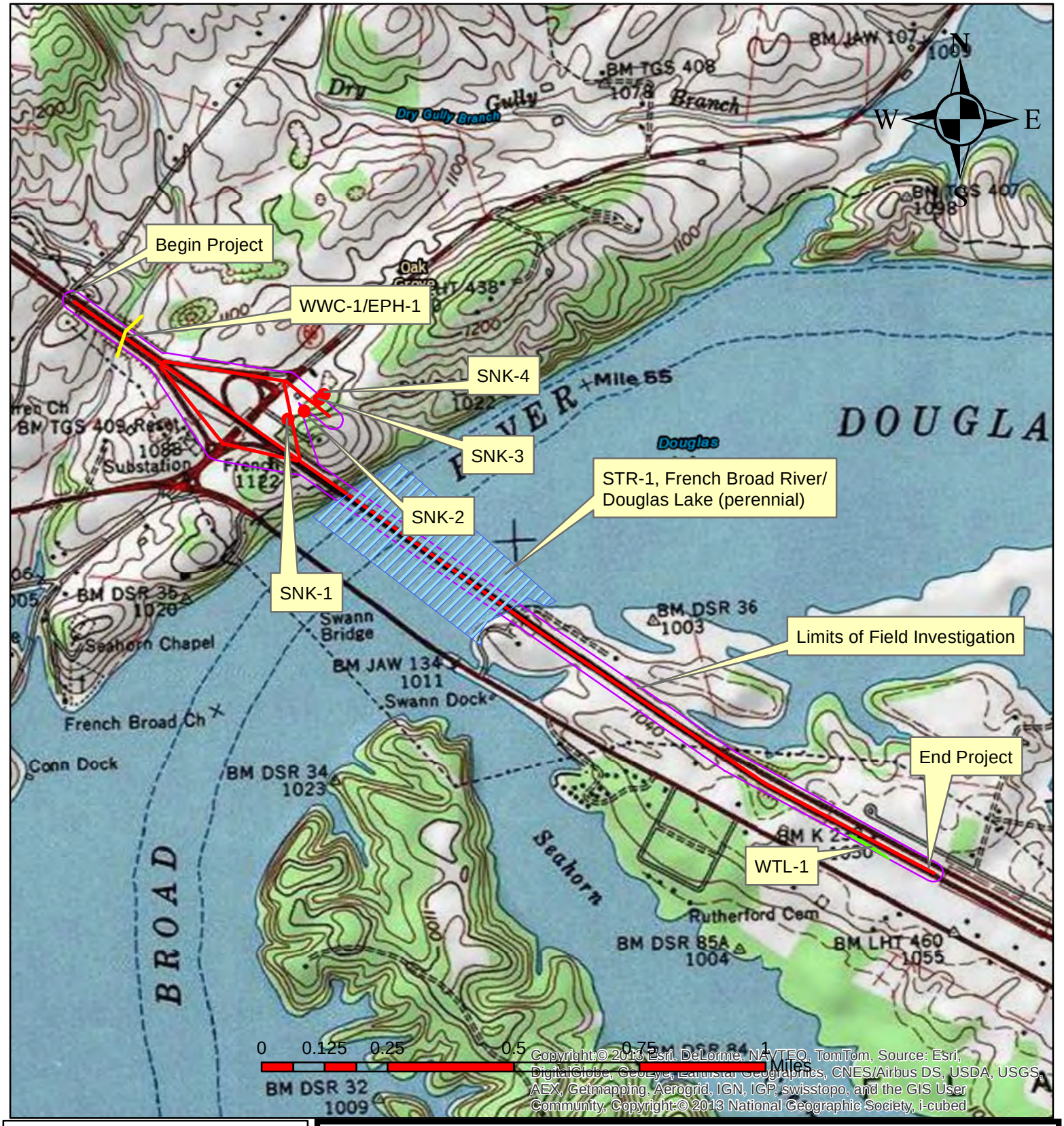
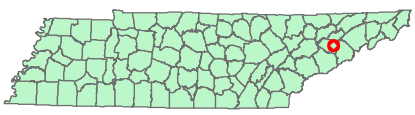




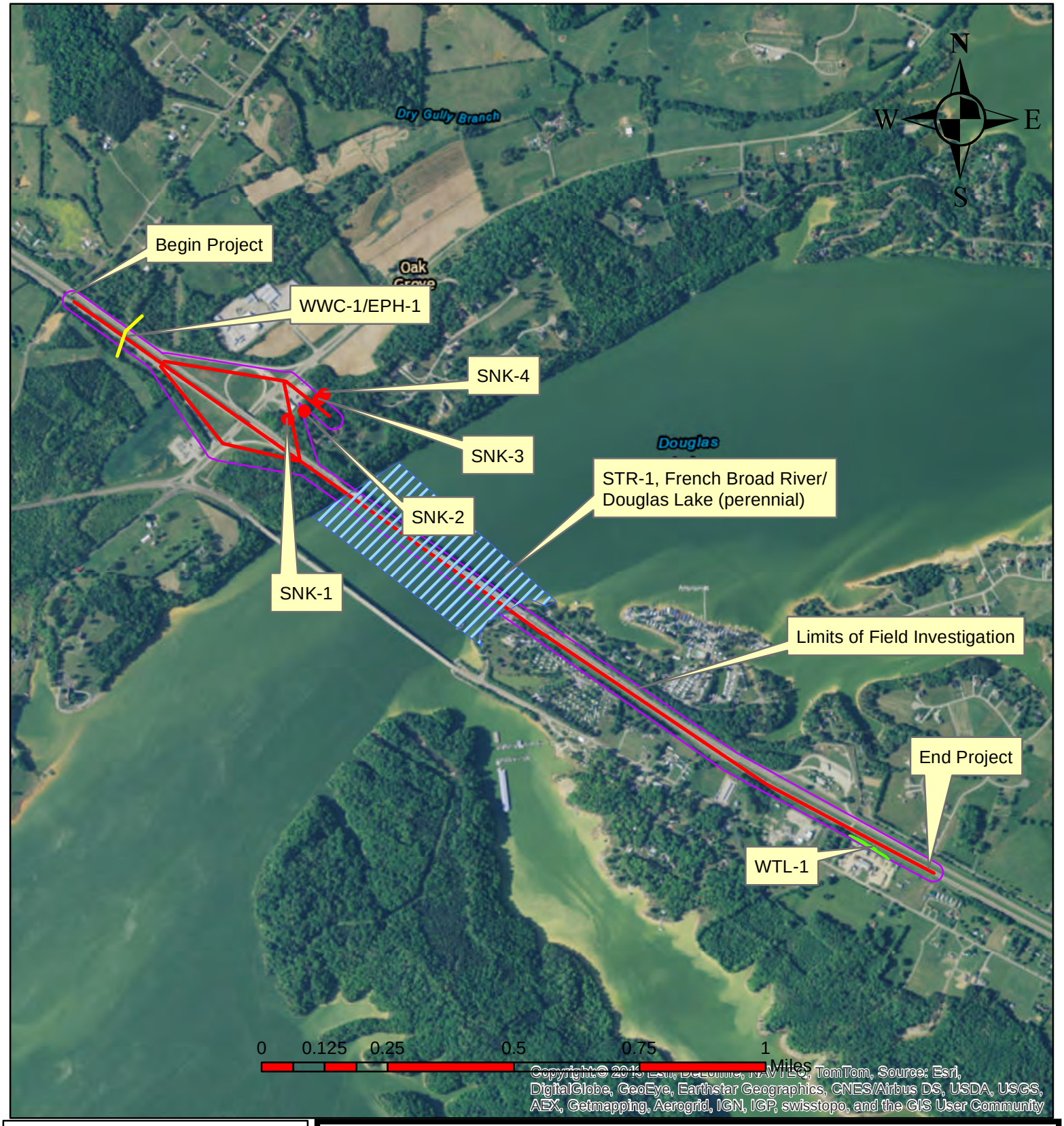
Water Resources Map
I-40, Bridge Over French Broad River, L.M. 14.70
Jefferson County, TN

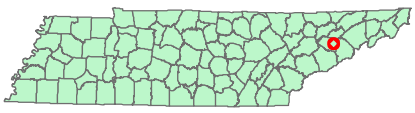
White Pine, TN Quadrangle, 163 SE

Date: 07/24/15

P.E. No. 45002-1135-94
PIN 106301.00

TN TDOT Department of Transportation





Water Resources Map
I-40, Bridge Over French Broad River, L.M. 14.70
Jefferson County, TN

White Pine, TN Quadrangle, 163 SE

Date: 07/24/15

P.E. No. 45002-1135-94
PIN 106301.00

TN TDOT Department of Transportation

Ecology Field Data Sheet: **Water Resources**

Project: Jefferson County: I-40 over French Broad River PE No.: 45002-1135-94 PIN: 106301.00

Date of survey: 08/13/15 **Biologist: Matt Bowling** **Affiliation: AMEC**

1-Station: from plans	STA 106+50 CL
2-Map label and name	WWC-1/EPH-1
3-Latitude/Longitude	36.048180 -83.346565
4-Potential impact	encapsulation / runoff
5-Feature description:	
what is it	wet weather conveyance/ephemeral stream
blue-line on topo? (y/n)	yes
defined channel (y/n)	yes
straight or meandering	straight
channel bottom width	3’
top of bank width	5’
bank height and slope ratio	1’ 1:1
avg. gradient of stream (%)	>5%
substratum	soil/gravel/cobble
riffle-pool complex (y/n)	no
width of buffer zone	20’
water flow	n/a
water depth	n/a
water width	n/a
general water quality	n/a
OHWM indicators	wrack lines
groundwater connection	none observed
bank stability: LB, RB	LB-good RB-good
dominant species: LB, RB	LB- green ash RB- green ash
overhead canopy (%)	80%
benthos	none observed
fish	none observed
algae or other aquatic life	none observed
habitat assessment score	68
photo number (s)	4, 5, & 6
rainfall information	no significant rainfall previous 7 days (TVA-Douglas Dam)
6- HUC code & name (12-digit)	06010107 0103 Douglas Lake-Middle
7-Confirmed by:	MWB
8-Mitigation	No__X___ Yes_____ : (include on Form J)
9-ETW	No__X___ Yes_____
10-303 (d) List	No__X___ Yes_____: Habitat_____ Siltation_____
11-Assessed	No__X___ Yes____
12-Notes Estimate size (acres) of lake or pond if applicable; provide any pertinent information needed to better describe feature; indicate if hydrologic determination form was completed.	Hydrologic Determination Worksheet score: 17.5

HABITAT ASSESSMENT FIELD DATA SHEET – MODERATE TO HIGH GRADIENT STREAM (FRONT)

(Refer to Protocol E for detailed descriptions and rank information)

PROJECT:	Jefferson Co., I-40 over French Broad River		
STA:	106+50 CL	**HABITAT ASSESSED BY:**	MWB
STREAM NAME:	unnamed tributary to Douglass Lake	**DATE:** 08/13/15	**TIME:** 10:00 am
MAP LABEL:	WWC-1/EPH-1	**ECOREGION:**	Southern Limestone/Dolomite Valleys
HUC:	06010107 0103 Douglas Lake/Middle	**QC: Consensus / Duplicate**	

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
1. Epifaunal Substrate / Available Cover	Over 70% of stream reach has natural stable habitat suitable for colonization by fish and/or macroinvertebrates. Four or more productive habitats are present.	Natural stable habitat covers 40-70% of stream reach. Three or more productive habitats present. (If near 70% and more than 3 go to optimal.)	Natural stable habitat covers 20 -40% of stream reach or only 1-2 productive habitats present. (If near 40% and more than 2 go to suboptimal.)	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.

SCORE 5	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	~~5~~	4	3	2	1

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
2. Embeddedness of Riffles	Gravel, cobble, and boulders 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space. If near 25% drop to suboptimal if riffle not layered cobble.	Gravel, cobble and boulders 25-50% surrounded by fine sediment. Niches in bottom layers of cobble compromised. If near 50% & riffles not layered cobble drop to marginal.	Gravel, cobble, and boulder s are 50-75% surrounded by fine sediment. Niche space in middle layers of cobble is starting to fill with fine sediment.	Gravel, cobble, and boulders are more than 75% surrounded by fine sediment. Niche space is reduced to a single layer or is absent.

SCORE 4	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	~~4~~	3	2	1

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
3. Velocity/ Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow).	Only 3 of the 4 regimes present (if fast-shallow is missing score lower). If slow-deep missing score 15.	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/depth regime. Others regimes too small or infrequent to support aquatic populations.

SCORE 8	20	19	18	17	16	15	14	13	12	11	10	9	~~8~~	7	6	5	4	3	2	1

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
4. Sediment Deposition	Sediment deposition affects less than 5% of stream bottom in quiet areas. New deposition on islands and point bars is absent or minimal.	Sediment deposition affects 5-30% of stream bottom. Slight deposition in pool or slow areas. Some new deposition on islands and point bars. Move to marginal if build-up approaches 30%.	Sediment deposition affects 30-50% of stream bottom. Sediment deposits at obstruction, constrictions and bends. Moderate pool deposition.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.

SCORE 5	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	~~5~~	4	3	2	1

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
5. Channel Flow Status	Water reaches base of both lower banks and streambed is covered by water throughout reach. Minimal productive habitat is exposed.	Water covers > 75% of streambed or 25% of productive habitat is exposed.	Water covers 25-75% of streambed and/or productive habitat is mostly exposed.	Very little water in channel and mostly present as standing pools. Little or no productive habitat due to lack of water.

SCORE 2	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	~~2~~	1

Comments:

HABITAT ASSESSMENT FIELD DATA SHEET – MODERATE TO HIGH GRADIENT STREAM (BACK)

MAP LABEL:	WWC-1/EPH-1	DATE:	08/13/15	ASSESSOR INITIALS:	

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
6. Channel Alteration	Channelization, dredging rock removal or 4-wheel activity (past or present) absent or minimal; natural meander pattern. NO artificial structures in reach. Upstream or downstream structures do not affect reach.	Channelization, dredging or 4-wheel activity up to 40%. Channel has stabilized. If larger reach, channelization is historic and stable. Artificial structures in or out of reach do not affect natural flow patterns.	Channelization, dredging or 4-wheel activity 40-80% (or less that has not stabilized.) Artificial structures in or out of reach may have slight affect.	Over 80% of reach channelized, dredged or affected by 4-wheelers. In-stream habitat greatly altered or removed. Artificial structures have greatly affected flow pattern.

SCORE 8	20	19	18	17	16	15	14	13	12	11	10	9	~~8~~	7	6	5	4	3	2	1

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
7. Frequency of re-oxygenation zones. Use frequency of riffles or bends for category. Rank by quality.	Occurrence of re-oxygenation zones relatively frequent; ratio of distance between areas divided by average stream width <7:1.	Occurrence of re-oxygenation zones infrequent; distance between areas divided by average stream width is 7 - 15.	Occasional re-oxygenation area. The distance between areas divided by average stream width is over 15 and up to 25.	Generally all flat water or flat bedrock; little opportunity for re-oxygenation. Distance between areas divided by average stream width >25.

SCORE 7	20	19	18	17	16	15	14	13	12	11	10	9	8	~~7~~	6	5	4	3	2	1

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
8. Bank Stability (score each bank) Determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion. If approaching 30% score marginal if banks steep.	Moderately unstable; 30-60 % of bank in reach has areas of erosion; high erosion potential during floods, If approaching 60% score poor if banks steep.	Unstable; many eroded area; raw areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.

SCORE (LDB) 5	LEFT	10	9	8	7	6	~~5~~	4	3	2	1	0
SCORE (RDB) 5	RIGHT	10	9	8	7	6	~~5~~	4	3	2	1	0

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
9. Bank Vegetative Protection (score each bank) include vegetation from top of bank to base of bank. Determine left or right side by facing downstream.	More than 90% of the bank covered by undisturbed vegetation. All 4 classes (mature trees, understory trees, shrubs, groundcover) are represented and allowed to grow naturally. All plants are native.	70-90% of the bank covered by undisturbed vegetation. One class may not be well represented. Disruption evident but not effecting full plant growth. Non-natives are rare (< 30%).	50-70% of the bank covered by undisturbed vegetation. Two classes of vegetation may not be well represented. Non-native vegetation may be common (30-50%).	Less than 50% of the banks covered by undisturbed vegetation or more than 2 classes are not well represented or most vegetation has been cropped. Non-native vegetation may dominate (> 50%).

SCORE (LDB) 5	LEFT	10	9	8	7	6	~~5~~	4	3	2	1	0
SCORE (RDB) 6	RIGHT	10	9	8	7	~~6~~	5	4	3	2	1	0

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
10. Riparian Vegetative Zone Width (score each bank.) Zone begins at top of bank.	Average width of riparian zone > 18 meters. Unpaved footpaths may score 9 if run-off potential is negligible.	Average width of riparian zone 12-18 meters. Score high if areas < 18 meters are small or are minimally disturbed.	Average width of riparian zone 6-11 meters. Score high if areas less than 12 meters are small or are minimally disturbed.	Average width of riparian zone <6 meters. Score high if areas less than 6 meters are small or are minimally disturbed.

SCORE (LDB) 4	LEFT	10	9	8	7	6	5	~~4~~	3	2	1	0
SCORE (RDB) 4	RIGHT	10	9	8	7	6	5	~~4~~	3	2	1	0

Comments:

TOTAL SCORE 68	Comparison to Ecoregion Guidelines (circle): ABOVE or BELOW
If score is below guidelines, result of (circle)	Natural Conditions / Human Disturbance

Comments:

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.4

County: Jefferson	Named Waterbody: Trib to Douglass Lake	Date/Time: August 13, 2015
Assessors/Affiliation: Matt Bowling/AMEC		Project ID: PE: 45002-1135-94 PIN: 106301.00
Site Name/Description: WWC-1/EPH-1		
Site Location: I-40 over French Broad River		
USGS quad: White Pine TN: 163 SE	HUC (12 digit): 06010107 0103	Lat/Long: 36.048169 -83.346624
Previous Rainfall (7-days) : No significant rainfall previous 7 days		
Precipitation this Season vs. Normal : very wet wet average dry drought (unknown) Source of recent & seasonal precip data :		
Watershed Size :	Photos: Yes	Number : 4-6
Soil Type(s) / Geology :		
Surrounding Land Use : Residential		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : (Severe) Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✓	WWC
2. Defined bed and bank absent, dominated by upland vegetation / grass	✓	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✓	Stream
6. Presence of fish (except *Gambusia*)	✓	Stream
7. Presence of naturally occurring ground water table connection	✓	Stream
8. Flowing water in channel and 7 days since last precipitation in local watershed	✓	Stream
9. Evidence watercourse has been used as a supply of drinking water	✓	Stream

NOTE : If any Primary Indicators 1-9 = "Yes", then STOP; absent directly contradictory evidence, determination is complete.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.4*

Overall Hydrologic Determination = WWC / Ephemeral Stream

Secondary Indicator Score (if applicable) = 17.5

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal =) 13		**Absent**	**Weak**	**Moderate**	**Strong**
1. Continuous bed and bank	2.5	0	1	2	3
2. Sinuous channel	0.5	0	1	2	3
3. In-channel structure: riffle-pool sequences	1.5	0	1	2	3
4. Sorting of soil textures or other substrate	1.5	0	1	2	3
5. Active/relic floodplain	0.5	0	1	2	3
6. Depositional bars or benches	0.5	0	1	2	3
7. Braided channel	0	0	1	2	3
8. Recent alluvial deposits	0.5	0	0.5	1	1.5
9. Natural levees	0	0	1	2	3
10. Headcuts	0	0	1	2	3
11. Grade controls	1	0	0.5	1	1.5
12. Natural valley or drainageway	1.5	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map		Yes = 3			

B. Hydrology (Subtotal =) 3.5		**Absent**	**Weak**	**Moderate**	**Strong**
14. Subsurface flow/discharge into channel	0	0	1	2	3
15. Water in channel and >48 hours since sig. rain	1	0	1	2	3
16. Leaf litter in channel (January – September)	0	1.5	1	0.5	0
17. Sediment on plants or on debris	1	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	1.5	0	0.5	1	1.5
19. Hydric soils in stream bed or sides of channel		No = 0			

C. Biology (Subtotal =) 1		**Absent**	**Weak**	**Moderate**	**Strong**
20. Fibrous roots in channel [1]	0	3	2	1	0
21. Rooted plants in channel [1]	1	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	0	0.5	1	1.5
23. Bivalves/mussels	0	0	1	2	3
24. Amphibians	0	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	0	1	2	3
26. Filamentous algae; periphyton	0	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0	0.5	1	1.5
28.Wetland plants in channel [2]	0	0	0.5	1	2

[1] Focus is on the presence of upland plants. [2] Focus is on the presence of aquatic or wetland plants.

Total Points = 17.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Ecology Field Data Sheet: **Other Resource Features**
(Caves/Rock Houses; Sinkholes; Specialized Habitats; Other)

Project: Jefferson County: I-40 over French Broad River PE No.: 45002-1135-94 PIN: 106301.00

Date of survey 05-02-16 **Biologist: Matt Bowling** **Affiliation: TDOT**

1-Station: from plans	SR-113 STA 313+00 RT	
2-Map label	SNK-1	
3- Lat/Long	36.045367 -83.341106	
4-Potential impact	runoff/fill	
5-Feature name		
6-Feature description:		
what is it	sinkhole	
portion affected		
approximate size	50' x 50'	
photo number	7	
other		
7- HUC code & name (8 & 12-digit)	06010107 0103 Douglas Lake-Middle	
8-Determination: TDOT/ consultant	TDOT	
9-Determination: Confirmed? By?	Not necessary, obvious	
10-Mitigation: to be included in design		
11-Notes	no visible open throat: accumulation of yard waste in bottom.	

Ecology Field Data Sheet: **Other Resource Features**
(Caves/Rock Houses; Sinkholes; Specialized Habitats; Other)

Project: Jefferson County: I-40 over French Broad River PE No.: 45002-1135-94 PIN: 106301.00

Date of survey 05-02-16 **Biologist: Matt Bowling** **Affiliation: TDOT**

1-Station: from plans	SR-113 STA 316+00 RT	
2-Map label	SNK-2	
3- Lat/Long	36.045689 -83.340538	
4-Potential impact	runoff/fill	
5-Feature name		
6-Feature description:		
what is it	sinkhole	
portion affected		
approximate size	50' x 50'	
photo number	8	
other		
7- HUC code & name (8 & 12-digit)	06010107 0103 Douglas Lake-Middle	
8-Determination: TDOT/ consultant	TDOT	
9-Determination: Confirmed? By?	Not necessary, obvious	
10-Mitigation: to be included in design		
11-Notes	no visible open throat.	

Ecology Field Data Sheet: **Other Resource Features**
(Caves/Rock Houses; Sinkholes; Specialized Habitats; Other)

Project: Jefferson County: I-40 over French Broad River PE No.: 45002-1135-94 PIN: 106301.00

Date of survey 05-02-16 **Biologist: Matt Bowling** **Affiliation: TDOT**

1-Station: from plans	SR-113 STA 317+50 RT	
2-Map label	SNK-3	
3- Lat/Long	36.045964 -83.340058	
4-Potential impact	runoff/fill	
5-Feature name		
6-Feature description:		
what is it	sinkhole	
portion affected		
approximate size	20' x 20'	
photo number	9	
other		
7- HUC code & name (8 & 12-digit)	06010107 0103 Douglas Lake-Middle	
8-Determination: TDOT/ consultant	TDOT	
9-Determination: Confirmed? By?	Not necessary, obvious	
10-Mitigation: to be included in design		
11-Notes	no visible open throat	

Ecology Field Data Sheet: **Other Resource Features**
(Caves/Rock Houses; Sinkholes; Specialized Habitats; Other)

Project: Jefferson County: I-40 over French Broad River PE No.: 45002-1135-94 PIN: 106301.00

Date of survey 05-02-16 **Biologist: Matt Bowling** **Affiliation: TDOT**

1-Station: from plans	SR-113 STA 317+60 RT	
2-Map label	SNK-4	
3- Lat/Long		
4-Potential impact	runoff/fill	
5-Feature name		
6-Feature description:	36.046078 -83.339820	
what is it	sinkhole	
portion affected		
approximate size	10' x 10'	
photo number	10	
other		
7- HUC code & name (8 & 12-digit)	06010107 0103 Douglas Lake-Middle	
8-Determination: TDOT/ consultant	TDOT	
9-Determination: Confirmed? By?	Not necessary, obvious	
10-Mitigation: to be included in design		
11-Notes	Open throat	

Ecology Field Data Sheet: **Water Resources**

Project: Jefferson County: I-40 over French Broad River PE No.: 45002-1135-94 PIN: 106301.00

Date of survey: 08/13/15 **Biologist: Matt Bowling** **Affiliation: AMEC**

1-Station: from plans	from STA 135+00 CL to STA 156+00 CL
2-Map label and name	STR-1 French Broad River-Douglas Lake
3-Latitude/Longitude	36.045696 -83.339803
4-Potential impact	runoff/fill
5-Feature description:	
what is it	perennial stream/reservoir
blue-line on topo? (y/n)	yes
defined channel (y/n)	yes
straight or meandering	straight
channel bottom width	unknown-impounded
top of bank width	2000'
bank height and slope ratio	unknown-impounded
avg. gradient of stream (%)	>5%
substratum	unknown-impounded
riffle-pool complex (y/n)	no
width of buffer zone	100'
water flow	yes
water depth	unknown-impounded
water width	2000'
general water quality	good
OHWM indicators	bed and bank
groundwater connection	yes
bank stability: LB, RB	unknown-impounded
dominant species: LB, RB	LB-mixed hardwoods RB-mixed hardwoods
overhead canopy (%)	0%
benthos	none observed
fish	none observed
algae or other aquatic life	none observed
habitat assessment score	31
photo number (s)	9 & 10
rainfall information	no significant rainfall previous 7 days (TVA-Douglas Dam)
6- HUC code & name (12-digit)	06010107 0102 Douglas Lake-Upper
7-Confirmed by:	MWB
8-Mitigation	No__X___ Yes_____ : (include on Form J)
9-ETW	No__X___ Yes_____
10-303 (d) List	No__X___ Yes_____: Habitat_____ Siltation_____
11-Assessed	No_____ Yes__X__ (fully supporting)
12-Notes Estimate size (acres) of lake or pond if applicable; provide any pertinent information needed to better describe feature; indicate if hydrologic determination form was completed.	

HABITAT ASSESSMENT FIELD DATA SHEET – MODERATE TO HIGH GRADIENT STREAM (FRONT)

(Refer to Protocol E for detailed descriptions and rank information)

PROJECT:	Jefferson Co., I-40 over French Broad River		
STA:	135+00 CL to 156+00 CL	**HABITAT ASSESSED BY:**	MWB
STREAM NAME:	unnamed tributary to Douglass Lake	**DATE:** 08/13/15	**TIME:** 10:00 am
MAP LABEL:	STR-1	**ECOREGION:**	Southern Limestone/Dolomite Valleys
HUC:	06010107 0103 Douglas Lake/Middle	**QC: Consensus / Duplicate**	

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
1. Epifaunal Substrate / Available Cover	Over 70% of stream reach has natural stable habitat suitable for colonization by fish and/or macroinvertebrates. Four or more productive habitats are present.	Natural stable habitat covers 40-70% of stream reach. Three or more productive habitats present. (If near 70% and more than 3 go to optimal.)	Natural stable habitat covers 20 -40% of stream reach or only 1-2 productive habitats present. (If near 40% and more than 2 go to suboptimal.)	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.

SCORE 11	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: impounded, unable to evaluate

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
2. Embeddedness of Riffles	Gravel, cobble, and boulders 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space. If near 25% drop to suboptimal if riffle not layered cobble.	Gravel, cobble and boulders 25-50% surrounded by fine sediment. Niches in bottom layers of cobble compromised. If near 50% & riffles not layered cobble drop to marginal.	Gravel, cobble, and boulder s are 50-75% surrounded by fine sediment. Niche space in middle layers of cobble is starting to fill with fine sediment.	Gravel, cobble, and boulders are more than 75% surrounded by fine sediment. Niche space is reduced to a single layer or is absent.

SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: n/a: impounded, unable to evaluate

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
3. Velocity/ Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow).	Only 3 of the 4 regimes present (if fast-shallow is missing score lower). If slow-deep missing score 15.	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/depth regime. Others regimes too small or infrequent to support aquatic populations.

SCORE 1	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
4. Sediment Deposition	Sediment deposition affects less than 5% of stream bottom in quiet areas. New deposition on islands and point bars is absent or minimal.	Sediment deposition affects 5-30% of stream bottom. Slight deposition in pool or slow areas. Some new deposition on islands and point bars. Move to marginal if build-up approaches 30%.	Sediment deposition affects 30-50% of stream bottom. Sediment deposits at obstruction, constrictions and bends. Moderate pool deposition.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.

SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: n/a: impounded, unable to evaluate

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
5. Channel Flow Status	Water reaches base of both lower banks and streambed is covered by water throughout reach. Minimal productive habitat is exposed.	Water covers > 75% of streambed or 25% of productive habitat is exposed.	Water covers 25-75% of streambed and/or productive habitat is mostly exposed.	Very little water in channel and mostly present as standing pools. Little or no productive habitat due to lack of water.

SCORE 11	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments:

HABITAT ASSESSMENT FIELD DATA SHEET – MODERATE TO HIGH GRADIENT STREAM (BACK)

MAP LABEL:	STR-1	DATE:	08/13/15	ASSESSOR INITIALS:	

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
6. Channel Alteration	Channelization, dredging rock removal or 4-wheel activity (past or present) absent or minimal; natural meander pattern. NO artificial structures in reach. Upstream or downstream structures do not affect reach.	Channelization, dredging or 4-wheel activity up to 40%. Channel has stabilized. If larger reach, channelization is historic and stable. Artificial structures in or out of reach do not affect natural flow patterns.	Channelization, dredging or 4-wheel activity 40-80% (or less that has not stabilized.) Artificial structures in or out of reach may have slight affect.	Over 80% of reach channelized, dredged or affected by 4-wheelers. In-stream habitat greatly altered or removed. Artificial structures have greatly affected flow pattern.

SCORE 2	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	~~2~~	1

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
7. Frequency of re-oxygenation zones. Use frequency of riffles or bends for category. Rank by quality.	Occurrence of re-oxygenation zones relatively frequent; ratio of distance between areas divided by average stream width <7:1.	Occurrence of re-oxygenation zones infrequent; distance between areas divided by average stream width is 7 - 15.	Occasional re-oxygenation area. The distance between areas divided by average stream width is over 15 and up to 25.	Generally all flat water or flat bedrock; little opportunity for re-oxygenation. Distance between areas divided by average stream width >25.

SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: n/a: impounded, unable to evaluate

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
8. Bank Stability (score each bank) Determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion. If approaching 30% score marginal if banks steep.	Moderately unstable; 30-60 % of bank in reach has areas of erosion; high erosion potential during floods, If approaching 60% score poor if banks steep.	Unstable; many eroded area; raw areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.

SCORE (LDB) 3	LEFT	10	9	8	7	6	5	4	~~3~~	2	1	0
SCORE (RDB) 3	RIGHT	10	9	8	7	6	5	4	~~3~~	2	1	0

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
9. Bank Vegetative Protection (score each bank) include vegetation from top of bank to base of bank. Determine left or right side by facing downstream.	More than 90% of the bank covered by undisturbed vegetation. All 4 classes (mature trees, understory trees, shrubs, groundcover) are represented and allowed to grow naturally. All plants are native.	70-90% of the bank covered by undisturbed vegetation. One class may not be well represented. Disruption evident but not effecting full plant growth. Non-natives are rare (< 30%).	50-70% of the bank covered by undisturbed vegetation. Two classes of vegetation may not be well represented. Non-native vegetation may be common (30-50%).	Less than 50% of the banks covered by undisturbed vegetation or more than 2 classes are not well represented or most vegetation has been cropped. Non-native vegetation may dominate (> 50%).

SCORE (LDB) 0	LEFT	10	9	8	7	6	5	4	3	2	1	~~0~~
SCORE (RDB) 0	RIGHT	10	9	8	7	6	5	4	3	2	1	~~0~~

Comments:

	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR
10. Riparian Vegetative Zone Width (score each bank.) Zone begins at top of bank.	Average width of riparian zone > 18 meters. Unpaved footpaths may score 9 if run-off potential is negligible.	Average width of riparian zone 12-18 meters. Score high if areas < 18 meters are small or are minimally disturbed.	Average width of riparian zone 6-11 meters. Score high if areas less than 12 meters are small or are minimally disturbed.	Average width of riparian zone <6 meters. Score high if areas less than 6 meters are small or are minimally disturbed.

SCORE (LDB) 0	LEFT	10	9	8	7	6	5	4	3	2	1	~~0~~
SCORE (RDB) 0	RIGHT	10	9	8	7	6	5	4	3	2	1	~~0~~

Comments:

TOTAL SCORE 31	Comparison to Ecoregion Guidelines (circle): ABOVE or BELOW
If score is below guidelines, result of (circle)	Natural Conditions / Human Disturbance

Comments:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Jefferson Co., I-40 over French Broad River Map Label: WTL-1

P.E. and PIN: P.E. # 45002-1135-94 PIN # 106301.00 Date: 08/13/15 Station: STA 198+00 RT to STA 201+00 RT

Investigator(s): MWB HUC 12 (code and name): 06010107 0102 Douglas Lake Upper

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): n/a

Subregion (LRR or MLRA): _____ Lat: 36.032658 Long: -83.321033 Datum: NAD-83

Soil Map Unit Name: Nolichucky NWI classification: emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No _____ Hydric Soil Present? Yes ✓ No _____ Wetland Hydrology Present? Yes ✓ No _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Remarks: Photos: 17 & 18 Buffer (ft.): _____ Approximate Size (ac.): 0.32 Portion Affected (permanent) (ac.): 0.0 Portion Affected (temporary) (ac.): 0.0	Confirmation (by, date): _____ Mitigation (to be included in design): _____ Notes:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): 2

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Last significant rainfall: No significant rainfall-previous 7 days (TVA - Douglas Dam)

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Map Label: WTL-1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. black willow (Salix nigra)		y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Bulrush (Juncus effusus)		y	OBL
2. Carex sp.		y	
3. Cattail (Typha lattifolia)		y	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Map Label: WTL-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10 YR 6/1		2.5 YR 4/6				silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ✓ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

WTL-1 is an emergent type wetland with a primary function of wildlife habitat. The size of WTL-1 is approximately 0.32 acres. Based on the available plan sheets, there will be no permanent or temporary impacts to WTL-1.

	**Photo 1:** STA 109+00 RT. View of project facing southeast.
	**Photo 2.** STA 109+00 RT. View of project facing northwest.

	**Photo 3:** STA 120+00 RT. View of project facing southeast.
	**Photo 4:** STA 106+50 LT. View of WWC-1/EPH-1 facing north.

	**Photo 5:** STA 106+50 LT. View of WWC-1/EPH-1 facing north.
	**Photo 6.** STA 106+50 RT. View of WWC-1/EPH-1 facing south.

Photo 7: SR-115STA 13+00 CL. View of SNK-1 facing northeast.

Photo 8. STA 13+00 CL. View of SNK-2 facing southwest.

	**Photo 9:** STA 13+00 CL. View of SNK-3 facing southeast.
	**Photo 10.** STA 13+00 CL. View of SNK-4 facing southeast.

	**Photo 11:** View of I-40 bridge over French Broad River (STR-1) from US-25W bridge facing east.
	**Photo 12:** View of I-40 bridge over French Broad River (STR-1) from US-25W bridge facing northeast.

	**Photo 13:** STA 170+00 RT. View of project facing northwest.
	**Photo 14:** STA 170+00 RT. View of project facing southeast.

	**Photo 15:** STA 182+00 RT. View of concrete ditches facing east.
	**Photo 16:** STA 189+00 RT. View of concrete ditches facing east.

	**Photo 17:** STA 198+50 RT. View of WTL-1 facing south.
	**Photo 18:** STA 199+00 RT. View of WTL-1 facing southeast.

Index Of Sheets

LETTER "O" AND "I" NOT USED IN SHEET NUMBERING
SHEET 30-39 NOT USED IN SHEET NUMBERING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

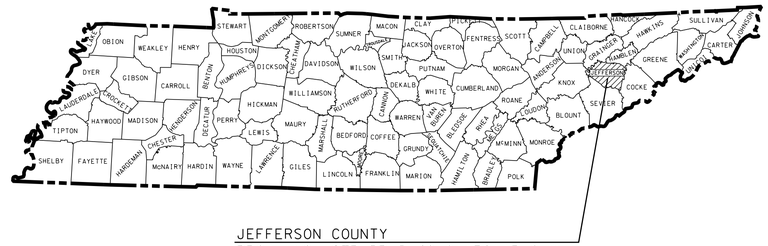
JEFFERSON COUNTY

I-40 AT S.R. 113 EXIT 424
INTERSTATE 40 BRIDGE OVER THE FRENCH BROAD RIVER
@ LM 14.70

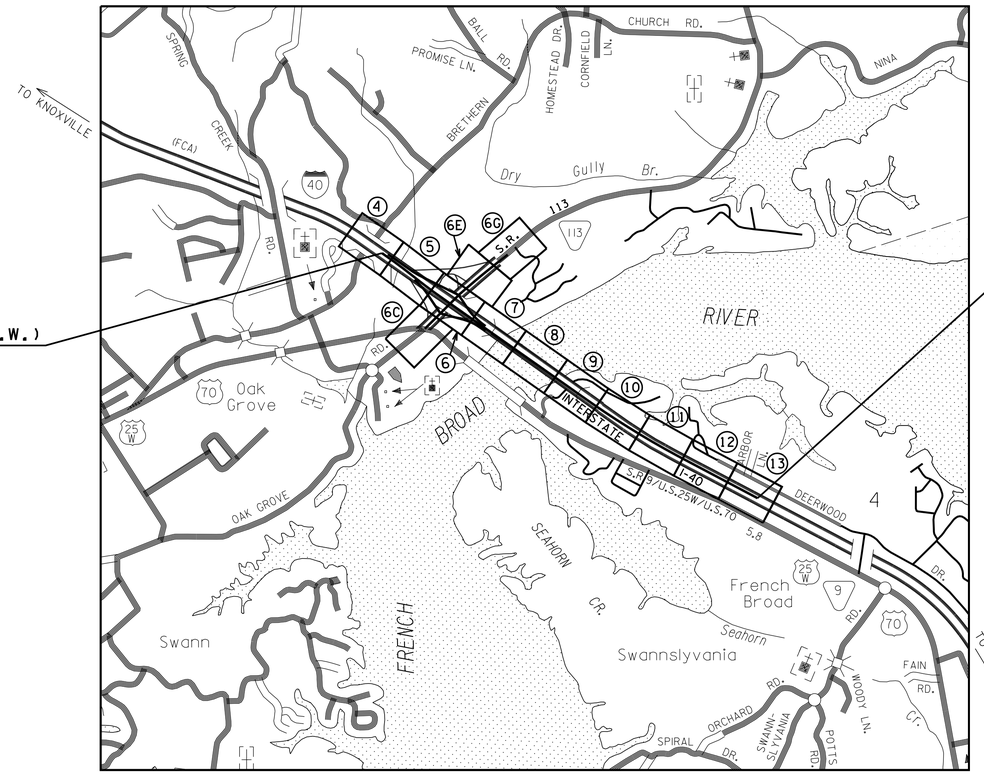
PRELIMINARY

STATE HIGHWAY NO. 113 F.A.H.S. NO. 113

TENN.	YEAR	SHEET NO.
	2015	1
FED. AID PROJ. NO.	STP-BR-I-40-8(139)	
STATE PROJ. NO.	45002-1135-94	



JEFFERSON COUNTY
PROJ. NO. STP-BR-I-40-8(139)(R.O.W.)



SCALE: 1"= 2000'

N

STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

BEGIN PROJECT NO. STP-BR-I-40-8(139)(R.O.W.)
I-40 STA. 100+00.00

END PROJECT NO. STP-BR-I-40-8(139)(R.O.W.)
I-40 STA. 214+70.56

NO EXCLUSIONS
NO EQUATIONS

SEALED BY

APPROVED: Paul D. Degges
PAUL D. DEGGES, CHIEF ENGINEER

DATE:

APPROVED:
JOHN SCHROER, COMMISSIONER

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT ASSISTANT DIRECTOR FREDERICK MILLER, P.E.
DESIGNED BY GRESHAM SMITH AND PARTNERS
DESIGNER PATRICK FIVEASH, P.E. CHECKED BY JASON BRADY, P.E.
P.E. NO. 45002-1135-94
PIN NO. 106301.00

I-40	
ROADWAY LENGTH	1.450 MILES
BRIDGE LENGTH	0.489 MILES
BOX BRIDGE LENGTH	0.000 MILES
PROJECT LENGTH	1.939 MILES

S.R. 113

TRAFFIC DATA	
ADT (2015)	2990
ADT (2035)	4790
DHV (20)	
D	-
T (ADT)	%
T (DHV)	%
V	55 MPH

I-40

TRAFFIC DATA	
ADT (2015)	40840
ADT (2035)	65320
DHV (2035)	5226
D	-
T (ADT)	%
T (DHV)	%
V	70 MPH

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

12/12/2015 10:33:27 AM
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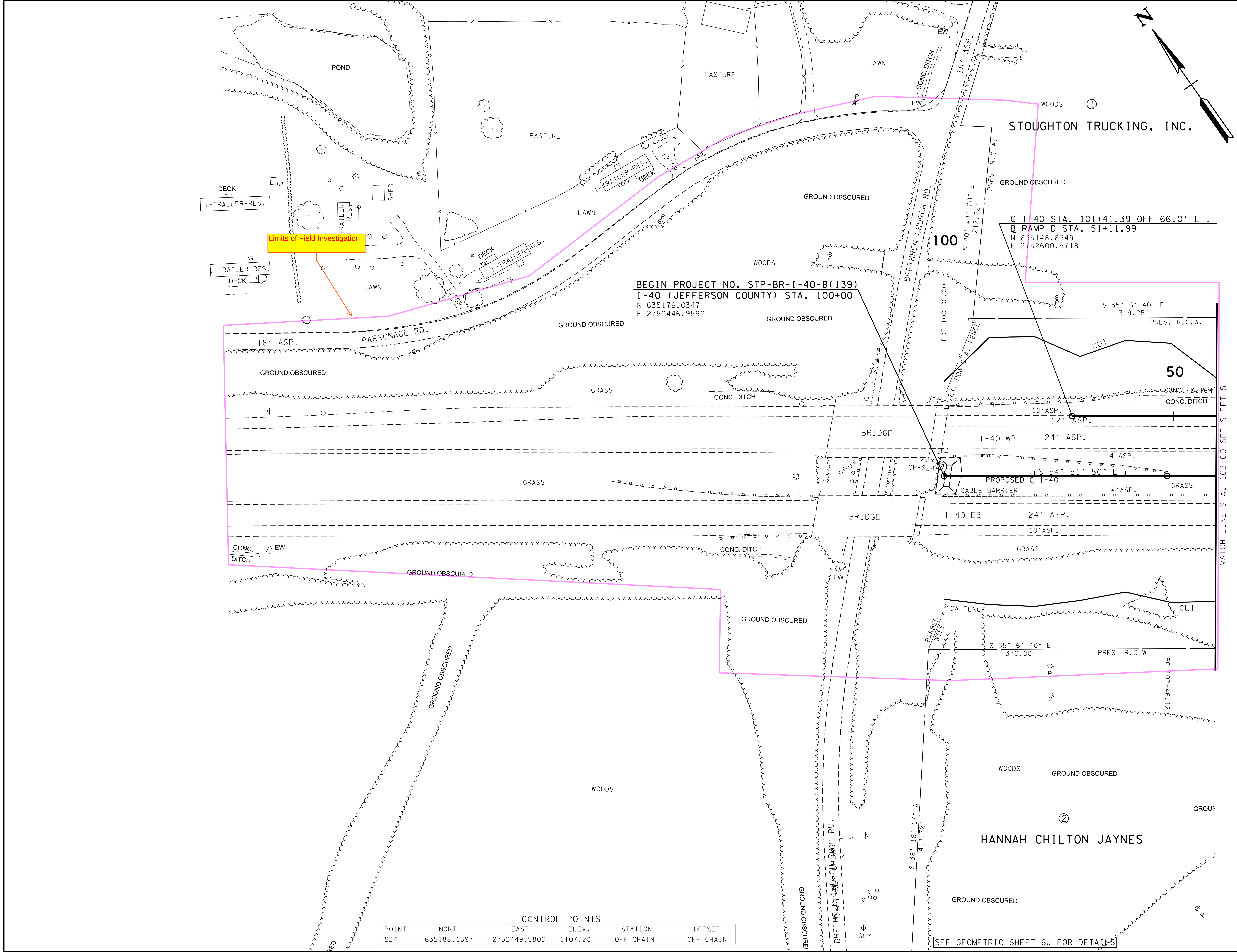
TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	4



CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S24	635188.1597	2752449.5800	1107.20	OFF CHAIN	OFF CHAIN

STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000900 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

B.O.P. TO STA. 103+00

SCALE: 1"=50'

2/12/2015 10:34:08 AM
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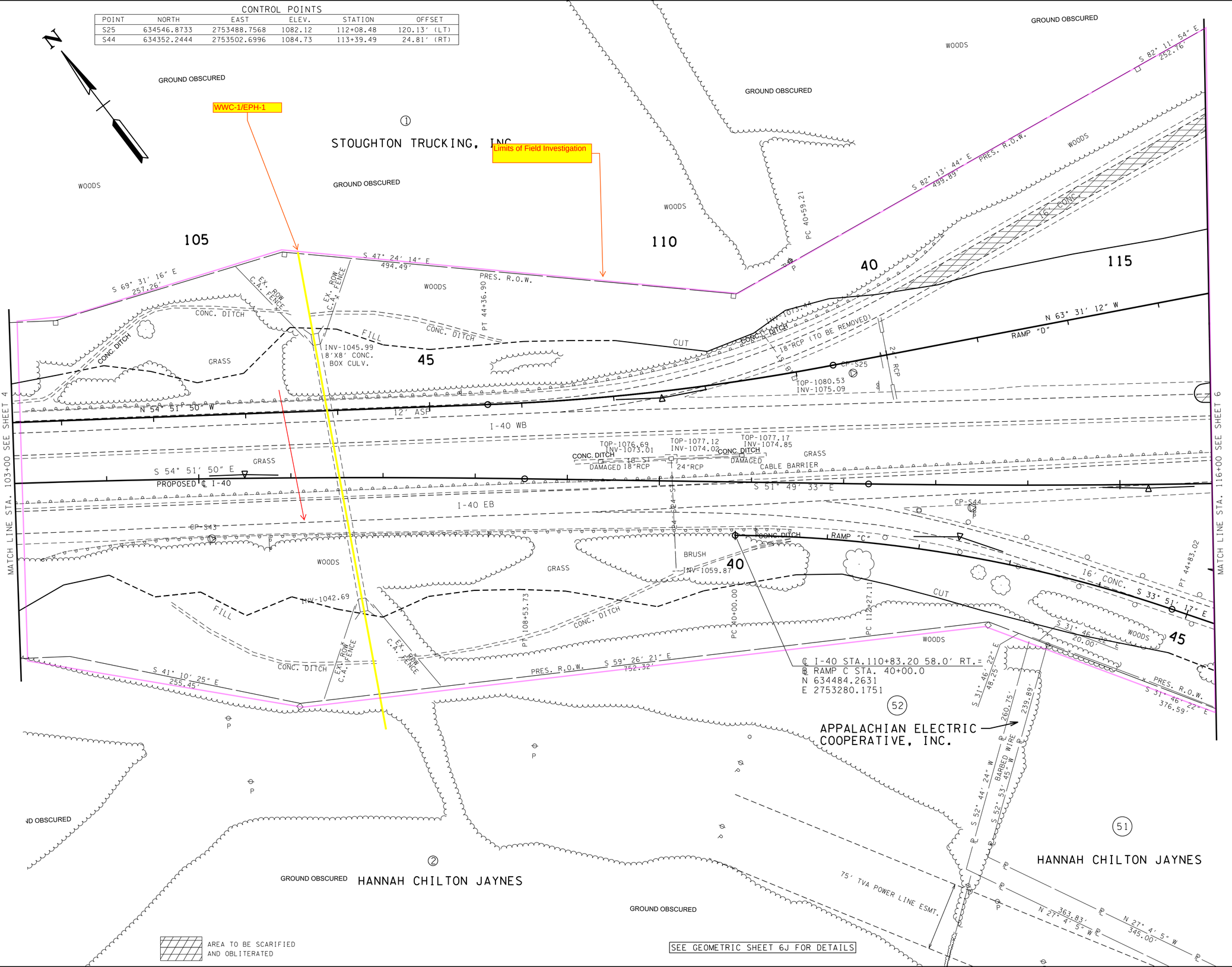
TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	5

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S25	634546.8733	2753488.7568	1082.12	112+08.48	120.13' (LT)
S44	634352.2444	2753502.6996	1084.73	113+39.49	24.81' (RT)



STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000900 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.103+00 TO STA.116+00

SCALE: 1"=50'

12/2/2015 10:34:10 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	6

MATCH LINE STA. 314+00 SEE SHEET 6E

℄ S.R. 113 STA. 312+29.66=
END ℄ RAMP "A" STA. 30+64.94=
BEGIN ℄ RAMP "D" STA. 30+00.00
N 634094.5644
E 2754424.8237

℄ I-40 STA. 121+86.93=
℄ S.R. 113 STA. 309+19.04
N 633875.5199
E 2754204.5776

GROUND OBSCURED

℄ S.R. 113 STA. 305+61.00=
END ℄ RAMP "C" STA. 50+97.18=
BEGIN ℄ RAMP "B" STA. 50+00.00
N 633622.9505
E 2753950.8058

POINT	TOP	INV.
S6052	1095.95	1090.69
S6057	1076.76	1074.05
S6061	1079.20	1073.26
S6065	1074.50	1069.13
S6069	1095.32	1093.28

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S26	634116.5303	2754445.1873	1082.43	122+44.99	335.57' (LT)
S28	633699.6496	2753964.6154	1071.16	120+91.90	281.93' (RT)
S32	633618.6573	2754532.1471	1090.90	126+02.64	21.54' (RT)
S45	633960.4617	2754169.8909	1099.77	121+09.67	49.50' (LT)
S53	633770.3945	2754557.1815	1094.84	125+35.78	116.96' (LT)
S56	634460.9473	2754126.2220	1090.07	117+84.00	433.55' (LT)

HRH PROPERTIES

CHARLES L. VARNER

HANNAH CHILTON JAYNES

APPALACHIAN ELECTRIC COOPERATIVE, INC.

BHIMJI PROPERTIES INC

SNK-1

Limits of Field Investigation

MATCH LINE STA. 116+00 SEE SHEET 5

MATCH LINE STA. 129+00 SEE SHEET 7

MATCH LINE STA. 304+50 SEE SHEET 6C

SEE GEOMETRIC SHEET 6J FOR DETAILS

AREA TO BE SCARIFIED AND OBLITERATED

STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000900 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.116+00 TO STA.129+00

SCALE: 1"=50'

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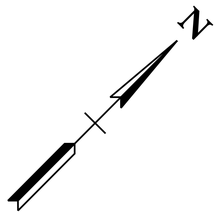
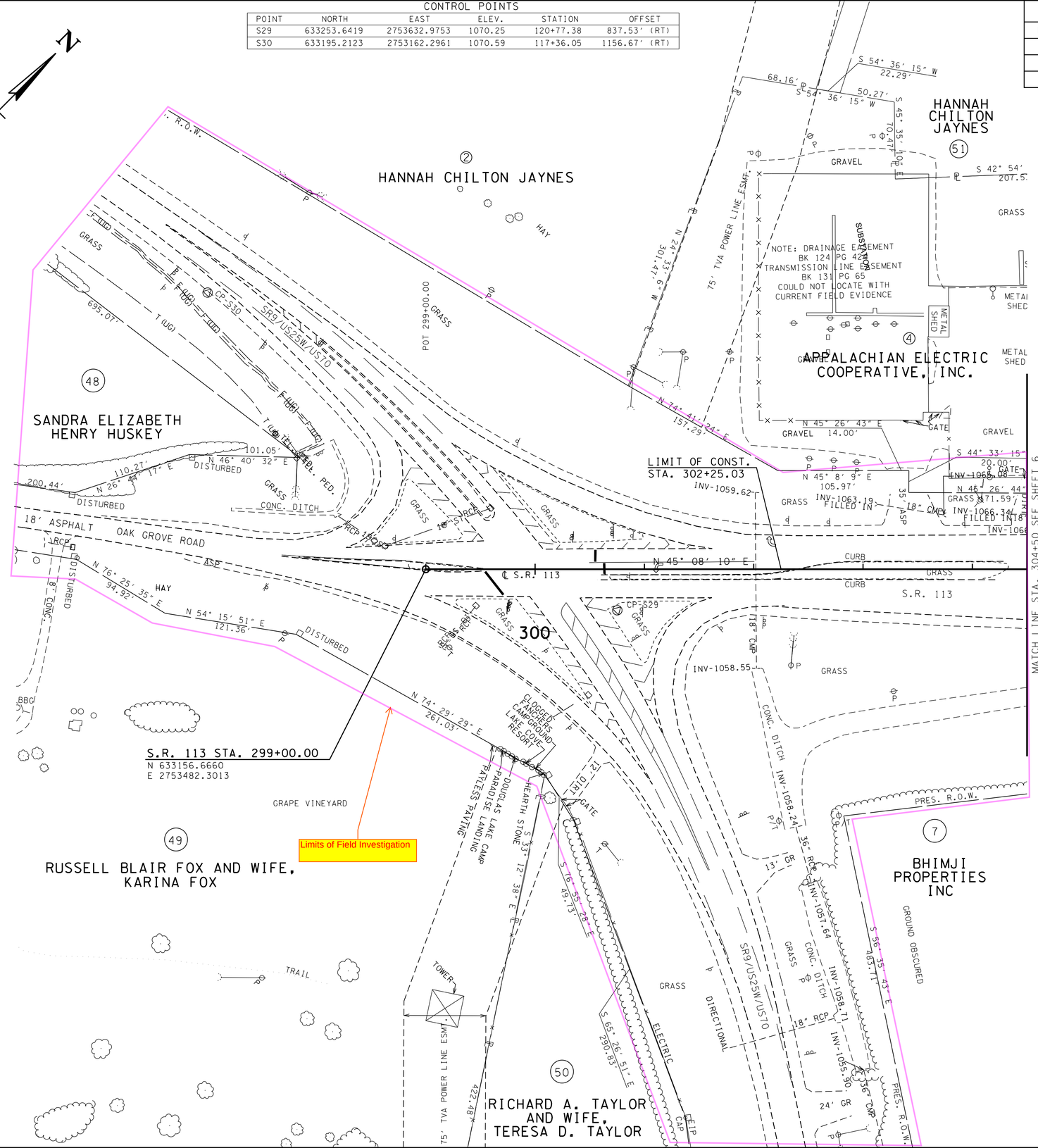
TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	6C

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S29	633253.6419	2753632.9753	1070.25	120+77.38	837.53' (RT)
S30	633195.2123	2753162.2961	1070.59	117+36.05	1156.67' (RT)





STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000900 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

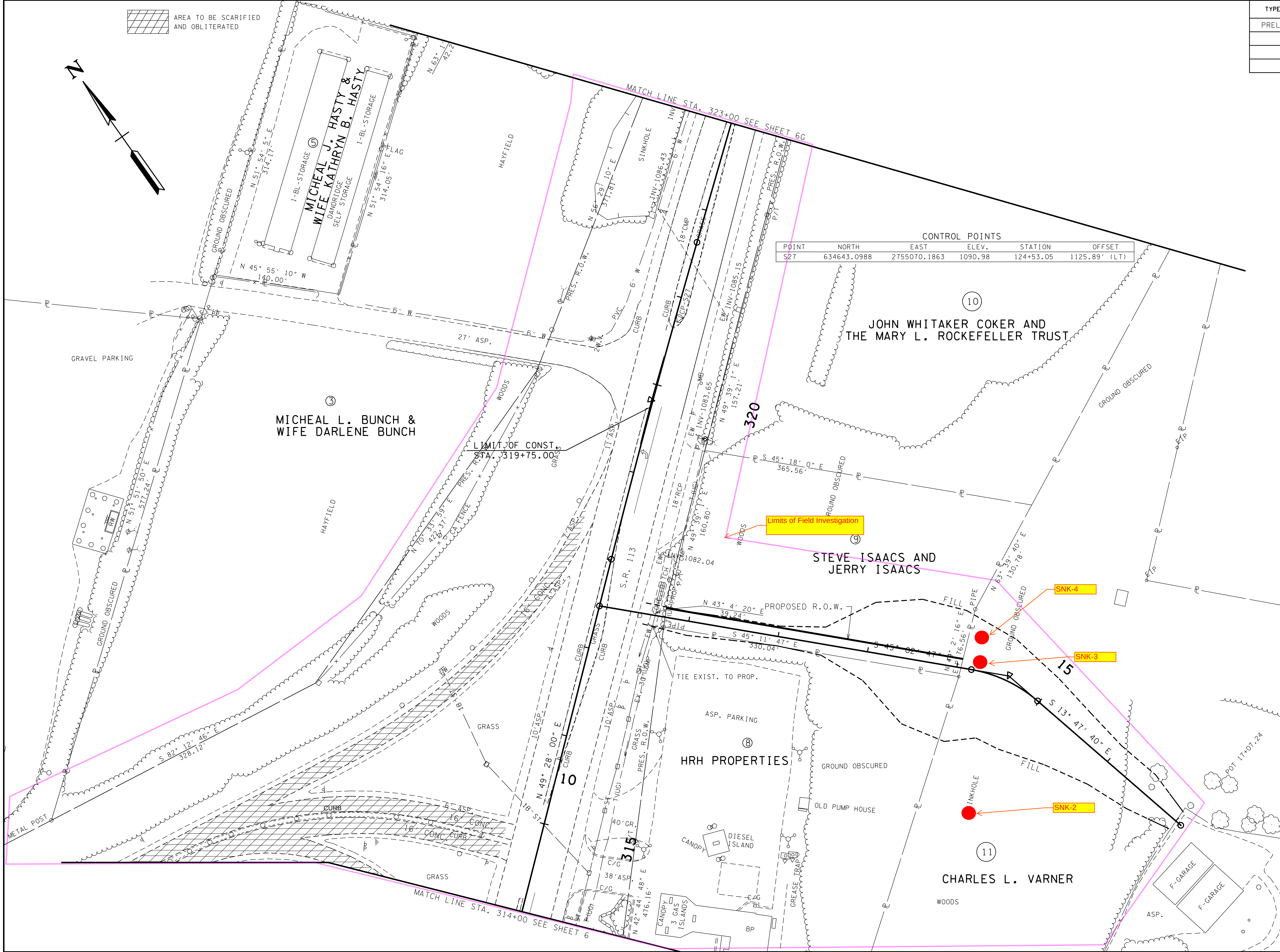
PRESENT LAYOUT

S.R. 113

STA. 299+00 TO STA.304+50

SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	6E



AREA TO BE SCARIFIED AND OBLITERATED
N
MATCH LINE STA. 323+00 SEE SHEET 6G
MATCH LINE STA. 314+00 SEE SHEET 6
MICHEAL J. HASTY & WIFE KATHRYN B. HASTY
DANDRIDGE SELF STORAGE
I-BL-STORAGE
HAYFIELD
SINKHOLE
GROUND OBSCURED
GRAVEL PARKING
MICHEAL L. BUNCH & WIFE DARLENE BUNCH
LIMIT OF CONST. STA. 319+75.00
JOHN WHITAKER COKER AND THE MARY L. ROCKEFELLER TRUST
STEVE ISAACS AND JERRY ISAACS
Limits of Field Investigation
WOODS
PROPOSED R.O.W.
TIE EXIST. TO PROP.
SNK-4
SNK-3
SNK-2
FILL
S.R. 113
320
315
15
10
HRH PROPERTIES
ASP. PARKING
GROUND OBSCURED
OLD PUMP HOUSE
DIESEL ISLAND
CANOPY
3 GAS ISLANDS
BP
GREASE TRAP
CHARLES L. VARNER
INKHOLE
F-GARAGE
ASP.
GRASS
METAL POST
S 82° 12' 46" E 328.12'
N 49° 28' 00" E
S 13° 47' 40" E
S 45° 18' 0" E 365.56'
N 43° 4' 20" E 39.24'
S 45° 11' 47" E 330.04'
N 45° 55' 10" W 140.00'

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S27	634643.0988	2755070.1863	1090.98	124+53.05	1125.89' (LT)

STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000900 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

S.R. 113

STA. 314+00 TO STA. 323+00

SCALE: 1"=50'

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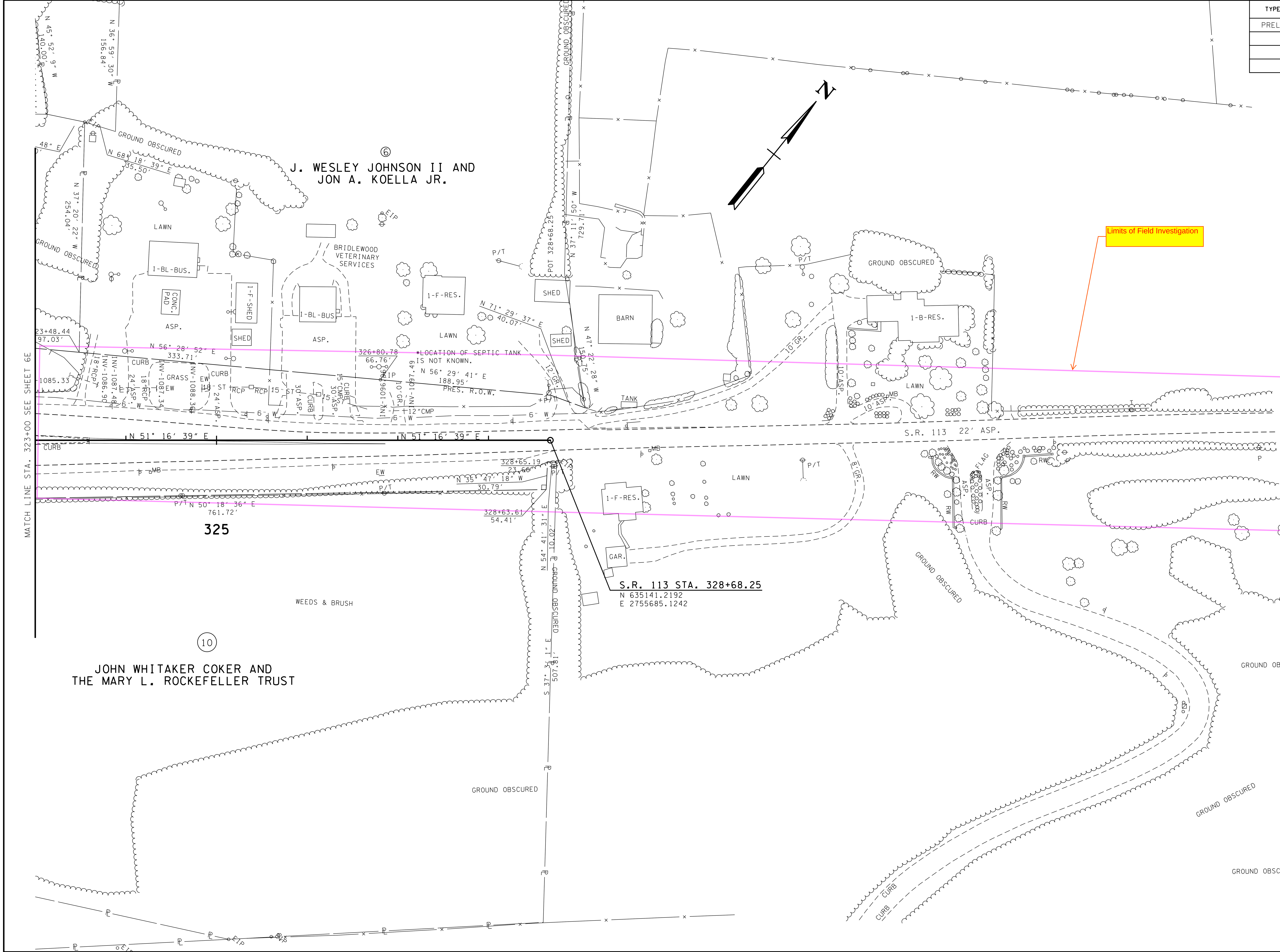
TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	6G



STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000900 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

S.R. 113

STA. 323+00 TO L.O.C.

SCALE: 1"=50'

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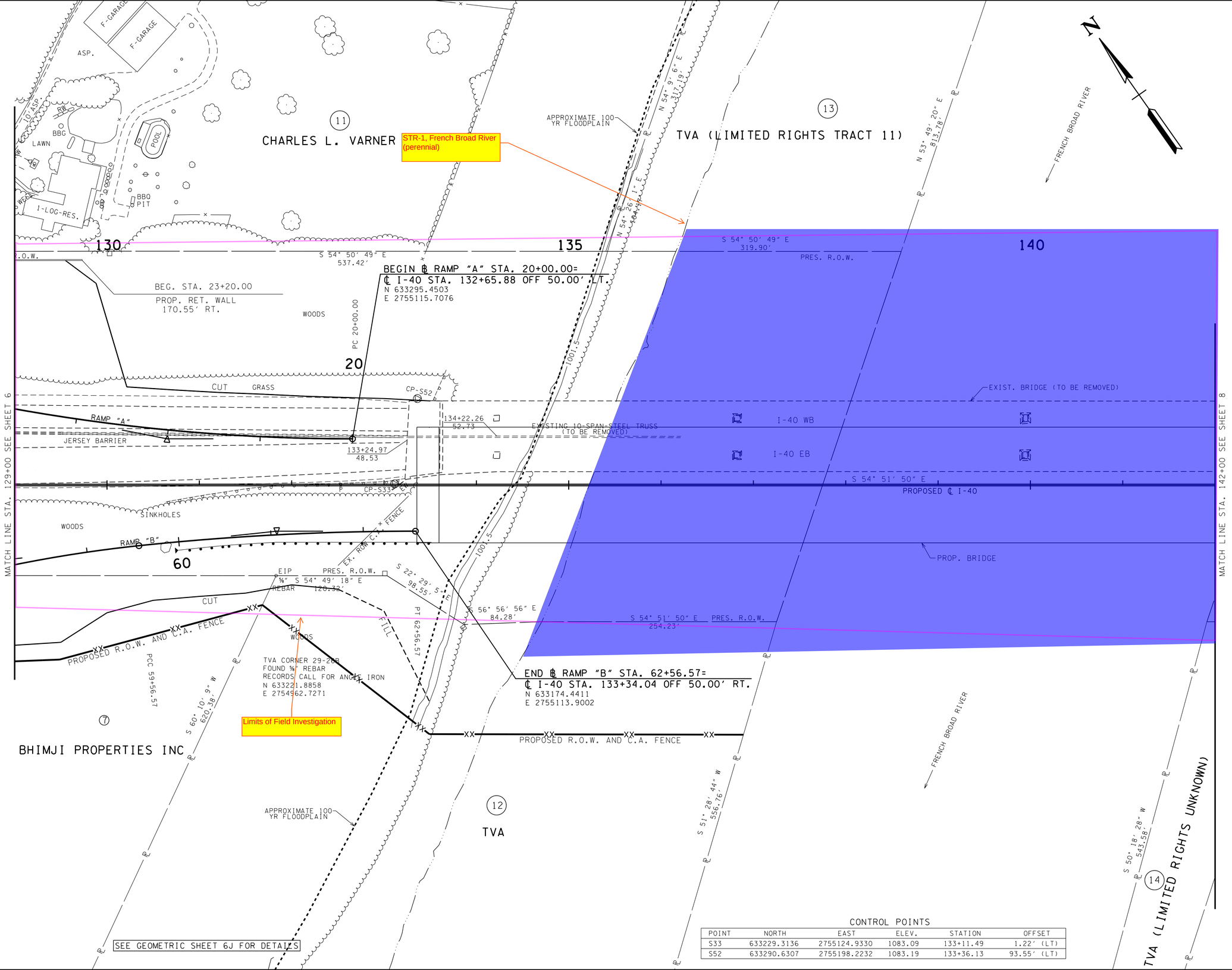
TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	7



CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S33	633229.3136	2755124.9330	1083.09	133+11.49	1.22' (LT)
S52	633290.6307	2755198.2232	1083.19	133+36.13	93.55' (LT)

STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.129+00 TO STA.142+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	8

STR-1, French Broad River (perennial)

15

TVA (LIMITED RIGHTS FANCHER FAMILY L.P.)

FRENCH BROAD RIVER

N 55° 11' 4" E
2438.44'

S 83° 0' 0" E
50.05'

N 56° 0' 0" E
148.53'

17

TVA

N 28° 0' 0" E
335.04'

145

S 54° 50' 49" E
586.34'

150

S 54° 50' 49" E
583.36'

N 65° 0' 0" E
7.35'

155

PRES. R.O.W.

EXIST. BRIDGE
(TO BE REMOVED)

I-40 WB

I-40 EB

L1

L2

S 54° 51' 50" E

PROPOSED ℄ I-40

MATCH LINE STA. 142+00 SEE SHEET 7

MATCH LINE STA. 155+00 SEE SHEET 9

PROP. BRIDGE

S 54° 53' 46" E
98.95'

PRES. R.O.W.

S 54° 53' 49" E
1211.22'

PRES. R.O.W.

14

S 53° 11' 46" W
554.63'

FRENCH BROAD RIVER

16

TVA

APPROXIMATE 100 YR FLOODPLAIN

Limits of Field Investigation

N 70° 0' 0" E
113.56'

S 53° 0' 0" W
370.00'

18

TVA (LIMITED RIGHTS TRACT 19)

STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000900 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.142+00 TO STA.155+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	9

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S34	631767.1452	2756870.8694	1022.41	155+80.80	189.70' (RT)
S35	631746.0196	2757587.1039	1013.84	161+78.68	205.23' (LT)
S36	631411.5059	2758025.4856	1018.98	167+31.56	182.81' (LT)
S41	631256.5652	2757942.1442	1028.59	167+50.81	7.92' (LT)
S46	631778.4825	2757205.3172	1041.57	158+47.78	12.06' (LT)
S51	631846.9601	2757250.9103	1041.14	158+45.66	94.29' (LT)

STR-1, French Broad River (perennial)

FRENCH BROAD R.

CURVE ROUNDHOUSE
PI 93+00.75
N 631,965.0927
E 2,757,181.7575
Δ 84° 56' 18" (RT)
D 63° 39' 43"
R 90.00
L 133.42
T 82.38
DESIGN SPEED 20 MPH
PC 92+18.37
PT 93+51.79

TVA
ROUNDHOUSE RD. STA. 93+88.97
N 631911.2696
E 2757288.5203

TVA (LIMITED RIGHTS TRACT 25)

RUSSELL E. BARNES AND WIFE, WILMA L. BARNES

RONALD E. WHITENER & WIFE BONNIE J. WHITENER

THE FANCHER'S FAMILY L. P.
ROUNDHOUSE RD. STA. 90+00.00
N 631792.6188
E 2756969.4216

CURVE ROUNDHOUSE
PI 90+95.35
N 631,787.4164
E 2,757,064.6267
Δ 57° 32' 53" (LT)
D 71° 37' 11"
R 80.00
L 80.35
T 43.93
DESIGN SPEED 20 MPH
PC 90+51.41
PT 91+31.77

TVA (LIMITED RIGHTS TRACT 22)

Limits of Field Investigation

18'ASP. ROUNDHOUSE RD.

I-40 WB

I-40 EB

PROPOSED ℄ I-40

EXIST. BRIDGE (TO BE REMOVED)

PROP. BRIDGE

MATCH LINE STA. 155+00 SEE SHEET 8

MATCH LINE STA. 168+00 SEE SHEET 10

SEE GEOMETRIC SHEET 6J FOR DETAILS

STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000900 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.155+00 TO STA.168+00

SCALE: 1"=50'

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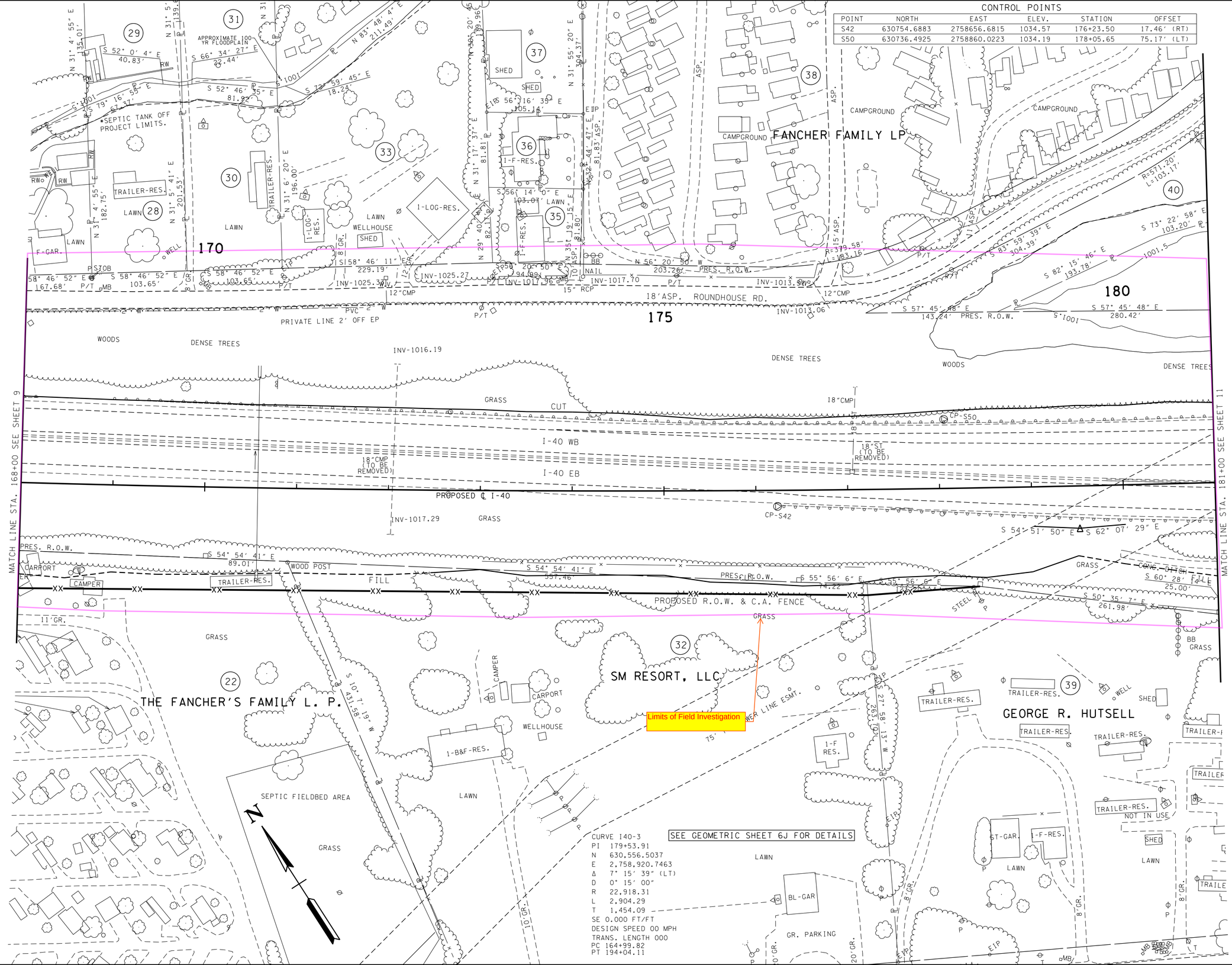
TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	10

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S42	630754.6883	2758656.6815	1034.57	176+23.50	17.46' (RT)
S50	630736.4925	2758860.0223	1034.19	178+05.65	75.17' (LT)



STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.168+00 TO STA.181+00

SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	11

STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.181+00 TO STA.194+00

SCALE: 1"=50'

MATCH LINE STA. 181+00 SEE SHEET 10

MATCH LINE STA. 194+00 SEE SHEET 12

CURVE DC057
PI 81+15.86
N 630,181.4009
E 2,759,770.4956
Δ 42° 14' 02" (RT)
D 19° 05' 55"
R 300.00
L 221.14
T 115.86
SE 0.000 FT/FT
DESIGN SPEED 00 MPH
TRANS. LENGTH 000
PC 80+00.00
PT 82+21.14

CURVE I40-3
PI 179+53.91
N 630,556.5037
E 2,758,920.7463
Δ 7° 15' 39" (LT)
D 0° 15' 00"
R 22,918.31
L 2,904.29
T 1,454.09
SE 0.000 FT/FT
DESIGN SPEED 00 MPH
TRANS. LENGTH 000
PC 164+99.82
PT 194+04.11

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S3	629985.4378	2760235.7961	1049.03	193+79.36	⊖ 110.03' (LT)
S47	630242.5682	2759420.1396	1041.82	185+40.31	P 60.34' (RT)
S49	630268.9839	2759666.8074	1041.47	187+41.39	85.12' (LT)

Limits of Field Investigation

SEE GEOMETRIC SHEET 6J FOR DETAILS

TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2016	BR-I-40-8(139)	12

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S4	629806.4402	2760543.1311	1050.38	197+34.84	95.51' (LT)
S48	629676.4404	2760595.8633	1050.45	198+42.24	5.25' (LT)

Limits of Field Investigation

PICNIC TABLE(TYP.)

F. VENDING

F. SHED

CANOPY

CANOPY

GRASS

GRASS

GRASS

198+24.68
279.96'

199+78.91
279.88'

S 62° 05' 51" E
154.33'

WB

199+89.07
199.80'

PRES. R.O.W.

S 62° 7' 33" E
600.50'

DIRT

205+89.57
199.81'

18" CONC.

14'ASP.

195

CUT

GRASS

CHAIN LINK FENCE

PROP. R/W FENCE

200

205

EX. INV-EL.1046.09

EX. 18"CMP

18" CONC.

CAG CONC.

CP-S4

RAMP "E"

10'ASP.

I-40 WB

24'ASP.

4'ASP.

CP-S48

EW INV-1047.17

EX. 15" CMP

EW INV-1047.78

EX. TOP-EL.1048.50
EX. INV-EL.1045.16

PROPOSED ℄ I-40

S 62° 07' 29" E

GRASS

EX. 24"CMP

4'ASP.

I-40 EB

24'ASP.

10'ASP.

24

CUT

NTL-1
AREA=0.33 AC.

EW INV-EL.1044.37

S 62° 9' 33" E
229.97'

S 61° 53' 38" E
70.13'

BB

195+04.07
134.65'

PRES. R.O.W.

S 62° 09' 45" E
500.12'

201+04.19
134.65'

206+04.31
134.65'

GRAVEL

SHED

1-ST-GAR.

GRASS

UNITED TRUCK
DRIVING SCHOOL

1-ST-BUS.

P/T

GRAVEL

6' GR.

36'GR.

24'ASP.

S.R.9 (US 25/70)

W.V.

FLAG

MATCH LINE STA. 194+00 SEE SHEET 11

MATCH LINE STA. 207+00 SEE SHEET 13

PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000900 AND TIED TO THE TCRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 194+00 TO STA. 207+00

SCALE: 1"=50'

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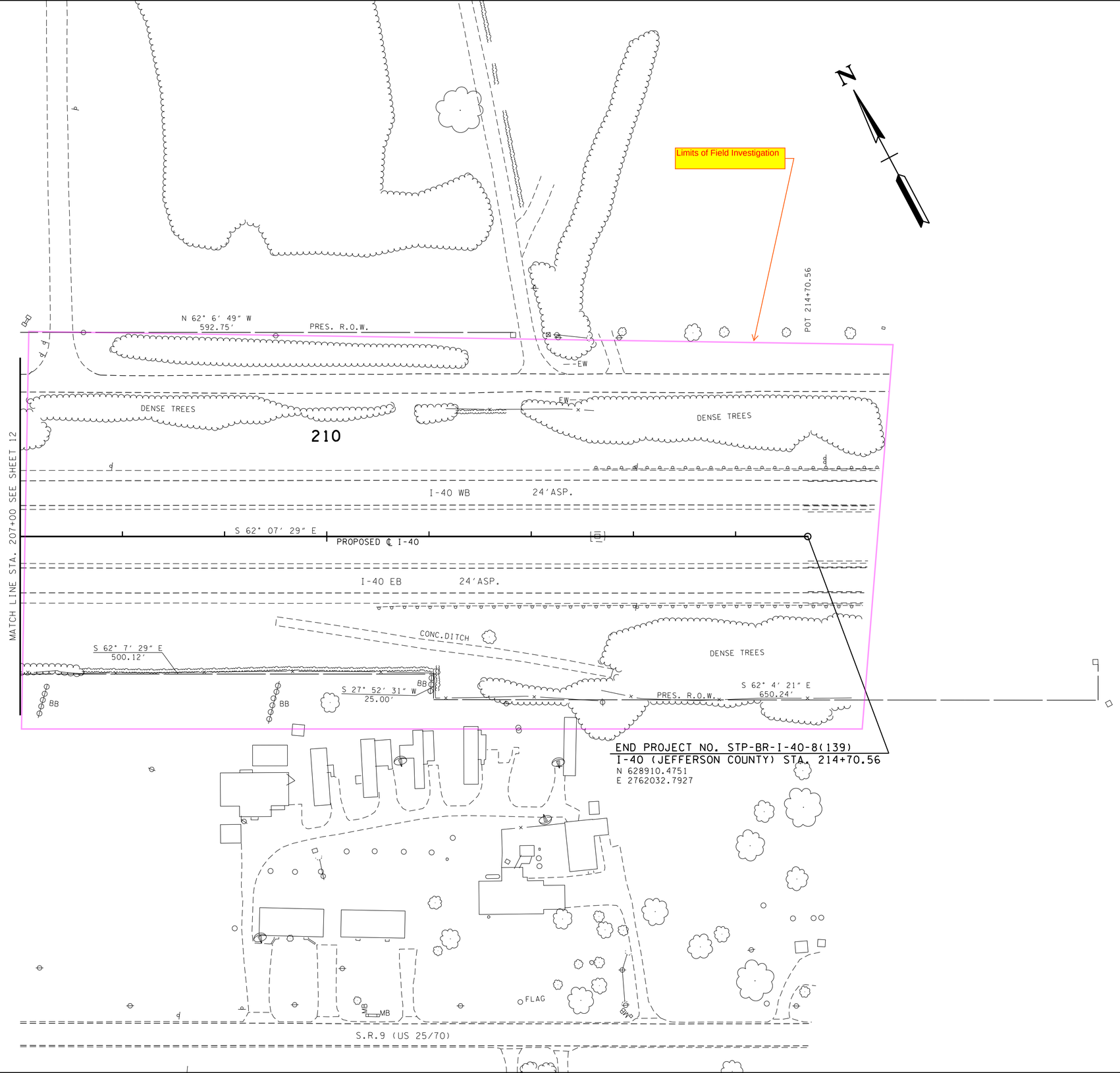
TYPE	YEAR	PROJECT NO.	SHEET NO.
PREL.	2015	STP-BR-I-40-8(139)	13



STRUCTURAL GRADE APPROVAL

PRELIMINARY PLANS

SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.207+00 TO 214+70.56

SCALE: 1"=50'

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Labels	Type	Function	Quality	Impacts		
				Permanent	Temporary	Total
Wetlands						
WTL-1	Emergent	Wlidlife		0.0 ac.	0.0 ac.	0.0 ac.
Streams						
WWC-1	Ephemeral		Undetermined at this time			
STR-1	Perennial		Undetermined at this time	0 ft		0 ft

Project: Jefferson Co., I-40 bridge over French Broad River PE No. 45002-1135-94 PIN: 106301.00

Date of field study: 08/13/15 Date TDEC database checked: 07/24/15 Completed by: Matt Bowling

Species reported within 1 mile radius of project:

Species Scientific and common names, followed by (A) for animal or (P) for plant	Status		Species is potentially present in R-O-W because: **(A)** it is listed by TDEC within ROW **(B)** habitat is present **(C)** observed during site visit **(D)** critical habitat present within ROW	Species is considered likely NOT present in R-O-W because: **(A)** Present habitat unsuitable **(B)** Not observed during site visit **(C)** Original record questionable **(D)** Considered extinct/extirpated	Accommodations to minimize impacts: **(A)** BMPs are sufficient to protect species **(B)** Special Notes are included on project plans **(C)** Individuals will be impacted. **(D)** Accommodations not practical due to broad habitat description or mobility of species	Habitat (include blooming, breeding or other information; where found according to TDEC database; year last observed; reference)	Notes
	Fed	TN					
No protected species present							

Species reported within 1-mile to 4-mile radius of project:

Species Scientific and common names, followed by (A) for animal or (P) for plant	Status		Species is potentially present in R-O-W because: **(A)** it is listed by TDEC within ROW **(B)** habitat is present **(C)** observed during site visit **(D)** critical habitat present within ROW	Species is considered likely NOT present in R-O-W because: **(A)** Present habitat unsuitable **(B)** Not observed during site visit **(C)** Original record questionable **(D)** Considered extinct/extirpated	Accommodations to minimize impacts: **(A)** BMPs are sufficient to protect species **(B)** Special Notes are included on project plans **(C)** Individuals will be impacted. **(D)** Accommodations not practical due to broad habitat description or mobility of species	Habitat (include blooming, breeding or other information; where found according to TDEC database; year last observed; reference)	Notes
	Fed	TN					
PS-1, Spreading Rockcress Boechera patens (P)	--	E	**B**		**D**	Moist rocky woods, limestone outcrops, and shady riverbanks. Last observed date: 1842	

Project: Jefferson Co., I-40 bridge over French Broad River PE No. 45002-1135-94 PIN: 106301.00

Species Scientific and common names, followed by (A) for animal or (P) for plant	Status		Species is potentially present in R-O-W because: **(A)** it is listed by TDEC within ROW **(B)** habitat is present **(C)** observed during site visit **(D)** critical habitat present within ROW	Species is considered likely NOT present in R-O-W because: **(A)** Present habitat unsuitable **(B)** Not observed during site visit **(C)** Original record questionable **(D)** Considered extinct/extirpated	Accommodations to minimize impacts: **(A)** BMPs are sufficient to protect species **(B)** Special Notes are included on project plans **(C)** Individuals will be impacted. **(D)** Accommodations not practical due to broad habitat description or mobility of species	Habitat (include blooming, breeding or other information; where found according to TDEC database; year last observed; reference)	Notes
PS-2, Appalachian Elktoe Alasmidonta raveneliana (A)	LE	E		**A**		This mussel has been found in gravelly substrate, often mixed with cobble and boulder, or in cracks in bedrock. Reported from shallow, medium-sized creeks and rivers with cool, clean, well-oxygenated, moderate to fast flowing water. Last observed date: 2002	
PS-3, Bald Eagle Haliaeetus leucocephalus (A)	--	D	**B**		**D**	Breeding habitat most commonly includes areas close to (within 4 km) coastal areas, bays, rivers, lakes, reservoirs, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, or seabirds. Last observed date: 2003	

Project: Jefferson Co., I-40 bridge over French Broad River PE No. 45002-1135-94 PIN: 106301.00

Migratory Birds

List *significant concentrations* of migratory birds encountered within the project area (rookeries, aggregations, nesting areas, etc.).

Species (Scientific and Common Name)	Approximate No. of Nests (or Individuals)	Location of Nests (or Individuals) (Include Latitude & Longitude)	Nesting Dates and Reference	Photograph #
NONE				

USFWS letter: Yes _X_ (attached) No ____

Biological Assessment: Yes _X_ No ___

Species (scientific and common names)	USFWS conclusion[1]
Indiana bat (*Myotis sodalis*)	results of bat survey will be forwarded upon completion
Northern long-eared bat (Myotis *septentrionalis)*	results of bat survey will be forwarded upon completion

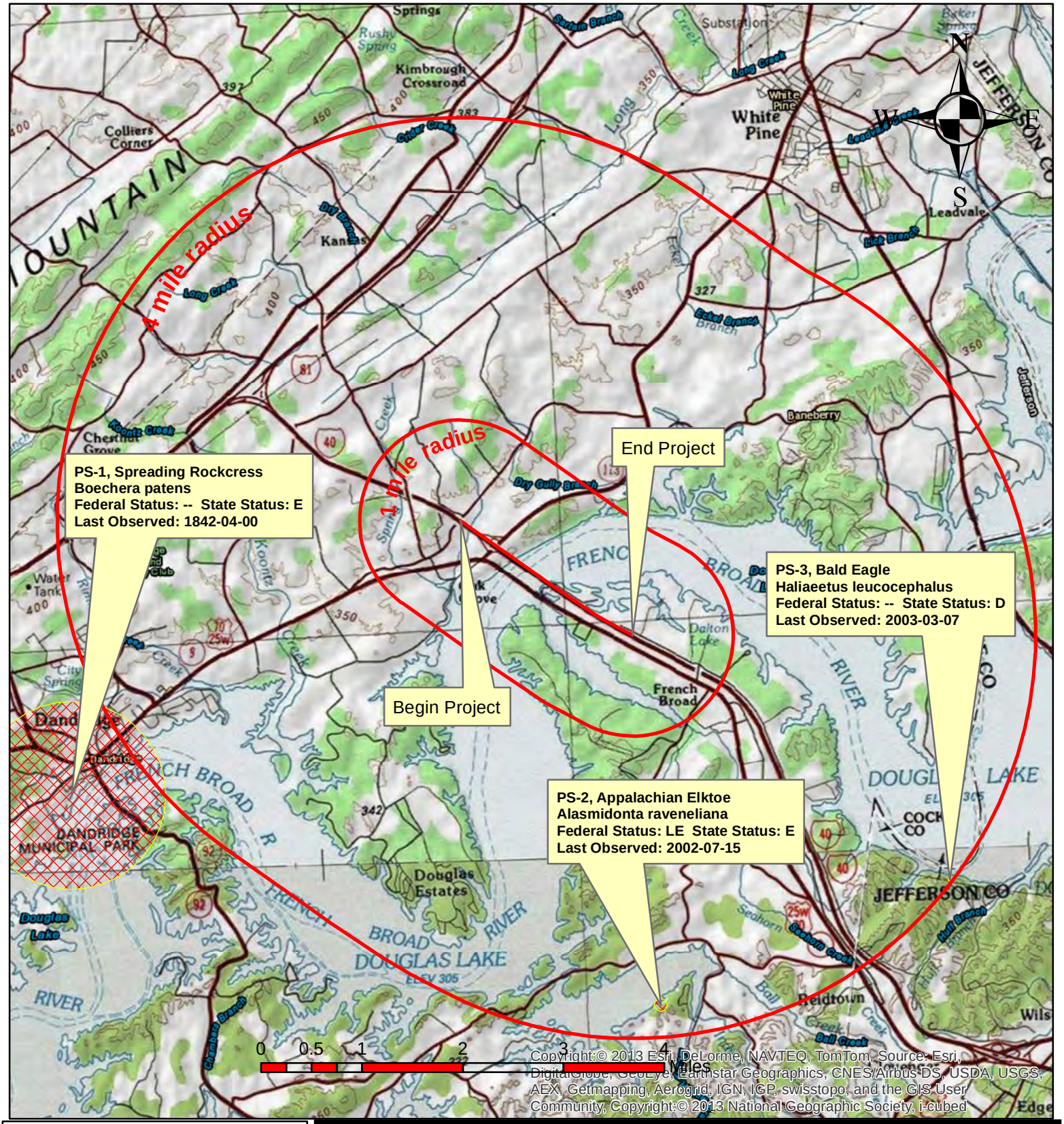
[1] Choose from “no effect"; "not likely to adversely affect;" or "likely to adversely affect;". If “likely to adversely affect” is chosen, indicate "no jeopardy to species and no adverse modification to habitat” or “jeopardy to species, or adverse modification to habitat” based on FWS concurrence letter

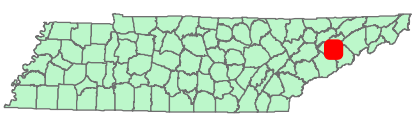
List Natural Areas, management areas, refuges, or similar sites within or adjacent to project (attach 7.5 minute topographic map with pertinent boundaries of area marked)

Area Name	Type of Area	Pertinent Notes
NONE		

List locations that contain potential Indiana bat habitat (Provide an aerial that indicates areas checked)

Location (description; lat/long or station number)	Tree Species	Photograph #





Species Review Map
I-40, Bridge Over French Broad River, L.M. 14.70
Jefferson County, TN

White Pine, TN Quadrangle, 163 SE

Date: 07/24/15

P.E. No. 45002-1135-94
PIN 106301.00

TN TDOT Department of Transportation

Jefferson Co: I-40 Bridge over French Broad River, L.M. 14.70 **PE: 45002-1135-94** **PIN: 106301.00** **7/24/2015**

MAP ID	EO_ID	SCIENTIFIC_NAME	COMMON_NAME	FED_PROTECTION	ST_PROTECTION	LAST_OBS_DATE
PS-1	4508	Boechera patens	Spreading Rockcress	--	E	1842-04-00
PS-3	13399	Haliaeetus leucocephalus	Bald Eagle	--	D	2003-03-07
PS-2	18021	Alasmidonta raveneliana	Appalachian Elktoe	LE	E	2002-07-15

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tennessee ES Office
446 Neal Street
Cookeville, Tennessee 38501

August 20, 2015

Mr. Matt Bowling
Tennessee Department of Transportation
Environmental Planning and Permits
James K. Polk Building, Suite 900
505 Deaderick Street
Nashville, Tennessee 37243-0349

Subject: FWS# 15-CPA-0706. Proposed replacement of the Interstate 40 Bridge over the French Broad River @ LM 14.7; PIN 106301.00, P.E. 45002-1135-94, Jefferson County, Tennessee.

Dear Mr. Bowling:

Thank you for your correspondences dated July 24 and August 18, 2015, regarding the proposal to replace the Interstate 40 Bridge over the French Broad River in Jefferson County, Tennessee. The project would involve construction of a new bridge with three instream piers and demolition of the existing structure. Blasting may be required for placement of the instream pier seals on rock and/or removal of the old bridge piers. The Tennessee Department of Transportation (TDOT) has requested a list of threatened or endangered species that may be present within the project area. Personnel of the U.S. Fish and Wildlife Service have reviewed the subject proposal and offer the following comments.

Available imagery indicates that suitable summer roosting habitat for the federally endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) may be removed for the project. A qualified individual should assess potential impacts and determine if the proposed project may affect these species. As a designated representative for the Federal Highway Administration (FHWA), TDOT should submit a copy of the assessment and findings to this office for review and concurrence. A finding of "may affect" could require initiation of formal consultation by the FHWA.

Open water blasting with no containment measures most recently resulted in fish kills when blasting for new piers on the State Route 73 Bridge in Loudon County, Tennessee and during demolition of the old U.S. Highway 41 Bridge at Haletown in Marion County, Tennessee. If instream blasting would be required, we recommend that appropriate containment measures be implemented into the project plans to attenuate the blast.

Information available to the Service does not indicate that wetlands exist in the vicinity of the proposed project. However, our wetland determination has been made in the absence of a field inspection and does not constitute a wetland delineation for the purposes of Section 404 of the Clean Water Act. The Corps of Engineers should be contacted if other evidence, particularly that obtained during an on-site inspection, indicates the potential presence of wetlands.

If you have any questions regarding our comments, please contact John Griffith of my staff at 931/525-4995 or by email at *john_griffith@fws.gov*.

Sincerely,

for Mary E. Jennings
Field Supervisor

Matt Bowling

From: Vincent Pontello
Sent: Friday, August 28, 2015 10:40 AM
To: Matt Bowling
Cc: Rob Todd
Subject: RE: Jefferson Co., I-40 Bridge over French Broad River, LM 14.70, PIN 106301.00 Google Earth Placemark: I-40 bridge over French Broad River.kmz

Matt,

Sorry for the delay, I was waiting for a response from our TWRA region over that area.

My data shows no occurrences of listed species within four miles of the project location. The implementation of BMPs will be sufficient to satisfy the needs of the TWRA. Please contact me if you need further assistance.

Vincent L. Pontello

Wildlife Biologist

Liaison to Federal Highway Admin. & TDOT

Tennessee Wildlife Resources Agency

Environmental Services Division

From: Matt Bowling
Sent: Friday, July 24, 2015 11:49 AM
To: John_Griffith@fws.gov; Vincent Pontello
Cc: Tammy_Bilbrey@fws.gov; Carma H. Smith; John Hewitt; Rob Todd; Keven Brown
Subject: Jefferson Co., I-40 Bridge over French Broad River, LM 14.70, PIN 106301.00 Google Earth Placemark: I-40 bridge over French Broad River.kmz

Gentlemen,

A species info request for the subject project is attached. Maps and plan sheets are also attached for your use. If you have any questions, or need additional information, please let me know.

Matt Bowling
Ecology Section
TDOT Region 1 Consultant
865-594-2439
matt.bowling@tn.gov