FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

GENERAL PROJECT INFORMATION

Road No./County:	**US 31/Tipton County**
Designation Number:	**1592421**
Project Description/Termini:	**New Bridge/Grade Separation -** A new bridge/grade separation carrying US 31 over County Road 100 South, Norfolk Southern Railroad. The project will extend 4,120 feet north of the Norfolk Southern Railroad and 1,850 feet south of the Norfolk Southern Railroad.

After completing this form, I conclude that this project qualifies for the following type of Categorical Exclusion (FHWA must review/approve if Level 4 CE):

	Categorical Exclusion, Level 2 – The proposed action meets the criteria for Categorical Exclusion Manual Level 2 - table 1, CE Level Thresholds. Required Signatories: ESM (Environmental Scoping Manager)
	Categorical Exclusion, Level 3 – The proposed action meets the criteria for Categorical Exclusion Manual Level 3 - table 1, CE Level Thresholds. Required Signatories: ESM, ES (Environmental Services Division)
X	**Categorical Exclusion, Level 4** – The proposed action meets the criteria for Categorical Exclusion Manual Level 4 - table 1, CE Level Thresholds. Required Signatories: ESM, ES, FHWA
	Environmental Assessment (EA) – EAs require a separate FONSI. Additional research and documentation is necessary to determine the effects on the environment. Required Signatories: ES, FHWA

Note: For documents prepared by or for Environmental Services Division, it is not necessary for the ESM of the district in which the project is located to release for public involvement or sign for approval.

Approval _____ _____ _____ _____
ESM Signature Date ES Signature Date

_____ _____
FHWA Signature Date

Release for Public Involvement

N/A 5-27-2020
ESM Initials Date ES Initials Date

Certification of Public Involvement _____ _____
Office of Public Involvement Date

Note: Do not approve until after Section 106 public involvement and all other environmental requirements have been satisfied.

INDOT ES/District Env.
Reviewer Signature: _____ Date: _____

Name and Organization of CE/EA Preparer: Michael S. Oliphant, United Consulting

Part I - PUBLIC INVOLVEMENT

Every Federal action requires some level of public involvement, providing for early and continuous opportunities throughout the project development process. **The level of public involvement should be commensurate with the proposed action.**

	Yes	No
Does the project have a historic bridge processed under the Historic Bridges PA*?		X
If No, then:		
Opportunity for a Public Hearing Required?	X	

**A public hearing is required for all historic bridges processed under the Historic Bridges Programmatic Agreement between INDOT, FHWA, SHPO, and the ACHP.*

Discuss what public involvement activities (legal notices, letters to affected property owners and residents (i.e. notice of entry), meetings, special purpose meetings, newspaper articles, etc.) have occurred for this project.

Remarks:

Notice of Environmental Survey Letters were mailed to potentially affected property owners near the project area on October 17, 2016 notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix J, J-1.

Section 106

To meet the public involvement requirements of Section 106, a legal notice of FHWA's finding of "No Historic Properties Affected" was published in the Tipton County Tribune on August 16, 2019 offering the public an opportunity to submit comment pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4). The public comment period closed 30 days later on September 20, 2019. The text of the public notice and the affidavit of publication appear in Appendix D, D-40. No comments were received as a result of the public notice.

The project will meet the minimum requirements described in the current *Indiana Department of Transportation (INDOT) Public Involvement Manual* which requires the project sponsor to offer the public an opportunity to submit comment and/or request a public hearing. Therefore, a legal notice will appear in a local publication contingent upon the release of this document for public involvement. This document will be revised after the public involvement requirements are fulfilled.

Public Controversy on Environmental Grounds	Yes	No
Will the project involve substantial controversy concerning community and/or natural resource impacts?		X

Remarks:

At this time, there is no substantial public controversy concerning impacts to the community or to natural resources.

Part II - General Project Identification, Description, and Design Information

Sponsor of the Project: Indiana Department of Transportation INDOT District: Greenfield
Local Name of the Facility: US 31

Funding Source (*mark all that apply*): Federal [X] State [X] Local [ ] Other* [ ]

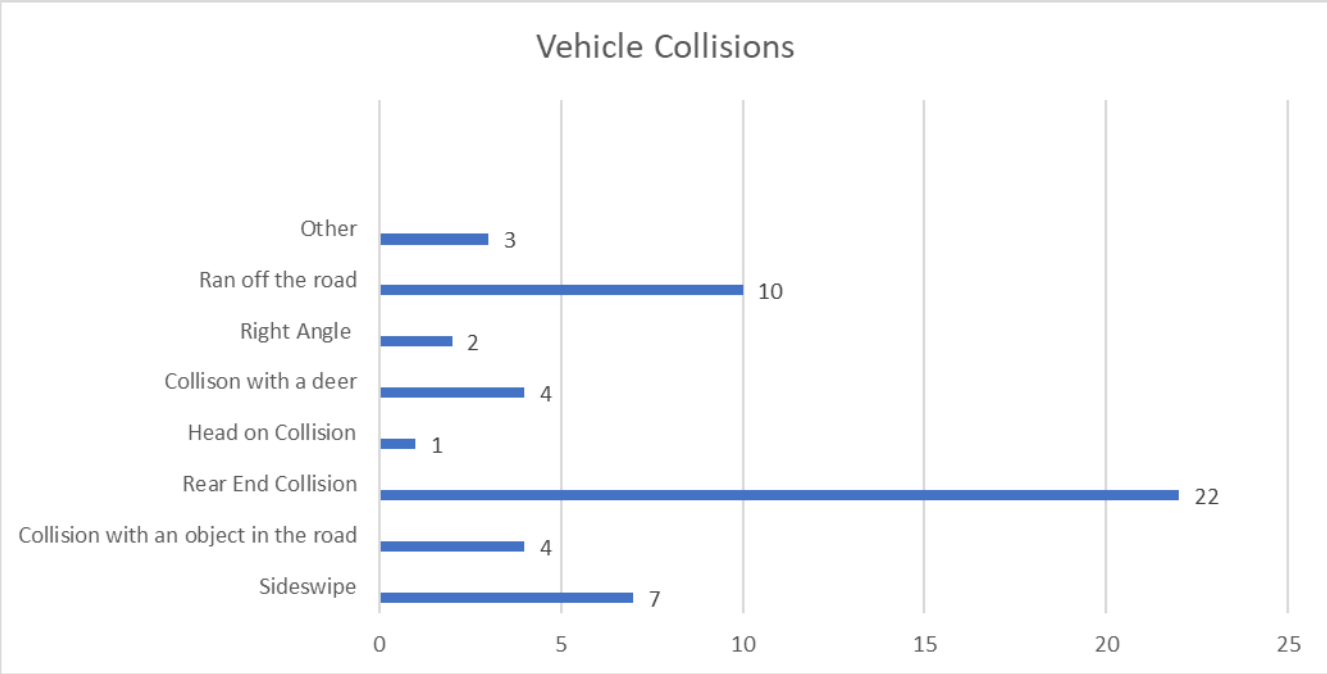
*If other is selected, please indentify the funding source: _____

PURPOSE AND NEED:

Describe the transportation problem that the project will address. The solution to the traffic problem should NOT be discussed in this section. (Refer to the CE Manual, Section IV.B.2. Purpose and Need)

Need and Purpose

The need for this project stems from the frequency of traffic disruptions, number of individuals impacted daily by the train crossing, and a history of vehicle collisions. Approximately seven trains utilize the existing rail facilities each day crossing this segment of US 31. The train crossing stops traffic flow increasing the potential for vehicle collisions and results in delayed travel times. The stopped traffic flow has led to a history of vehicle collisions near the railway intersection. From 2015-2019, 53 crashes of all varieties occurred along US 31 near this intersection. The following table shows accident data for the five-year period 2015-2019 along US 31:



The purpose of this project is to improve the flow of traffic on US 31 across the Norfolk Southern Railroad, reduce traffic disruptions for those traveling on US 31 and to reduce vehicle collisions.

County Tipton Route US 31 Des. No. 1592421

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Tipton County Municipality: N/A

Limits of Proposed Work: The project will extend 4,120 feet north of the Norfolk Southern Railroad (to compensate for poor soil conditions) and 1,850 feet south of the Norfolk Southern Railroad.

Total Work Length: 1.13 Mile(s) Total Work Area: 35.5 Acre(s)

	Yes[1]	No
Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required?		X
If yes, when did the FHWA grant a conditional approval for this project?	Date:	

[1]*If an IMS or IJS is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IMS/IJS.*

In the remarks box below, describe existing conditions, provide in detail the scope of work for the project, including the preferred alternative. Include a discussion of logical termini. Discuss any major issues for the project and how the project will improve safety or roadway deficiencies if these are issues.

Location

The new bridge construction carrying US 31 over County Road 100 South and Norfolk Southern Railroad is located along the section line between Sections 1 and 12, Township 21 North, and Range 3 East in Tipton County, Indiana. The intersection of US 31 with County Road 100 South and Norfolk Southern Railroad is located approximately one mile north of SR 28 and four miles west of the City of Tipton in Jefferson Township, within the Kempton Quadrangle Map. Please see Appendix B for location maps.

Existing Conditions

US 31 is functionally classified as a Rural Other Principal Arterial with an estimated Annual Average Daily Traffic (AADT) of 27,840 vehicles per day with 11% Trucks (2020). The cross section consists of two – 12.0 foot lanes with a 4.0 foot inside shoulder and a 10.0 foot outside shoulder in each direction. The grass median varies from 52 feet to 86 feet within the project limits. The existing pavement consists of 5.5 inches of bituminous over 8.0 to 9.0 inches of concrete pavement on a stone subbase south of County Road 100 South and 6.0 inches of bituminous over 8.0 to 9.0 inches of concrete pavement on a stone subbase north of County Road 100 South. The existing cross slope is 3/16 inch per foot per the 1991 and 1995 resurfacing plans. Overall the pavement is in fair condition.

The horizontal alignment includes slight horizontal curves north and south of County Road 100 South. The vertical profile is generally level with a maximum existing grade of 0.26%. There are approximately six median crossovers and twelve drives along US 31 within the project limits. County Road 100 South is functionally classified as a Rural Local Road with an estimated ADT of 317 vehicles per day. County Road 100 South is located immediately south of the Norfolk Southern Railroad. County Road 100 South is stop controlled at US 31 and is posted with a 45 miles per hour (mph) speed limit. The cross section consists of two – 8.0 foot lanes bordered by two foot aggregate shoulders. The existing pavement consists of chip and seal pavement that is in poor to fair condition. The horizontal alignment is tangent and the grade is fairly level with a slight rise through the intersection with US 31.

There is no existing structure at this location. The existing intersection of US 31 and County Road 100 South is stop controlled along County Road 100 South. The at-grade crossing of US 31 and Norfolk Southern Railroad utilizes railroad crossing signals and crossing arms.

Preferred Alternative

The preferred alternative includes construction of a single span twin structure carrying US 31 over County Road 100 South, the existing Norfolk Southern Railroad. The project limits are approximately 5,940 feet in length. The project begins 1,850 feet south of the Norfolk Southern Railroad and extends 4,120 feet north of the Norfolk Southern Railroad (to compensate for poor soil conditions). The project limits only includes the area necessary to reconstruct the approach roadway on both sides the bridge. As a result, the limits of the project exhibit logical termini and independent utility.

The proposed structures will be single span twin bridges with a 44.5 foot out-to-out coping width and 41.58 foot clear roadway. The bridge cross section consists of two 12.0 foot travel lanes, and varying-width shoulders with a minimum width of 5.67 feet to the inside and 11.67 feet to the outside. F shaped truck height (Type FT) bridge railing is warranted along each coping.

The superstructures are composed of an 8 inch concrete deck on prestressed hybrid concrete BulbT beams. The bridges will be constructed with a 2% cross slope sloping outward from the median. The superstructures will be supported on semi-integral end bents behind mechanically stabilized earth (MSE) walls. The structures will be constructed with no skew.

The structures will provide a 23 foot minimum vertical clearance over the railroad tracks and a 14.5 foot minimum vertical clearance over County Road 100 South. The proposed structures will consist of an 120 foot span from centerline of bent to centerline of bent. MSE walls will be constructed to retain the proposed embankments. MSE Walls No.1 and No. 2 will flare at 45 degrees outside the limits of the end bents to reduce the overall wall area, MSE wall No. 3 is located approximately 700 feet north of the railroad and is necessary to protect the northeast shared drive.

The US 31 approach roadway consists of two 12.0 foot travel lanes, a 4.0 foot inside shoulder, and a ten foot outside shoulder. The roadway will be constructed with a 2% normal crown cross slope with an earthen median. In the areas where median barrier is used, the cross slope will be 2% outward away from the median. New horizontal alignments, Line PR-NBL and Line PR-SBL, have been established for the centerline of the northbound and southbound lanes of US 31, respectively.

Access to County Road 50 South will be removed and a cul-de-sac will be constructed. After shifting the proposed alignment of US 31 to west, the existing NB lanes of US 31 will be converted to a 20 foot wide driveway that extends 1800 feet south of the cul-de-sac. This will be a shared drive that provides access for 5 parcels to County Road 50 South.

The project requires the acquisition of approximately 13.97 acres of permanent right-of-way and 0.85 acres of temporary right-of-way for driveway construction. Proposed right-of-way widths along US 31 would be 150 feet from centerline. The proposed right-of-way has increased by 4.17 acres of new permanent agricultural and residential right-of-way from what was stated in the early coordination letter. This is due to the removal of two retaining walls in the vicinity of County Road 100 South. The overall design of the project has not changed.

This alternative satisfies the purpose and need of this project by improving the flow of traffic on US 31 across the Norfolk Southern Railroad, reducing traffic disruptions for those traveling on US 31 and reducing vehicle collisions.

Maintenance of Traffic

One lane of traffic in each direction will be maintained on US 31 at all times by using temporary crossovers. Phase I will require shifting all southbound lanes onto the northbound lanes while the southbound lanes and bridge are being constructed. A wire face MSE wall is anticipated to retain the southbound embankment fill along the phase line. Phase II will require shifting all lanes of traffic onto the southbound lanes while the northbound lanes are being constructed.

The existing railroad crossing warning signal and crossing arm will need to be modified for the Phase I maintenance of traffic. Traffic will not be maintained on County Road 100 South through the duration of construction. The roadway will be closed to through traffic during construction. A posted detour that is coordinated with Tipton County and the City of Tipton will be utilized during the closure. Local access to all properties within the project limits will be maintained during construction.

OTHER ALTERNATIVES CONSIDERED:

Describe all discarded alternatives, including the Do-Nothing Alternative and an explanation of why each discarded alternative was not selected.

Do-Nothing/No Build Option:

The no-build option does not improve mobility along US 31. Advantages of this alternative include no requirement for right-of-way and no environmental impacts. Disadvantages of this alternative include roadway congestion and increased travel times. This option was discarded from further consideration as it would not satisfy the purpose and need of the project.

Alternative 1:

This alternative consists of twin, single span bridges constructed on the existing alignment. The span arrangement and beam selection were optimized to provide the required vertical clearance over County Road 100 South and the Norfolk Southern Railroad. The bridge consists of the same span length, out-to-out length and width and clear roadway width as the preferred alternative. An existing muck trestle bridge is in place beneath the northbound travel lanes. This structure is 582 feet long beginning 1,300 feet north of the railroad tracks. Constructing the proposed grade on the existing alignment would require the placement of approximately 8 feet of fill at this location. Concerns with placing additional surcharge load on the 60+ year old structure lead to consideration of an alternate alignment which shifted the NB US 31 lanes to the west. The geotechnical investigation indicated the presence of a large peat deposit in the median that would require a 625 feet long structure to span the area of poor soils. In addition to the bridge, walls would be necessary in this area to retain the SB fill adjacent to the NB bridge, and along the east side of US 31 to protect the driveway access of the properties in the NE quadrant. This alternative meets the purpose and need. However, this alternative cost approximately $3.5 million more than the preferred alternative.

The Do Nothing Alternative is not feasible, prudent or practicable because (*Mark all that apply*):

It would not correct existing capacity deficiencies; ☐
It would not correct existing safety hazards; ☐
It would not correct the existing roadway geometric deficiencies; ☐

It would not correct existing deteriorated conditions and maintenance problems; or	
It would result in serious impacts to the motoring public and general welfare of the economy.	
Other The Do Nothing Alternative would not improve the flow of traffic on US 31 across the Norfolk Southern Railroad and reduce traffic disruptions for those traveling on US 31	X

ROADWAY CHARACTER:

US 31

Functional Classification: Principal Arterial
Current ADT: 1,100 VPD (2022) Design Year ADT: 15,200 VPD (2042)
Design Hour Volume (DHV): 1,400 Truck Percentage (%) 17
Designed Speed (mph): 30 Legal Speed (mph): 30

	Existing		Proposed	
Number of Lanes:	4		4	
Type of Lanes:	Travel Lanes		Travel Lanes	
Pavement Width:	76	ft.	76	ft.
Shoulder Width:	4 foot inside – 10 foot outside	ft.	4 foot inside – 10 foot outside	ft.
Median Width:	Varies 15 feet to 50 feet	ft.	Varies 15 feet to 50 feet	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:		Urban		Suburban	X Rural
Topography:	X	Level		Rolling	Hilly

County Road 100 South

Functional Classification: Local Road
Current ADT: 330 VPD VPD (2020) Design Year ADT: 450 VPD (2040)
Design Hour Volume (DHV): 52 Truck Percentage (%) 5
Designed Speed (mph): 45 Legal Speed (mph): 45 mph

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Travel Lanes		Travel Lanes	
Pavement Width:	24	ft.	24	ft.
Shoulder Width:	2	ft.	2	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:		Urban		Suburban	X Rural
Topography:	X	Level		Rolling	Hilly

County Road 50 South

Functional Classification: Local Road
Current ADT: 100 VPD (2020) Design Year ADT: 50 VPD (2040)
Design Hour Volume (DHV): 8 Truck Percentage (%) 5
Designed Speed (mph): 45 Legal Speed (mph): 45 mph

Indiana Department of Transportation

County Tipton Route US 31 Des. No. 1592421

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Travel Lanes		Travel Lanes	
Pavement Width:	24	ft.	24	ft.
Shoulder Width:	2	ft.	2	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:		Urban		Suburban	X	Rural
Topography:	X	Level		Rolling		Hilly

DESIGN CRITERIA FOR BRIDGES:

Structure/NBI Number(s): 031-80-02807 NBL & SBL/ N/A Sufficiency Rating: N/A
(Rating, Source of Information)

	Existing		Proposed	
Bridge Type:	N/A		Twin Hybrid Composite Prestressed Concrete Bulb-Tee Beam Bridge	
Number of Spans:	N/A		Single	
Weight Restrictions:	N/A	ton	N/A	ton
Height Restrictions:	N/A	ft.	23	ft.
Curb to Curb Width:	N/A	ft.	86	ft.
Outside to Outside Width:	N/A	ft.	89	ft.
Shoulder Width:	N/A	ft.	N/A	ft.
Length of Channel Work:			N/A	ft.

Describe bridges and structures; provide specific location information for small structures.

Remarks: The proposed structures will carry US 31 over County Road 100 South, the existing Norfolk Southern Railroad, and a future track 15 feet north of the existing track. The proposed structures will be single span hybrid composite prestressed concrete bulb-tee beam twin bridges with a 44.5 foot out-to-out coping width and 41.6 foot clear roadway. The bridge cross section consists of two12 foot travel lanes, and varying-width shoulders with a minimum width of 5.7 foot to the inside and 11.7 foot to the outside. F shaped truck height bridge railing is warranted along each coping.

	Yes	No	N/A
Will the structure be rehabilitated or replaced as part of the project?			X

If the proposed action has multiple bridges or small structures, this section should be filled out for each structure.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

	Yes	No
Is a temporary bridge proposed?		X
Is a temporary roadway proposed?		X
Will the project involve the use of a detour or require a ramp closure? (describe in remarks)	X	
Provisions will be made for access by local traffic and so posted.	X	
Provisions will be made for through-traffic dependent businesses.	X	

Indiana Department of Transportation

County Tipton Route US 31 Des. No. 1592421

Provisions will be made to accommodate any local special events or festivals.	X	
Will the proposed MOT substantially change the environmental consequences of the action?		X
Is there substantial controversy associated with the proposed method for MOT?		X

Remarks:

One lane of traffic in each direction will be maintained on US 31 at all times by using temporary crossovers. Phase I will require shifting all southbound lanes onto the northbound lanes while the southbound lanes and bridge are being constructed. A wire face MSE wall is anticipated to retain the southbound embankment fill along the phase line. Phase II will require shifting all lanes of traffic onto the southbound lanes while the northbound lanes are being constructed.

The existing railroad crossing warning signal and crossing arm will need to be modified for the Phase I maintenance of traffic. Traffic will not be maintained on County Road 100 South through duration of construction. The roadway will be closed to through traffic during construction. A posted detour that is coordinated with Tipton County and the City of Tipton will be utilized during the closure. Local access to all properties within the project limits will be maintained during construction.

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: $ 1,975,000 (2019) Right-of-Way: $ 2,300,000 (2020) Construction: $ 20,700,000 (2021)

Anticipated Start Date of Construction: February 2021

Date project incorporated into STIP July 2, 2019

	Yes	No
Is the project in an MPO Area?		X

If yes,

Name of MPO N/A

Location of Project in TIP N/A

Date of incorporation by reference into the STIP N/A

RIGHT OF WAY:

	Amount (acres)	
Land Use Impacts	Permanent	Temporary
Residential	1.88	0.42
Commercial	0.45	0.00
Agricultural	11.64	0.43
Forest	0.00	0.00
Wetlands	0.00	0.00
Other:	0.00	0.00
Other:	0.00	0.00
TOTAL	13.97	0.85

Describe both Permanent and Temporary right-of-way and describe their current use. Typical and Maximum right-of-way widths (existing and proposed) should also be discussed. Any advance acquisition or reacquisition, either known or suspected, and there impacts on the environmental analysis should be discussed.

Remarks:

The project requires the acquisition of approximately 13.97 acres of permanent right-of-way and 0.85 acres of temporary right-of-way for driveway construction. Proposed right-of-way widths along US 31 would be 150 feet from centerline. The proposed right-of-way has increased by 4.17 acres of new permanent agricultural and residential right-of-way from what was stated in the early coordination letter. This is due to the removal of two retaining walls in the vicinity of County Road 100 South. The overall design of the project has not changed.

The existing right-of-way varies from 87 feet to 150 feet along US 31. The total existing right-of-way width along County Road 100 South varies between 72 feet to 82 feet.

The proposed project will raise the grade along US 31 by approximately 32 feet which will result in right-of-way acquisition in all four quadrants. It is anticipated that right-of-way will need to be acquired from 22 parcels. Five relocations are anticipated.

Additionally, this project involves 13.97 acres of new permanent right-of-way with 180 acres of excess land acquired through advanced acquisition with state funds. A MAP-21 CE was approved for the advanced right-of-way acquisition on July 19, 2019. All acquisition complied with the Uniform Act and it did not influence the selection of alternatives.

If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately.

Part III – Identification and Evaluation of Impacts of the Proposed Action

SECTION A – ECOLOGICAL RESOURCES

	Presence	Impacts	
		Yes	No
Streams, Rivers, Watercourses & Jurisdictional Ditches			
Federal Wild and Scenic Rivers			
State Natural, Scenic or Recreational Rivers			
Nationwide Rivers Inventory (NRI) listed			
Outstanding Rivers List for Indiana			
Navigable Waterways			

County Tipton Route US 31 Des. No. 1592421

Remarks: Based on a desktop review, site visits on May 16, 2017, October 12, 2017 and June 19, 2019 by United Consulting, the aerial map of the project area (Appendix B, B-2) and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, E-8) there are no streams, rivers, watercourse or jurisdictional ditches within the 0.5 mile search radius. No streams, rivers, watercourses, or jurisdictional ditches are present within the project area, therefore, no impacts are expected.

A Waters of the U.S. Determination / Wetland Delineation Report was approved by INDOT's Ecology and Waterway Permitting on October 8, 2019. Please refer to Appendix F for the Waters of the U.S. Determination / Wetland Delineation Report. It was determined no streams, rivers, watercourses, or jurisdictional ditches are present within the project area. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

Early coordination letters were sent to Indiana Department of Natural Resources – Division of Fish and Wildlife (IDNR DFW), the United States Fish and Wildlife Service (USFWS), and the U.S. Army Corps of Engineers (USACE) on February 12, 2018 (Appendix C, C-1 to C-2).

The USACE did not respond to the early coordination letter. The IDNR DFW responded on March 13, 2018. However, no recommendations in regards to streams, rivers, watercourses or ditches were made (Appendix C, C-3 to C-4). The USFWS responded with an email on February 13, 2018 (Appendix C, C-18 to C-20), indicating they have no objections to the project as currently proposed, and that their list of standard recommendations will apply to the project. All applicable recommendations are included in the Environmental Commitments section of this CE document.

Other Surface Waters	**Presence**	**Impacts**	
		Yes	**No**
Reservoirs			
Lakes			
Farm Ponds	X		X
Detention Basins			
Storm Water Management Facilities			
Other:			

Remarks: Based on a desktop review, site visits on May 16, 2017, October 12, 2017 and June 19, 2019 by United Consulting, the aerial map of the project area (Appendix B, B-2), and the water resources map in the RFI report (Appendix E, E-8), there are three other surface water features located within the 0.5 mile search radius. There is one adjacent farm pond adjacent to the project area. No impacts to the adjacent farm pond are anticipated.

The USACE did not respond to the early coordination letter. The IDNR DFW responded on March 13, 2018. However, no recommendations in regard to surface waters were made (Appendix C, C-3 to C-4). USFWS responded with an email on February 13, 2018 (Appendix C, C-18 to C-20), indicating they have no objections to the project as currently proposed, and that their list of standard recommendations will apply to the project. All applicable recommendations are included in the Environmental Commitments section of this CE document.

Indiana Department of Transportation

County Tipton Route US 31 Des. No. 1592421

	Presence	Impacts Yes	Impacts No
Wetlands	X	X	

Total wetland area: 0.47 acre(s) Total wetland area impacted: 0.44 acre(s)

(If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
Wetland A	PEM1B	0.10	0.10	Wetland A has been identified as a jurisdictional Palustrine, Emergent, Persistent, Seasonally Saturated (PEM1B) wetland located in the southeast quadrant of the investigation area, east of US 31 and south of Norfolk Southern Railroad.
Wetland B	PEM1B	0.33	0.33	Wetland B has been identified as a jurisdictional Palustrine, Emergent, Persistent, Seasonally Saturated (PEM1B) wetland located in the northwest quadrant of the investigation area, west of US 31 and north of the Norfolk Southern Railroad.
Wetland C	PEM1C	0.04	0.01	Wetland C has been identified as a jurisdictional Palustrine, Emergent, Persistent, Seasonally Flooded (PEM1C) wetland located in the northeast quadrant of the investigation area, east of US 31 and north of the Norfolk Southern Railroad.

Wetlands (*Mark all that apply*)	Documentation	ES Approval Dates
Wetland Determination	X	October 8, 2019
Wetland Delineation	X	October 8, 2019
USACE Isolated Waters Determination		
Mitigation Plan		

Improvements that will not result in any wetland impacts are not practicable because such avoidance would result in (Mark all that apply and explain):

Substantial adverse impacts to adjacent homes, business or other improved properties;	
Substantially increased project costs;	
Unique engineering, traffic, maintenance, or safety problems;	X
Substantial adverse social, economic, or environmental impacts, or	X
The project not meeting the identified needs.	X

Measures to avoid, minimize, and mitigate wetland impacts need to be discussed in the remarks box.

Remarks:

Based on a review of the National Wetlands Inventory (NWI) online mapper (https://www.fws.gov/wetlands/data/Mapper.html), site visits on May 16, 2017, October 12, 2017 and June 19, 2019 by United Consulting, the USGS topographic map (Appendix B, B-3), and the RFI report (Appendix E) there are 15 wetlands located within the 0.5 mile search radius. There is one wetland adjacent to the project area.

A Waters of the U.S. Determination / Wetland Delineation Report was approved by INDOT's Ecology and Waterway Permitting on October 8, 2019. Please refer to Appendix E for the Waters of the U.S. Determination / Wetland Delineation Report.

Field observations revealed the presence of three wetlands, Wetland A (PEM1B), Wetland B (PEM1B), and Wetland C (PEM1C) within the investigation area. All three of these aquatic features contained hydrophytic vegetation, hydric soils, and indicators of wetland hydrology. Wetland A was located south of Norfolk Southern Railroad, east of the US 31 northbound lanes, and was approximately 0.10 acre in size. Wetland B was located north of Norfolk Southern Railroad, west of the US 31 southbound lanes, and was approximately 0.33 acre in size. Wetland C was located north of Norfolk Southern Railroad, east of the US 31 northbound lanes, and was approximately 0.04 acre in size. These aquatic resources are likely jurisdictional Waters of the U.S. The USACE makes all final determinations regarding jurisdiction.

The project will impact three identified wetlands. A total of 5,383 cubic yards of clean earthen fill will be placed into 0.44 acre of emergent jurisdictional wetlands. These losses are expected to negatively impact the overall function of the impacted wetlands along the project corridor. Each of the wetlands are described in further detail below:

Wetland A

Wetland A is located east of the US 31 northbound lanes, approximately 15 feet east of the roadway. Wetland A exhibited hydrophytic vegetation, hydric soils, and indicators of wetland hydrology. As a result, this area meets the definition of an emergent wetland as defined by the U.S. Army Corps of Engineers. This wetland is approximately 0.10 acre in size. Wetland A is of poor quality due to soil disturbance and low species diversity. This wetland is believed to be a Waters of the U.S. due to it being connected to Dixon Creek through a series of roadside ditches. The proposed project will place 1,956 cubic yards of clean earthen fill into 0.10 acre of Wetland A.

Wetland B

Wetland B is located west of the southbound US 31 lanes, approximately 25 feet west of the roadway. Wetland B exhibited hydrophytic vegetation, hydric soils, and indicators of wetland hydrology. As a result, this area meets the definition of an emergent wetland as defined by the U.S. Army Corps of Engineers. This wetland is approximately 0.33 acre in size. Wetland B is of poor quality due to soil disturbance and low species diversity. This wetland is believed to be a Waters of the U.S. due to it being connected to Buck Creek through a series of roadside ditches. The proposed project will place 3,412 cubic yards of clean earthen fill into 0.33 acre of Wetland B.

Wetland C

Wetland C is located east of the US 31 northbound lanes, approximately 15 feet east of the roadway. Wetland C exhibited hydrophytic vegetation, hydric soils, and indicators of wetland hydrology. As a result, this area meets the definition of an emergent wetland as defined by the U.S. Army Corps of Engineers. This wetland is approximately 0.04 acre in size. Wetland C is of poor quality due to soil disturbance and low species diversity. This wetland is believed to be a Waters of the U.S. due to it being connected to Buck Creek through a series of roadside ditches. The proposed project will place 15 cubic yards of clean earthen fill into 0.01 acre of Wetland C.

The do-nothing alternative was considered for this corridor. This alternative proposes utilization of existing US 31 with no improvements to the railroad crossing. This

alternative would have no impact on adjacent wetlands. The purpose of the project is improve the flow of traffic on US 31 across the Norfolk Southern Railroad and to reduce traffic disruptions for those traveling on US 31. The selection of this alternative will not meet any of the objectives established by the project purpose. As a result, this alternative was discarded from further consideration.

The proposed roadway alignment has been set to minimize impacts to adjacent properties. Additionally, wetlands are located along the northbound and southbound lanes. As a result, shifting the roadway to minimize impacts to the existing wetlands would not avoid impacts to wetlands. Thus, further minimization of wetland impacts is not feasible. Wetland Impacts will be mitigated through use of the Indiana Department of Natural Resources In-Lieu Fee Mitigation program.

The USACE did not respond to the early coordination letter. The IDNR DFW responded on March 13, 2018 and recommended contacting and coordinating with the Indiana Department of Environmental Management (IDEM) 401 program and also the USACE program (Appendix C, C-3 to C-4) due to the presence of wetlands. The USFWS responded with an email on February 13, 2018 (Appendix C, C-18 to C-20), indicating they have no objections to the project as currently proposed, and that their list of standard recommendations will apply to the project. All applicable recommendations are included in the Environmental Commitments section of this CE document.

	Presence	Impacts	
		Yes	No
Terrestrial Habitat Unique or High Quality Habitat	X	X	

Use the remarks box to identify each type of habitat and the acres impacted (i.e. forested, grassland, farmland, lawn, etc).

Remarks:

Based on a desktop review, site visits on May 16, 2017, October 12, 2017 and June 19, 2019 by United Consulting, the aerial map of the project area (Appendix A, A-2), there are agricultural, residential and wetland habitat types within the project area. Three emergent wetlands are located within the limits of the project. Dominant species include sandbar willow (*Salix interior*), narrowleaf cattail (*Typha angustifolia*) and common spike-rush (*Eleocharis palustris*). It is expected that approximately 0.44 acre of wetland habitat will be impacted by the project.

Additionally, agricultural land with cultivated crops are located adjacent to the project. The closest agricultural field is located within the proposed project area. The agricultural field is used for cultivated crops and provide habitat for small terrestrial mammals and reptiles such as rodents and snakes. The project will shift the alignment of US 31 slightly to the west, resulting in 11.64 acres of impact to agricultural fields. Impacts to the agricultural fields were unavoidable. However, impacts have been minimized to the greatest extent possible.

The closest residential properties are located within the limits of the project and contain native tree species such as white pine, maple, oak, and hickory trees within their lawns. The project will impact 1.88 acre of residential area habitat which includes 0.54 acre of trees.

The USACE did not respond to the early coordination letter. The IDNR DFW responded

on March 13, 2018 with several recommendations to avoid or minimize impacts to fish, wildlife and botanical resources (Appendix C,C-3 to C-4). The USFWS responded with an email on February 13, 2018 (Appendix C, C-18 to C-20), indicating they have no objections to the project as currently proposed, and that their list of standard recommendations will apply to the project. All applicable IDNR DFW and USFWS recommendations are included in the Environmental Commitments section of this CE document.

If there are high incidences of animal movements observed in the project area, or if bridges and other areas appear to be the sole corridor for animal movement, consideration of utilizing wildlife crossings should be taken.

Karst	**Yes**	**No**
Is the proposed project located within or adjacent to the potential Karst Area of Indiana?		X
Are karst features located within or adjacent to the footprint of the proposed project?		X
If yes, will the project impact any of these karst features?		

Use the remarks box to identify any karst features within the project area. (Karst investigation must comply with the Karst MOU, dated October 13, 1993)

Remarks: Based on a desktop review, the project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). According to the topo map of the project area (Appendix B, B-3), the RFI report (Appendix E), there are no karst features identified within or adjacent to the project area. In the early coordination response, the Indiana Geological Survey (IGS) did not indicate that karst features exist in the project area (Appendix C, C-15 to C-17). The IGS response letter states that geological hazards such as moderate liquefaction potential is present. Mineral resources including high potential to encounter bedrock, and low potential to encounter sand and gravel were identified. No active or abandoned mineral resource extraction sites were documented in the area. The features will not be affected as liquefaction typically occurs in saturated sandy soils, while the proposed project area is dominated by moderately well-drained loamy soil. Bedrock may be encountered during construction of the bridge. A geotechnical evaluation has been completed for this project as part of the design. Sand or gravel could be encountered during construction. This response from IGS has been communicated with the designer on November 14, 2019. No impact is expected.

Threatened or Endangered Species	**Presence**	**Impacts** Yes	**Impacts** No
Within the known range of any federal species	X		X
Any critical habitat identified within project area			
Federal species found in project area (based upon informal consultation)			
State species found in project area (based upon consultation with IDNR)			

	Yes	**No**
Is Section 7 formal consultation required for this action?		X

Remarks:

Based on a desktop review and the RFI report (Appendix E), completed by United Consulting on October 30, 2019, the IDNR Tipton County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in (Appendix E, E-10). The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR DFW early coordination response letter dated March 13, 2019 (Appendix C, C-3 to C-4), the Natural Heritage Program's Database has been checked to date no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur the project vicinity.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, C-21 to C-27). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). No additional species were found within or adjacent to the project area other than the Indiana bat and northern long-eared bat.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. An effect determination key was completed on December 10, 2019, and based on the responses provided, the project was found to "not likely to adversely affect" the Indiana bat and/or the NLEB. INDOT reviewed and verified the effect finding on December 10, 2019. No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. Avoidance and Mitigation Measures (AMMs) are included as firm commitments in the Environmental Commitments section of this document

The official species list generated from IPaC indicated no of other species present within the project area. The IDNR DFW responded on March 13, 2018 with several recommendations to avoid or minimize impacts to fish, wildlife and botanical resources (Appendix C,C-3 to C-4). The USFWS responded with an email on February 13, 2018 (Appendix C, C-18 to C-20), indicating they have no objections to the project as currently proposed, and that their list of standard recommendations will apply to the project. All applicable IDNR DFW and USFWS recommendations are included in the Environmental Commitments section of this CE document.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act, as amended. If new information on endangered species at the site becomes available, or if project plans are changed, USFWS will be contacted for consultation.

SECTION B – OTHER RESOURCES

	Presence	Impacts	
Drinking Water Resources		Yes	No
Wellhead Protection Area	X		X
Public Water System(s)			
Residential Well(s)	X		X

Indiana Department of Transportation

County Tipton Route US 31 Des. No. 1592421

Source Water Protection Area(s)			
Sole Source Aquifer (SSA)			

If a SSA is present, answer the following:

	Yes	No
Is the Project in the St. Joseph Aquifer System?		
Is the FHWA/EPA SSA MOU Applicable?		
Initial Groundwater Assessment Required?		
Detailed Groundwater Assessment Required?		

Remarks:

Sole Source Aquifer

The project is located in Tipton County, which is not located within the area of the St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the state of Indiana. herefore, the FHWA/EPA Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project. Therefore a detailed groundwater assessment is not needed and no impacts are expected.

Wellhead Protection Area and Source Water

An early coordination letter was sent to IDEM on November 7, 2019. In a November 27, 2019 review letter, IDEM indicated the project is within a wellhead protection area. As a result, an early coordination letter was sent to the Tipton Municipal Utilities on December 5, 2019 (Appendix C, C-13 to C-14). The Tipton Municipal Utilities requested the following commitments:

1. All contractors at the site have secondary containment for all fuel and chemical storage during construction.

2. Any spills of fuel and/or chemicals should be immediately reported to local responders by calling 911.

Water Wells

The Indiana Department of Natural Resources Water Well Record Database website (https://www.in.gov/dnr/water/3595.htm) was accessed on October 30, 2019 by United Consulting. Eight water wells are located near the project. However, these features will not be affected because they are located outside the construction limits for this project. Therefore, no impacts are expected. Should it be determined during the right-of-way phase that these wells are affected, a cost to cure will likely be included in the appraisal to restore the wells.

Urban Area Boundary

Based on a desktop review of the INDOT MS4 website (https://entapps.indot.in.gov/MS4/) by United Consulting on October 30, 2019, and the RFI report; this project is not located in an Urban Area Boundary location. No impacts are expected.

Public Water System

Based on a desktop review, site visits on May 16, 2017, October 12, 2017 and June 19, 2019 by United Consulting, the aerial map of the project area (Appendix B, B-2), this project is not located where there will be public water system impacts. Therefore, no impacts are expected.

Flood Plains	**Presence**	**Impacts** Yes	No
Longitudinal Encroachment			
Transverse Encroachment			
Project located within a regulated floodplain			
Homes located in floodplain within 1000' up/downstream from project			

Discuss impacts according to classification system described in the "Procedural Manual for Preparing Environmental Studies".

Remarks: The Indiana Department of Natural Resources Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) was accessed on October 30, 2019 by United Consulting. This project is not located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix B, B-4). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. No impacts are expected.

Farmland	**Presence**	**Impacts** Yes	No
Agricultural Lands	X	X	
Prime Farmland (per NRCS)	X	X	

Total Points (from Section VII of CPA-106/AD-1006* **147**

**If 160 or greater, see CE Manual for guidance.*

See CE Manual for guidance to determine which NRCS form is appropriate for your project.

Remarks: Based on a desktop review, site visits on May 16, 2017, October 12, 2017 and June 19, 2019 by United Consulting, the aerial map of the project area (Appendix B, B-2), the project will convert 11.64 acres of farmland as defined by the Farmland Protection Policy Act. A revised NRCS-CPA-106 was sent on January 30, 2020 to Natural Resources Conservation Services (NRCS). Coordination with NRCS resulted in a score of 147 on the NRCS-CPA-106 Form (Appendix C, C-44). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

SECTION C – CULTURAL RESOURCES

	Category	Type	INDOT Approval Dates	N/A
Minor Projects PA Clearance				X

Results of Research

	Eligible and/or Listed Resource Present
Archaeology	
NRHP Buildings/Site(s)	
NRHP District(s)	
NRHP Bridge(s)	

Project Effect

No Historic Properties Affected [X] No Adverse Effect [ ] Adverse Effect [ ]

Documentation (mark all that apply)

	Documentation Prepared	ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report			
Historic Property Report	X	May 2, 2019	May 28, 2019
Archaeological Records Check/ Review	X	February 26, 2019	May 28, 2019
Archaeological Phase Ia Survey Report	X	February 26, 2019	May 28, 2019
Archaeological Phase Ic Survey Report			
Archaeological Phase II Investigation Report			
Archaeological Phase III Data Recovery			
APE, Eligibility and Effect Determination			
800.11 Documentation		August 12, 2019	September 13, 2019

		MOA Signature Dates (List all signatories)
Memorandum of Agreement (MOA)		

Describe all efforts to document cultural resources, including a detailed summary of the Section 106 process, using the categories outlined in the remarks box. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of paper(s) and the comment period deadline. Likewise include any further Section 106 work which must be completed at a later date, such as mitigation or deep trenching.

Remarks:

Area of Potential Effect (APE):

The Area of Potential Effects (APE) extends approximately 2,000 feet from the project end points to West Division Road to the north and to State Road 28 to the south along US 31, approximately 1,400 feet on each side of US 31, and approximately 2,000 feet from the project end points on County Road 100 South. Please see Appendix D for a map of the APE.

Coordination with Consulting Parties:

The organizations listed below were invited to become consulting parties and to comment on

potential historic properties within the APE and project impacts in an early coordination letter (ECL) dated May 3, 2019. The ECL was distributed via email except to the State Historic Preservation Officer (SHPO), which received a hard copy. The Federal Highway Administration (FHWA), INDOT, and SHPO are always consulting parties (CPs) for federally funded transportation projects. The following is a list of organizations and individuals that the early coordination letter was sent to, their response, and the date of their response. If no response was received after 30 days, it was assumed the parties involved did not wish to act as consulting parties.

Invited Section 106 Consulting Parties	Status
Phil Beer, Tipton County Engineer	No Response - Declined
Indiana Landmarks, Central Regional Office	Accepted on June 3, 2019
Tipton County Historian	No Response - Declined
Tipton County Historical Society	No Response - Declined
Tipton County Public Library-Indiana Room	No Response - Declined
Tipton Main Street	No Response - Declined
James Mullins, Tipton Co Commissioner	No Response - Declined
Dennis Henderson, Tipton Co Commissioner	No Response - Declined
Mark Manier, Tipton Co Commissioner	No Response - Declined
Eastern Shawnee Tribe of Oklahoma	No Response - Declined
Miami Tribe of Oklahoma	No Response - Declined
Peoria Tribe of Indians of Oklahoma	No Response - Declined
Pokagon Band of Potawatomi Indians	No Response - Declined
Forest County Potawatomi Community	Accepted on May 29, 2019

The SHPO was sent a hard copy of all materials on May 3, 2019. In a letter dated May 28, 2019 the SHPO commented upon the submitted materials by stating they were not aware of any other parties who should be invited to participate in this Section 106 consultation. The SHPO concurred with the recommendations of the archaeological report and with those of the Historic Property Short Report.

In an email correspondence on May 29, 2019 Mr. Michael LaRonge of the Forest County Potawatomi Community agreed to be a consulting party for this project. Mr. LaRonge stated that after reviewing the archaeology report, he does not believe the proposed work will impact any historic properties.

In a letter dated June 3, 2019 Mr. Sam Burgess from Indiana Landmarks' Central Regional Office agreed to be a consulting party for this project, and he concurred with the findings of the Historic Property Short Report.

Archaeology:

Archaeologists from ASC Group, Inc. conducted four phases of archaeological fieldwork between

October 2016 and November 2018 due to modifications to the original project area. Their survey area encompassed approximately 92 acres, and included shovel probes, a pedestrian walkover survey and visual inspections. Artifacts recovered by the survey underwent analysis. The archaeologists also conducted a literature review at the Department of Historic Preservation and Archaeology (DHPA). The archaeologists submitted a Phase Ia Archaeological Records and Reconnaissance Survey report (Miller, et al., 2/19/2019) and provided recommendations that none of the archaeological sites identified are recommended National Register of Historic Places (NRHP) eligible and that no further investigative work was recommended.

On May 28, 2019 the SHPO concurred with the findings of the Phase Ia Reconnaissance Report (Appendix D,D-34 to D-35).

Historic Properties:

Pursuant to 36 CFR 800.4(b), Candace Hudziak from H&H Associates, LLC (H&H) initiated identification efforts in October 2016 by reviewing the NRHP, the Indiana Historic Sites and Structures Inventory (IHSSI), the State Historic Architectural and Archaeological Research Database (SHAARD) and SHAARDGIS, the Indiana Historic Bridge Inventory, the Indiana Historical Bureau's Historical Markers Database, and the 2010 *Tipton County Interim Historic Sites and Structures Inventory* (IHSSI) for previously identified properties. Primary and secondary documentary research included numerous published county and local histories, historical and current atlases and maps, and online resources.

Additionally, on October 24, 2016 Ms. Hudziak conducted a field survey by walking all the streets within the APE and taking photographs in an effort to identify and evaluate any historic resources present. A subsequent change in the project scope required H&H to conduct more field work on February 20, 2018 due to a larger APE. H&H then completed a Historic Properties Short Report (HPSR) (Hudziak, 4/25/2019) and provided recommendations concerning the historic significance of the properties within the APE. As a result of identification and evaluation efforts for this project, no properties within the project APE were recommended eligible for listing in the NRHP.

On May 28, 2019 the SHPO concurred with the findings of the Historic Properties Report (Appendix D, D-34 to D-35).

Documentation, Findings:

No properties listed in or determined eligible for listing in the NRHP were identified within the APE. Therefore, the finding for this project is "No Historic Properties Affected". INDOT CRO on behalf of FHWA issued a "No Historic Properties Affected" finding on August 12, 2019 (Appendix D, D-1). The SHPO concurred with the "No Historic Properties Affected" finding on September 13, 2019 (Appendix D, D-38 to D-39).

Public Involvement:

To meet the public involvement requirements of Section 106, INDOT on behalf of FHWA, advertised the finding of "No Historic Properties Affected" in the Tipton County Tribune on August 16, 2019. The public comment period closed on September 20, 2019. The affidavit of publication appears on Appendix D, D-40. No comments were received by the published deadline. The

Section 106 process has been completed and the responsibilities of the FHWA under Section 106 have been fulfilled.

SECTION D – SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES

Section 4(f) Involvement (mark all that apply)

	Presence	Use Yes	Use No
Parks & Other Recreational Land			
Publicly owned park	☐	☐	☐
Publicly owned recreation area	☐	☐	☐
Other (school, state/national forest, bikeway, etc.)	☐	☐	☐

	Evaluations Prepared	FHWA Approval date
Programmatic Section 4(f)*	☐	
"De minimis" Impact*	☐	
Individual Section 4(f)	☐	☐

	Presence	Use Yes	Use No
Wildlife & Waterfowl Refuges			
National Wildlife Refuge	☐	☐	☐
National Natural Landmark	☐	☐	☐
State Wildlife Area	☐	☐	☐
State Nature Preserve	☐	☐	☐

	Evaluations Prepared	FHWA Approval date
Programmatic Section 4(f)*	☐	
"De minimis" Impact*	☐	
Individual Section 4(f)	☐	☐

	Presence	Use Yes	Use No
Historic Properties			
Sites eligible and/or listed on the NRHP	☐	☐	☐

	Evaluations Prepared	FHWA Approval date
Programmatic Section 4(f)*	☐	
"De minimis" Impact*	☐	
Individual Section 4(f)	☐	☐

**FHWA approval of the environmental document also serves as approval of any Section 4f Programmatic and/or De minimis evaluation(s) discussed below.*

Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the remarks box below. Individual Section 4(f) documentation must be separate Draft and Final documents. For further discussions on Programmatic, "de minimis" and Individual Section 4(f) evaluations please refer to the "Procedural Manual for the Preparation of Environmental Studies". Discuss proposed alternatives that satisfy the requirements of Section 4(f).

Remarks: Section 4(f) of the U.S. Department of Transportation Act of 1966 prohibits the use of certain public and historic lands for federally funded transportation facilities unless there is no feasible and prudent alternative. The law applies to significant publicly owned parks, recreation areas, wildlife / waterfowl refuges, and NRHP eligible or listed historic properties regardless of ownership. Lands subject to this law are considered Section 4(f) resources.

Based on a desktop review, site visits on May 16, 2017, October 12, 2017 and June 19, 2019 by United Consulting, the aerial map of the project area (Appendix B, B-2), and the RFI report (Appendix E) there are no Section 4(f) resources located within the 0.5 mile search radius. There are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

Section 6(f) Involvement	**Presence**	**Use**	
		Yes	**No**
Section 6(f) Property	☐	☐	☐

Discuss proposed alternatives that satisfy the requirements of Section 6(f). Discuss any Section 6(f) involvement.

Remarks: The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits conversion of lands purchased with LWCF monies to a non-recreation use.

A review of 6(f) properties on the Land and Water Conservation Fund (LWCF) website at https://www.lwcfcoalition.com/tools revealed a total of two properties in Tipton County (Appendix I, I-2). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources as a result of this project.

SECTION E – Air Quality

Air Quality

Conformity Status of the Project	**Yes**	**No**
Is the project in an air quality non-attainment or maintenance area?	☐	X
If YES, then:		
Is the project in the most current MPO TIP?	☐	☐
Is the project exempt from conformity?	☐	☐
If the project is NOT exempt from conformity, then:		
Is the project in the Transportation Plan (TP)?	☐	☐
Is a hot spot analysis required (CO/PM)?	☐	☐

Level of MSAT Analysis required?

Level 1a ☐ Level 1b X Level 2 ☐ Level 3 ☐ Level 4 ☐ Level 5 ☐

Remarks: **STIP/TIP**
This project is included in the Fiscal Year (FY) *2020 – 2024* Statewide Transportation Improvement Program (STIP) (Appendix I, page I-1).

Attainment area
This project is located in Tipton County, which is currently in attainment for all criteria pollutants according to IDEM (https://www.in.gov/idem/airquality/files/nonattainment_areas_map.pdf). Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

MSAT Level 1b Analysis
The purpose of this project is to reduce congestion by constructing by constructing a bridge over the Norfolk Southern Railroad. This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxic (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, Environmental Protection Agency (EPA) regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

SECTION F - NOISE

Noise	Yes	No
Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?	X	

	No	Yes/ Date
ES Review of Noise Analysis		September 18, 2017 and May 2, 2019

Remarks:

The preferred alternative qualifies as a Type I project involving a substantial vertical alteration "that removes shielding, and therefore exposes the line-of-sight between the receptors and the traffic noise source". As a result, a Traffic Noise Impact Analysis was required per 23 CFR 772 and the current INDOT *Traffic Noise Analysis Procedure*. ASC Group completed a Noise Analysis for the project. INDOT approved the Noise Analysis on September 18, 2017 (Appendix H, H-25). The noise analysis was amended in May 2019 to reflect the current project scope (Appendix H, H-1 to H-25). INDOT approved the noise analysis amendment on May 2, 2019 (Appendix H, H-27 to H-28). The maps in the report were updated on May 5, 2020 to clarify the boundaries of the project.

INDOT (2017) defines the term "approach" to mean within 1 A-weighted decibel (dBA) of a Noise Abatement Criteria (NAC) and a "substantial" increase to mean that future noise levels exceed existing levels by 15 dBA or more. Thus, for a Category B land use area with a NAC Leq(h) of 67 dBA, an impact occurs at a receptor and noise abatement is considered for that receptor if predicted noise levels reach 66 dBA. However, if the existing noise level for the area is 45 dBA, then an impact would occur and noise

abatement would be considered if the predicted noise level exceeded 60 dBA.

Two land-use categories are present in the noise study area: Category B (residential) and Category F (agricultural). In this noise analysis, receptors were located at each residence and noise levels were determined at the receptors through modeling. Receptors were located in areas of frequent human use, for example, on patios and balconies. Where no area of frequent human use was observed at residential structures, receptors were placed near entryways. No receptors were placed in Category F areas. A total of 19 Category B receptors were used in the modeling analysis.

A noise impact is predicted due to the NAC being approached or exceeded at ten residential receptors (5, 9–16, and 18). Maximum Build scenario noise levels at these locations are predicted to range from 66 to 71 dBA. The table below shows the existing and proposed noise levels for each of the adjacent receptors.

Receptor	Description	Activity Category	Impact Criterion	Modeled Sound Levels (dBA)			Final Design Change and Expected Changes in Modeled Noise Levels for the Build Scenario
				Existing	No-Build	Build	
1	Residence	B	66.0	59.7	61.4	62.8	Nearest traffic lanes are shifted 20–40 feet farther from receptor. Predicted noise level should be slightly lower.
2	Residence	B	66.0	58.1	59.8	61.5	
3	Residence	B	66.0	57.4	59.1	60.9	
4	Residence	B	66.0	58.6	60.3	61.9	
5	Residence	B	66.0	**67.0**	**69.1**	**66.6**	
6	Residence	B	66.0	65.0	**67.0**	64.8	
7	Residence	B	66.0	55.7	57.4	60.2	No change in distance to nearest traffic lanes. Predicted noise levels should be the same.
8	Residence	B	66.0	59.9	61.6	64.2	
9	Residence	B	66.0	64.4	**66.2**	**66.7**	
10	Residence	B	66.0	**65.6**	**67.3**	**67.8**	
11	Residence	B	66.0	65.4	**67.1**	**68.2**	
12	Residence	B	66.0	64.3	**65.9**	**66.0**	
13	Residence	B	66.0	**69.9**	**71.5**	**70.6**	
14	Residence	B	66.0	**69.9**	**71.5**	**71.3**	
15	Residence	B	66.0	**69.0**	**70.6**	**70.4**	
16	Residence	B	66.0	**69.4**	**71.0**	**71.0**	
17	Residence	B	66.0	63.8	65.4	65.0	Nearest traffic lanes are shifted 10–30 feet farther from receptor. Predicted noise level should be slightly lower.
18	Residence	B	66.0	**70.3**	**71.9**	**70.4**	
19	Residence	B	66.0	58.5	60.1	61.3	

Notes:

Bold Text - Predicted noise level approaches or exceeds NAC.

Based on the studies thus far accomplished, the INDOT has not identified any locations where noise abatement is likely. Noise abatement at these locations is based upon preliminary design costs and design criteria. Noise abatement has been not been found to be feasible or reasonable. A reevaluation of the noise analysis will occur during final design. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes.

SECTION G – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors	**Yes**	**No**
Will the proposed action comply with the local/regional development patterns for the area?	X	
Will the proposed action result in substantial impacts to community cohesion?		X
Will the proposed action result in substantial impacts to local tax base or property values?		X
Will construction activities impact community events (festivals, fairs, etc.)?		X
Does the community have an approved transition plan?	X	
If No, are steps being made to advance the community's transition plan?		
Does the project comply with the transition plan? (explain in the remarks box)	X	

Remarks: The preferred alternative is consistent with local land use plans developed by Tipton County. No negative impacts to community cohesion are anticipated. This project will not have any significant short or long-term economic impacts. The project will comply with the approved ADA transition plan for Tipton County, which does not require pedestrian facilities in the absence of a pedestrian route.

Indirect and Cumulative Impacts	**Yes**	**No**
Will the proposed action result in substantial indirect or cumulative impacts?		X

Remarks: Indirect impacts are effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate. Cumulative impacts affect the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.

There are no substantial indirect or cumulative effects resulting from the project. The proposed project addresses existing congestion and vehicular mobility concerns across the Norfolk Southern Railroad that are projected to grow worse if not addressed. The project is not designed for and therefore will not induce growth beyond that reasonably expected based on current growth rates. It will not provide access to currently inaccessible areas that could experience changes in land use patterns. Incremental impacts to natural resources such as threatened and endangered species are addressed by the environmental commitments proposed for the project.

Public Facilities & Services

	Yes	No
Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities? *Discuss how the maintenance of traffic will affect public facilities and services.*		X

Remarks:

Based on a desktop review, site visits on May 16, 2017, October 12, 2017 and June 19, 2019 by United Consulting, the aerial map of the project area (Appendix A, A-2), and the RFI report (Appendix E) there are no public facilities within the 0.5 mile search radius. There are no public facilities within or adjacent to the project area. Access to all properties will be maintained during construction. Therefore, no impacts are expected.

Several public and private utilities were identified during the utility coordination phase of the project. Only minor impacts to utilities are expected. No substantial impacts to utilities are expected. Each of the utilities are described below:

Electric: Overhead high voltage electric transmission lines run along the east side of US 31 south of the intersection and turn east at the intersection to run along the south side of County Road 100 South. There are also overhead electric distribution lines running along the west side of US 31 south of the intersection. These lines split with one section turning west at the intersection to run along the south side of County Road 100 South and one section continues across County Road 100 South and turns west in the northwest corner of the intersection to run along the north side of the railroad tracks.

There are also overhead electric distribution lines along the west and east sides starting about 800 feet north of the railroad tracks and continuing to the northern project limits.

Telecommunication: There are various telecommunication facilities within the project limits. Below is a summary of these facilities:

AT&T has two underground fiber optic lines that run north – south along the west side of US 31.

Comcast has an underground fiber optic line that runs east – west along the south side of County Road 100 South.

Smithville has an underground telephone facility that runs north – south along the east side of US 31. This line splits in the southeast corner of the intersection and continues west along the south side of County Road 100 South under US 31. There is also an underground telephone facility that runs north – south along the west side of US 31 in the southwest quadrant of the intersection. This line turns west along the south side of County Road 100 South.

Smithville also has an underground fiber optic line that runs north – south along the west side of US 31. This line splits in the northwest corner of the intersection and continues west along the north side of County Road 100 South.

Sanitary Sewer: There is a sanitary sewer force main that extends east – west along the south side of County Road 100 South. The force main shift from the south side of County

Road 100 South to the centerline of County Road 100 South through the intersection with US 31.

Railroad Gate and Lighting: There is underground electric to power the railroad crossing gate and lighting at the intersection with the railroad. The controller cabinet is located west of US 31 south of the railroad.

No utility issues are expected along County Road 50 South.

Coordination with utilities is ongoing through the project development process.

Environmental Justice (EJ) (Presidential EO 12898)	**Yes**	**No**
During the development of the project were EJ issues identified?		X
Does the project require an EJ analysis?	X	
If YES, then:		
Are any EJ populations located within the project area?		X
Will the project result in adversely high or disproportionate impacts to EJ populations?		X

Remarks:

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require acquisition of 13.97 acres of right-of-way and 5 relocations.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Tipton County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 203. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the 2013-2017 American Community Survey was obtained from the US Census Bureau Website https://factfinder.census.gov/ on March 7, 2019 by United Consulting. The data collected for minority and low-income populations within the AC are summarized in the below table.

	COC - (Tipton County)	AC-1 - (Census Tract 203)
Percent Minority	4.7%	3.2%
125% of COC	5.8%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	9.4%	10.6%
125% of COC	11.8 %	AC < 125% COC
EJ Population of Concern		No

*Refer to the INDOT EJ guidance for calculating percentages

AC, Census Tract 203 has a percent minority of 3.2% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain minority populations of EJ concern.

AC-1, Census Tract 203 has a percent low-income of 10.6% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain low-income populations of EJ concern.

Conclusion
The census data sheets, map, and calculations can be found in Appendix G. No further environmental justice analysis is warranted.

Relocation of People, Businesses or Farms

	Yes	No
Will the proposed action result in the relocation of people, businesses or farms?	X	
Is a Business Information Survey (BIS) required?		X
Is a Conceptual Stage Relocation Study (CSRS) required?		X
Has utility relocation coordination been initiated for this project?	X	

Number of relocations: Residences: 5 Businesses: _____ Farms: _____ Other: _____

If a BIS or CSRS is required, discuss the results in the remarks box.

Remarks:

The project will involve the relocation of 5 residential properties. The relocation of the properties was determined to be unavoidable due to the inability to provide access after construction. The acquisition and relocation program will be conducted in accordance with 49 CFR 24 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Relocation resources are available to all residential and business relocatees without discrimination. No person displaced by this project will be required to move from a displaced dwelling unless comparable replacement housing is available to that person. A graphic showing the location of the properties to be relocated is located in Appendix I, I-3.

Coordination with utilities is ongoing through the project development process. Impacted utilities will be determined through this coordination and utility relocation plans will be developed.

SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)	**Documentation**
Red Flag Investigation	X
Phase I Environmental Site Assessment (Phase I ESA)	
Phase II Environmental Site Assessment (Phase II ESA)	
Design/Specifications for Remediation required?	

	No	Yes/ Date
ES Review of Investigations		June 12, 2018

Include a summary of findings for each investigation.

Remarks: Based on a review of GIS and available public records, an RFI was approved on by INDOT on June 12, 2018 (Appendix E). The GIS layers were rechecked on December 31, 2019. No sites with hazardous material concerns or sites involved with regulated substances were identified in or within 0.5 mile of the project area. Further investigation for hazardous material concerns or regulated substances is not required at this time.

SECTION I – PERMITS CHECKLIST

Permits (mark all that apply)	**Likely Required**
Army Corps of Engineers (404/Section10 Permit)	
Individual Permit (IP)	
Nationwide Permit (NWP)	
Regional General Permit (RGP)	X
Pre-Construction Notification (PCN)	
Other	
Wetland Mitigation required	
Stream Mitigation required	
IDEM	
Section 401 WQC	X
Isolated Wetlands determination	
Rule 5	X
Other	
Wetland Mitigation required	
Stream Mitigation required	
IDNR	
Construction in a Floodway	
Navigable Waterway Permit	
Lake Preservation Permit	
Other	
Mitigation Required	
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the remarks box below)	

Remarks:

IDEM 401 Water Quality Certification (WQC):
The proposed project involves placing fill material within jurisdictional wetlands. As a result, the proposed project will require an IDEM 401 WQC.

USACE 404:
The proposed project involves placing fill material within jurisdictional wetlands. As a result, the proposed project will require a USACE 404 Permit.

IDEM Rule 5:
A Rule 5 Permit would be required for any construction activities involving the disturbance of greater than one acre of land. During the development of the design for the proposed project, approval of erosion control techniques should be required from IDEM.

Applicable recommendations provided by IDNR and IDEM are included in the Environmental Commitments section of this document. If permits are found to be

necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

It is the responsibility of the project sponsor to identify and obtain all required permits.

SECTION J- ENVIRONMENTAL COMMITMENTS

The following information should be provided below: List all commitments, name of agency/organization requesting the commitment(s), and indicating which are firm and which are for further consideration. The commitments should be numbered.

Remarks:

Firm:

1) If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT District)

2) It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)

3) Any work in a wetland area within the right-of-way or in borrow/waste areas is prohibited unless specifically allowed in the US Army Corps of Engineers or IDEM permit. (INDOT)

4) All contractors at the site have secondary containment for all fuel and chemical storage during construction. (Tipton Municipal Utilities)

5) Any spills of fuel and/or chemicals should be immediately reported to local responders by calling 911. (Tipton Municipal Utilities)

6) General AMM 1 - Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS).

7) Lighting AMM 1 - Direct temporary lighting away from suitable habitat during the active season. (USFWS)

8) Tree Removal AMM 1 - Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)

9) Tree Removal AMM 2 - Apply time of year restrictions (inactive season only, from October 1 through March 31) for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.

10) Tree Removal AMM 3 - Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)

11) Tree Removal AMM 4 - Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or documented foraging habitat any time of year. (USFWS)

For Further Consideration:

12) Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting from April through September 30. (IDNR)

13) Evaluate wildlife crossings under bridge/culverts projects in appropriate situations. Suitable crossings include flat areas below bridge abutments with suitable ground cover, high water shelves in culverts, amphibian tunnels and diversion fencing. (USFWS)

14) Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap. Culverts should span the active stream channel, should be either embedded or a 3-sded or open-arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottomed culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles, or boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat or the aquatic community. (USFWS)

15) Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat. (USFWS)

16) Avoid all work within the inundated part of the stream channel (in perennial streams and larger intermittent streams) during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment shall be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams. (USFWS)

SECTION K- EARLY COORDINATION

Please list the date coordination was sent and all agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received. INDOT and FHWA are automatically considered early coordination participants and should only be listed if a response is received.

Remarks:

Early Coordination			
Recipients	**Date Sent**	**Response**	**Date Received**
Natural Resources Conservation Service	February 12, 2018	Yes	February 23, 2018
Indiana Department of Environmental Management	February 12, 2018	Yes	November 8, 2019
U.S. Fish and Wildlife Service	February 12, 2018	Yes	February 13, 2019
U.S. Army Corps of Engineers	February 12, 2018	No	Did not respond
Indiana Department of Natural Resources – Division of Water	February 12, 2018	Yes	March 13, 2018
Indiana Department of Environmental Management – Groundwater Section	February 12, 2018	Yes	November 27, 2019
INDOT Greenfield District - Project Manager	February 12, 2018	No	Did not respond
Indiana Geological Survey	February 12, 2018	Yes	November 6, 2019
Federal Highway Administration	February 12, 2018	No	Did not respond
INDOT Aeronautics Division	February 12, 2018	No	Did not respond
National Park Service	February 12, 2018	No	Did not respond
Housing and Urban Development – Chicago Regional Office	February 12, 2018	No	Did not respond
Tipton County Highway Department	February 12, 2018	No	Did not respond

Index to Appendices

Appendix A

INDOT Supporting Documentation

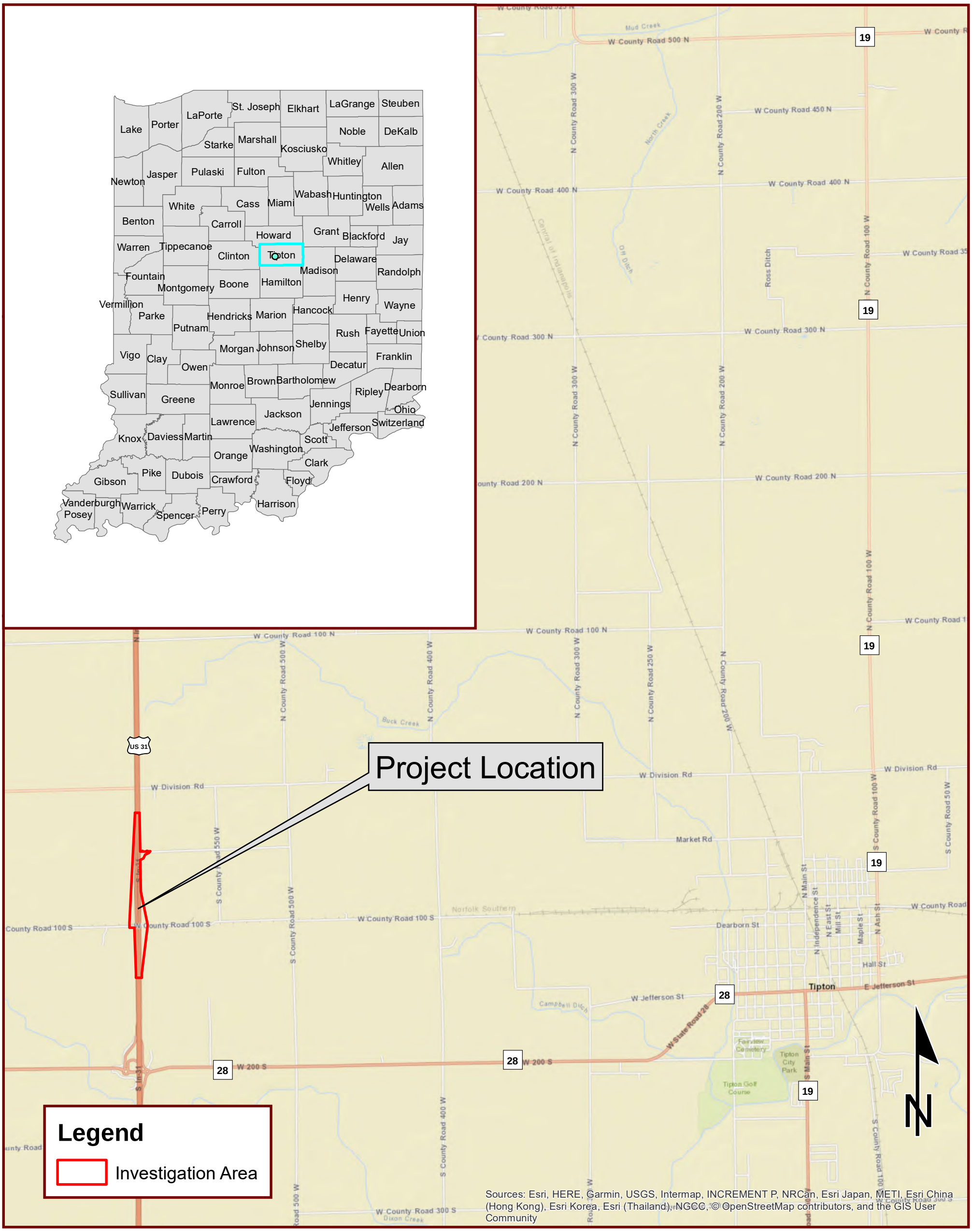
Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4[1]
Section 106	Falls within guidelines of Minor Projects PA	"No Historic Properties Affected"	"No Adverse Effect"	-	"Adverse Effect" Or Historic Bridge involvement[2]
Stream Impacts	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	Individual 404 Permit
Wetland Impacts	No adverse impacts to wetlands	< 0.1 acre	-	< 1 acre	≥ 1 acre
Right-of-way[3]	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)	"No Effect", "Not likely to Adversely Affect" (Without AMMs[4] or with AMMs required for all projects[5])	"Not likely to Adversely Affect" (With any other AMMs)	-	"Likely to Adversely Affect"	Project does not fall under Species Specific Programmatic
Threatened/Endangered Species (Any other species)	Falls within guidelines of USFWS 2013 Interim Policy	"No Effect", ""Not likely to Adversely Affect"	-	-	"Likely to Adversely Affect"
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential[6]
Sole Source Aquifer	Detailed Assessment Not Required	-	-	-	Detailed Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Coastal Zone Consistency	Consistent	-	-	-	Not Consistent
National Wild and Scenic River	Not Present	-	-	-	Present
New Alignment	None	-	-	-	Any
Section 4(f) Impacts	None	-	-	-	Any
Section 6(f) Impacts	None	-	-	-	Any
Added Through Lane	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Coast Guard Permit	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes[7]
Approval Level • **District Env. Supervisor** • **Env. Services Division** • **FHWA**	Concurrence by INDOT District Environmental or Environmental Services	Yes	Yes	Yes Yes	Yes Yes Yes

[1]Coordinate with INDOT Environmental Services. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.
[2]Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.
[3]Permanent and/or temporary right-of-way.
[4]AMMs = Avoidance and Mitigation Measures.
[5]AMMs determined by the IPAC decision key to be needed that are listed in the USFWS *User's Guide for the Range-wide Programmatic Consultation for Indiana bat and Northern long-eared bat* as "required for all projects".
[6]Potential for causing a disproportionately high and adverse impact.
[7]Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.
*Substantial public or agency controversy may require a higher-level NEPA document.

Appendix B

Graphics



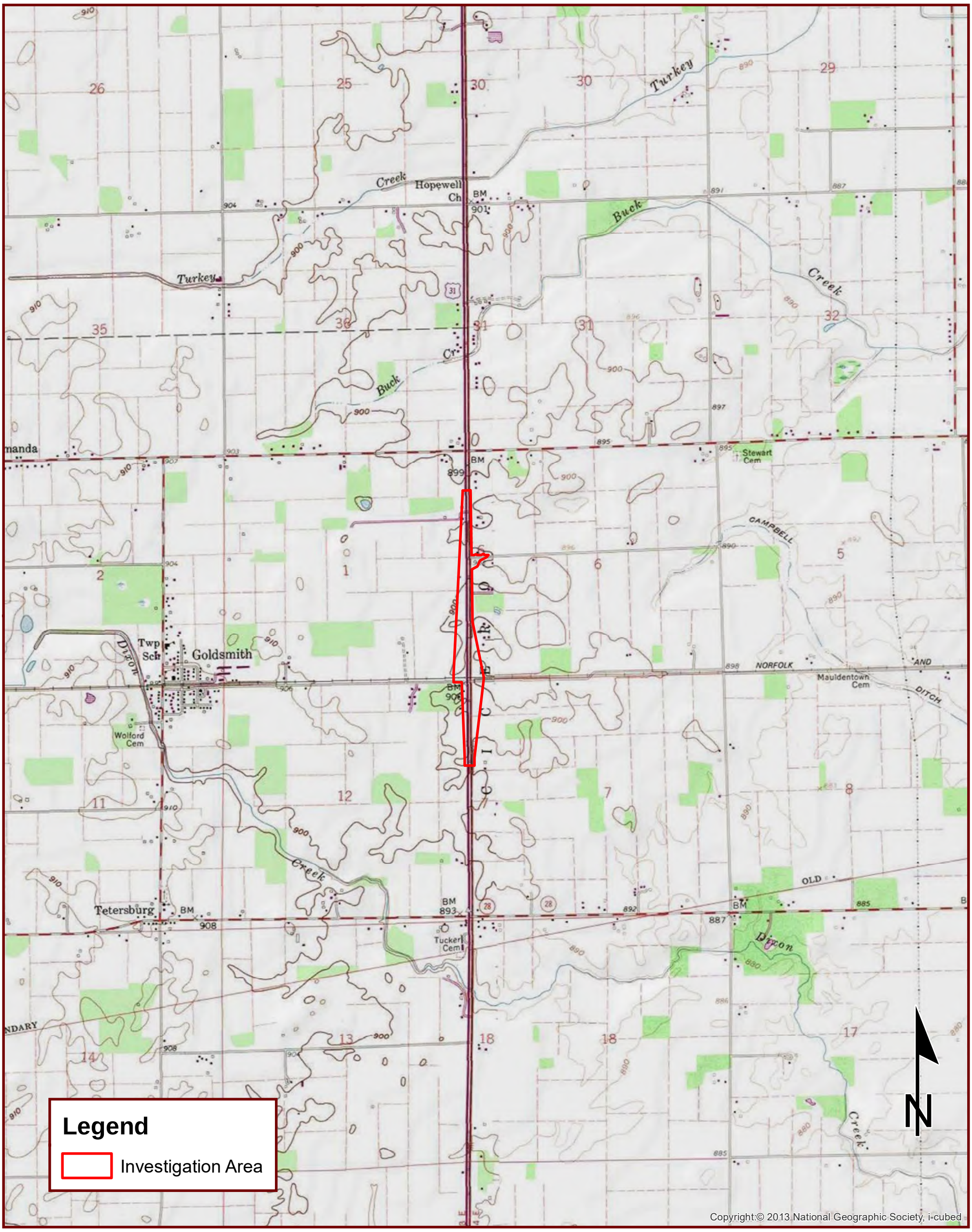
0 0.275 0.55 1.1 1.65 2.2 Miles

Exhibit 1 - State Location Map
US 31 New Bridge/Grade Separation over County Road 100 South and Norfolk Southern Railroad
Des. No.: 1592421
Tipton County, Indiana

0 0.04 0.08 0.16 0.24 0.32 Miles

Exhibit 2 - Aerial Photography Map
US 31 New Bridge/Grade Separation over County Road 100 South and Norfolk Southern Railroad
Des. No.: 1592421
Tipton County, Indiana

UNITED Consulting



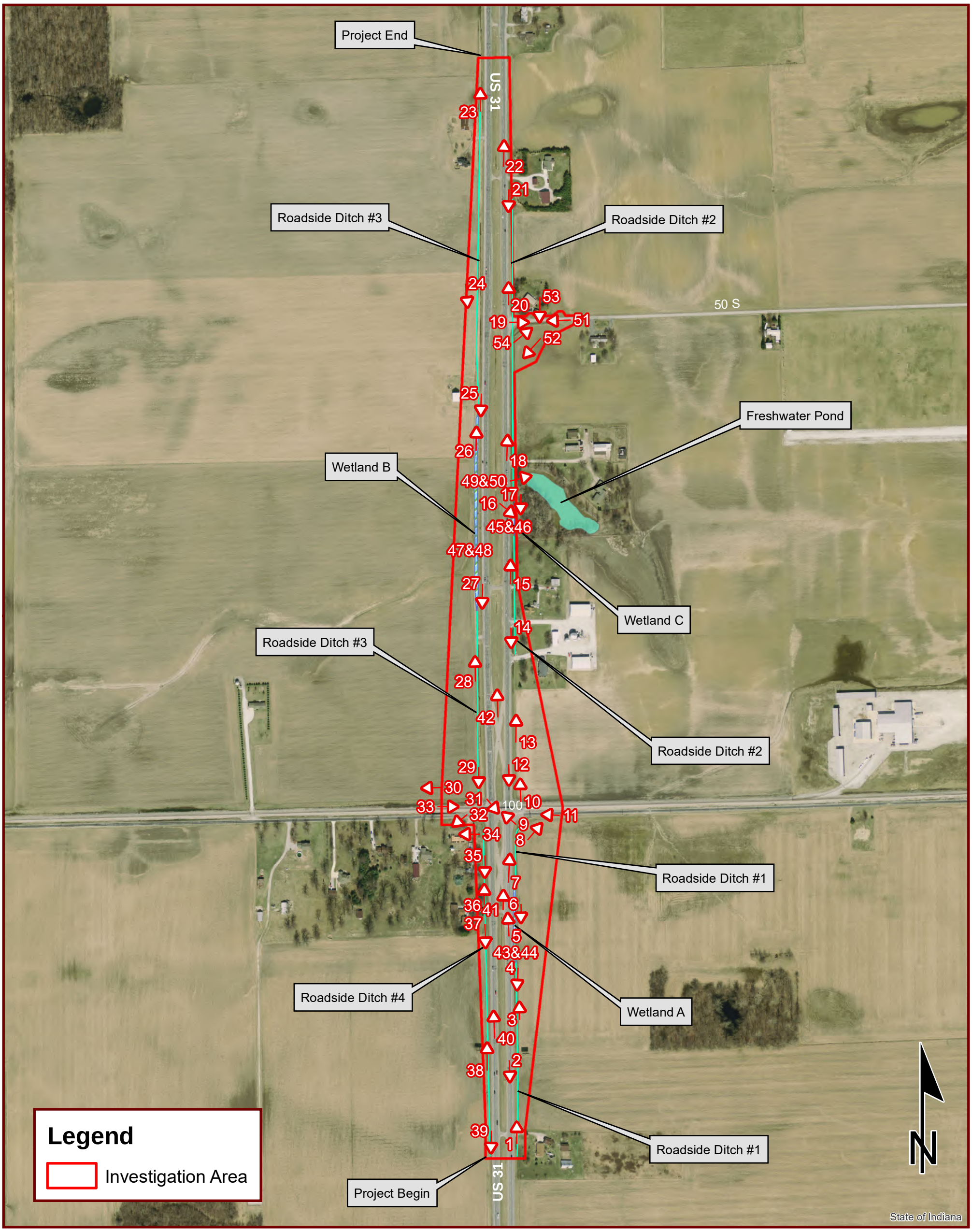
0 0.15 0.3 0.6 0.9 1.2 Miles

Exhibit 3 - USGS Topographic Map (1:24,000)
US 31 New Bridge/Grade Separation over County Road 100 South and Norfolk Southern Railroad
Des. No.: 1592421
Tipton County, Indiana

0 0.050.1 0.2 0.3 0.4 Miles

Exhibit 4 - National Wetlands Inventory
and Flood Insurance Rate Map
US 31 New Bridge/Grade Separation over County Road
100 South and Norfolk Southern Railroad
Des. No.: 1592421
Tipton County, Indiana

UNITED Consulting



0 0.04 0.08 0.16 0.24 0.32 Miles

Exhibit 5 - Photograph Orientation Map
US 31 New Bridge/Grade Separation over County Road 100 South and Norfolk Southern Railroad
Des. No.: 1592421
Tipton County, Indiana

UNITED Consulting

Photograph #1: Looking north along NB US 31 at Roadside Ditch #1 near south end of project.

Photograph #2: Looking south along NB US 31 at Roadside Ditch #1.

Photograph #3: Looking north along NB US 31 toward south end of Wetland A.

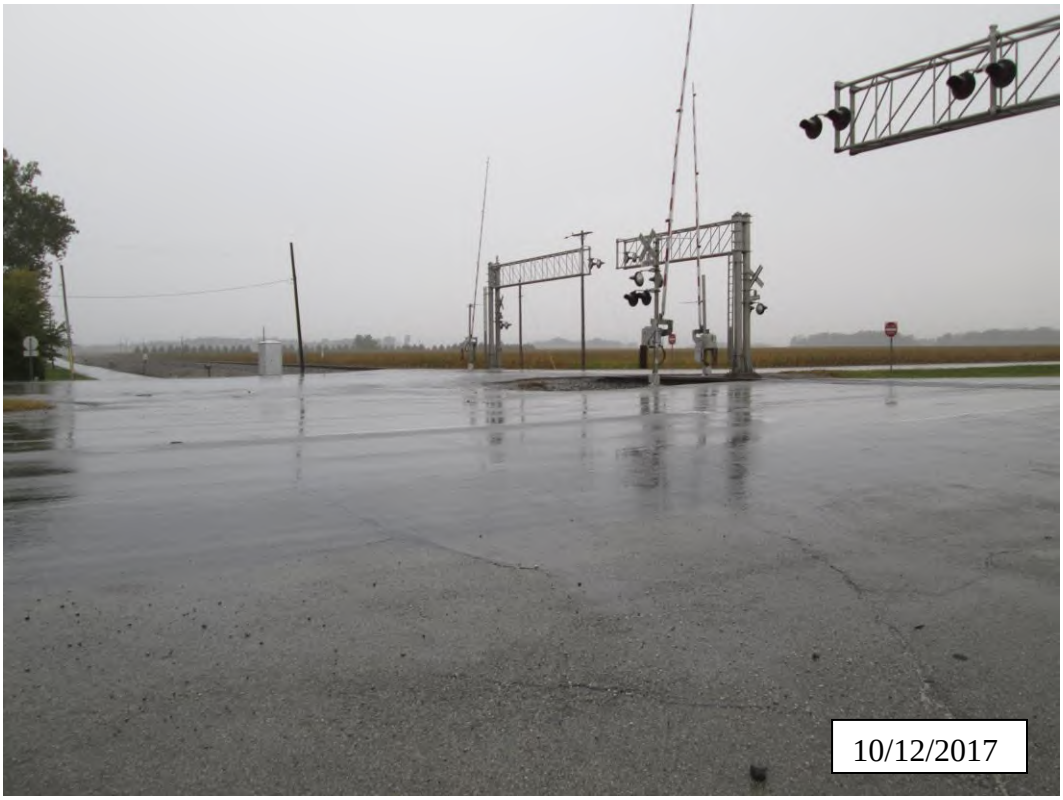
Photograph #4: Looking south along NB US 31 at Wetland A.

Photograph #5: Looking north along NB US 31 at Wetland A.

Photograph #6: Looking south along NB US 31 at north end of Wetland A.

Photograph #7: Looking north along NB US 31 at north end of Wetland A.

Photograph #8: Looking northeast along County Road 100 South from US 31 NB.



Photograph #9: Looking northwest across US 31 NB from County Road 100 South.

Photograph #10: Looking northwest along US 31 NB from County Road 100 South.

Photograph #11: Looking west along County Road 100 South toward US 31.

Photograph #12: Looking south along NB US 31 from Norfolk Southern Railroad.

Photograph #13: Looking north along NB US 31 from Norfolk Southern Railroad.

Photograph #14: Looking south along NB US 31 toward Roadside Ditch #2.

Photograph #15: Looking north along NB US 31 toward Wetland C and Roadside Ditch #2.

Photograph #16: Looking southeast across Wetland C.

Photograph #17: Looking south along NB US 31 toward Wetland C and Roadside Ditch #2.

Photograph #18: Looking north along NB US 31 toward Roadside Ditch #2.

Photograph #19: Looking east along County Road 50 South from NB US 31.

Photograph #20: Looking north along NB US 31 from County Road 50 South.

Photograph #21: Looking south along NB US 31 at Roadside Ditch #2 near north end of project.

Photograph #22: Looking north along NB US 31 near north end of project.

Photograph #23: Looking north along SB US 31 at Roadside Ditch #3 near north end of project.

Photograph #24: Looking south along SB US 31 at Roadside Ditch #3 near north end of project.

Photograph #25: Looking south along SB US 31 at the north end of Wetland B.

Photograph #26: Looking north along SB US 31 toward the north end of Wetland B.

Photograph #27: Looking south along SB US 31 toward the south end of Wetland B.

Photograph #28: Looking north along SB US 31 toward Roadside Ditch #3.

Photograph #29: Looking south along SB US 31 toward Roadside Ditch #3 north of County Road 100 South.

Photograph #30: Looking west along County Road 100 South and Norfolk Southern Railroad.

Photograph #31: Looking south along US 31 toward Norfolk Southern Railroad and County Road 100 South.

Photograph #32: Looking southwest toward Norfolk Southern Railroad and County Road 100 South.

Photograph #33: Looking east along Norfolk Southern Railroad and County Road 100 South toward US 31.

Photograph #34: Looking west along Norfolk Southern Railroad and County Road 100 South from US 31.

Photograph #35: Looking south along US 31 from County Road 100 South toward north end of Roadside Ditch #4.

Photograph #36: Looking north toward County Road 100 South along US 31 and Roadside Ditch #4.

Photograph #37: Looking south along US 31 and Roadside Ditch #4 south of County Road 100 South.

Photograph #38: Looking north along US 31 and Roadside Ditch #4 south of County Road 100 South.

Photograph #39: Looking south along US 31 near the south end of the project.

Photograph #40: Looking north along US 31 median from the south end of the project.

Photograph #41: Looking north along US 31 median south of County Road 100 South.

Photograph #42: Looking north along US 31 median north of County Road 100 South.

Photograph #43: Looking at Data Point A-1.

Photograph #44: Looking at Data Point A-2.

Photograph #45: Looking at Data Point C-1.

Photograph #46: Looking at Data Point C-2.

Photograph #47: Looking at Data Point B-1.

Photograph #48: Looking at Data Point B-2.

Photograph #49: Looking east toward Freshwater Pond located near investigation area from Wetland C.

Photograph #50: Looking northeast across Wetland C toward Freshwater Pond located near investigation area.

Photograph #51: Looking west along County Road 50 South within newly expanded investigation area.

Photograph #52: Looking southwest toward agricultural field within newly expanded investigation area.

Photograph #53: Looking south over agricultural field within newly expanded investigation area.

Photograph # 54: Looking northeast over agricultural field within newly expanded investigation area.

PROJECT	DESIGNATION
1592421	1592421 (NB) / 1901368 (SB)
CONTRACT	BRIDGE FILE
B-39052	031-80-02807 NBL & SBL

INDEX				
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
031-80-02807 NBL & SBL	TWIN COMPOSITE HYBRID-BULB-TEE BEAM	SINGLE SPAN 120'-0" NO SKEW	CR 100 S & NORFOLK SOUTHERN RAILROAD	100+86.05 LINE "PR-NBL" (NB) 100+85.66 LINE "PR-SBL" (SB)

KIN DESIGNATION NUMBERS	
DESIGNATION	PROJECT DESCRIPTION
1592421	ROADWAY AND NB US 31 BRIDGE OVER N/S RAILROAD AND CR 100 S
1901368	SB US 31 BRIDGE OVER N/S RAILROAD AND CR 100 S
1901372	SB US 31 MUCK TRESTLE

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS

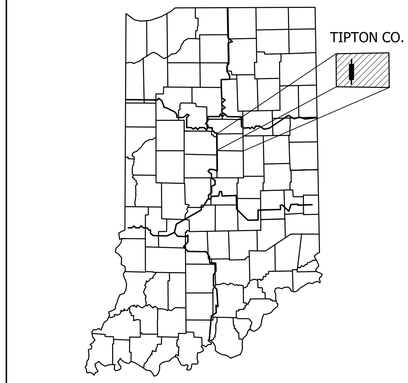
FOR SPANS OVER 20 FEET

ROUTE: U.S. 31 AT: RP 149+0.190

PROJECT NO. 1592421 P.E.
1592421 CONST.
1592421 R/W

Construction of a Grade Separation Structure Carrying US 31 over CR 100 S and Norfolk Southern Railroad, in Sections 1, 6, 7 & 12, Township 21 North, Range 3 & 4 East, Between Cicero & Jefferson Townships, in Tipton County Indiana.

TRAFFIC DATA	U.S. 31	C.R. 100 S.
A.A.D.T. (2023)	28,610 V.P.D.	330 V.P.D.
A.A.D.T. (2043)	32,190 V.P.D.	450 V.P.D.
D.H.V. (2043)	3,371 V.P.H.	52 V.P.H.
DIRECTIONAL DISTRIBUTION	49.69% NB / 50.31% SB	50% WB / 50% EB
TRUCKS	20% A.A.D.T.	5% A.A.D.T.
	13% D.H.V.	
DESIGN DATA		
DESIGN SPEED	70 M.P.H.	45 M.P.H.
PROJECT DESIGN CRITERIA	4R (NON-FREEWAY)	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL	LOCAL ROAD
RURAL/URBAN	RURAL	RURAL
TERRAIN	LEVEL	LEVEL
ACCESS CONTROL	FULL	NONE



PROJECT LOCATION SHOWN BY

LATITUDE: 40°17'21.64"N LONGITUDE: -86°07'37.36"W

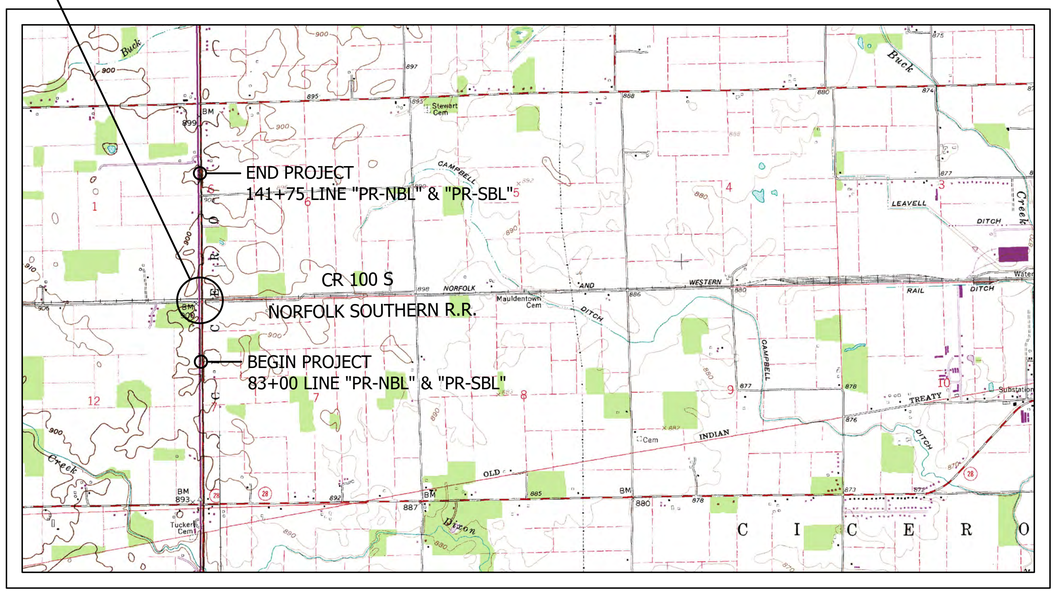
BRIDGE LENGTH :	0.023 MI.
ROADWAY LENGTH :	1.118 MI.
TOTAL LENGTH :	1.141 MI.
MAX GRADE :	-3.00%

PROJECT LOCATION

BRIDGE FILE NO. 031-80-02807 NBL & SBL
DES. NO. 1592421 (NB) / 1901368 (SB)
GRADE SEPARATION STRUCTURE
US 31 OVER NORFOLK SOUTHERN
RAILROAD & CR 100 S

R. 3 E. R. 4 E.

T. 21 N.



LOCATION MAP
TIPTON COUNTY

Scale 1" = 2000'

[INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED 2020 TO BE USED WITH THESE PLANS]

B-39052

UNITED Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

PLANS PREPARED BY: UNITED CONSULTING (317) 895-2585
PHONE NUMBER

CERTIFIED BY: _____ DATE

APPROVED FOR LETTING: _____ INDIANA DEPARTMENT OF TRANSPORTATION DATE

BRIDGE FILE	
031-80-02807 NBL & SBL	
DESIGNATION	
1592421 (NB) / 1901368 (SB)	

SURVEY BOOK	SHEETS		
-	1	of	144
CONTRACT	PROJECT		
B-39052	1592421		

File Name: P:\BR\C3D\16-217\Bridges\Dwg\Plans\Title.dwg Plot Date: 1/1/2020 Plotted By: Andrew Wolka

UTILITIES

ELECTRIC:
Duke Energy
1000 E. Main St.
Plainfield, IN 46168
Attn: Tyler Coon
Ph: (317) 838-2806

Duke Energy (Transmission)
1000 E. Main St.
Plainfield, IN 46168
Attn: Dwayne Wright
Ph: (317) 838-2044

Duke Energy (Distribution)
1619 W. Defenbaugh St.
Kokomo, IN 46902
Attn: Carl Johnson
Ph: (765) 454-6189

City of Tipton - Electric
891 Berryman Pike
Tipton, IN 46072
Attn: Rex Boyer
Ph: (765) 675-7292

TELEPHONE:
Smithville Communications
1600 W. Temperance St.
Elletsville, IN 47429
Attn: Kimberly Pitcher
Ph: (812) 935-2315

COMMUNICATIONS:
AT&T
116 E. Taylor St.
Kokomo, IN 46901
Attn: David Smith
Ph: (765) 454-5021

Comcast
5330 E. 65th St.
Indianapolis, IN 46220
Attn: Scott Evans
Ph: (317) 752-6569

STORM SEWER:
City of Tipton - Sanitary Sewer
891 Berryman Pike
Tipton, IN 46072
Attn: Rex Boyer
Ph: (765) 675-7292

FIBER:
Intelligent Fiber Network
Attn: Adam Lamb
Ph: (317) 697-2123

REVISIONS

SHEET No.	DATE	REVISION

GENERAL NOTES

All earth shoulders, median areas, and cut and fill slopes shall be plain or mulch seeded except where sodding is specified.

The final cross sections of the grading contract will be the original cross sections of the paving contract. However, partial or complete cross sections shall be taken if necessary to determine the actual excavation quantities.

The paper relocation will be cross sectioned by the Engineer before construction.

Existing asphalt pavement located outside the construction limits, between Sta. _____ and Sta. _____, shall be removed as directed.

The quantity of peat excavation shown on the plans has been estimated on the basis of theoretical cross sections by using treatment of existing fills, treatment by removal, or treatment by displacement, where each treatment applies.

All limited access right-of-way (L.A. R/W) is to be fenced with chain link type fence (CLTF) or farm field type fence (FFTF) where specified in the plans.

RAILROAD NOTES

All work on, over, under, or adjacent to Norfolk Southern (NS) right-of-way shall be done in accordance with the Norfolk Southern "Special Provisions for the Protection of Railway Interests" (NS Special Provisions).

"One Call" services do not locate buried railroad signal and communications lines. The contractor shall contact the railroad's representative two (2)days in advance of those places where excavation, pile driving, or heavy loads may damage railroad underground lines on railroad property. Upon request from the contractor or agency, railroad signal forces will locate and paint mark or flag railroad underground signal, communication, and power lines in the area to be disturbed for the contractor. The contractor shall avoid excavation or other disturbance of these lines which are critical to the safety of the railroad and the public. If disturbance or excavation is required near a buried railroad signal, communication, or power line, the line shall be potholed manually with careful hand excavation by the contractor and protected by the contractor during the course of the disturbance under the supervision and direction of a railroad signal representative.

All utility installations or relocations on Norfolk Southern right-of-way that are required in conjunction with this project can be installed or relocated as part of the project provided the construction is performed by the utility owner, project contractor, or project contractor's sub-contractor. However, the utility must submit an application for the installation or relocation to AECOM for appropriate handling for license agreement and applicable fees. For utility applications go to:
http://www.nscorp.com/content/nscorp/en/real-estate/norfolk-southern-services/wire-pipeline-fiber-optic-projects.html.
Note: License agreement must be executed prior to utility being installed or relocated.

For projects exceeding 30 days of construction, Contractor shall provide the flagman a small work area with a desk/ counter and chair within the field/ site trailer, including the use of bathroom facilties, where the flagman can check in/ out with the Project, as well as to the flagman's home terminal. The work area should provide access to two (2) electrical outlets for recharging radio(s), and a laptop computer; as needed at the field/ site trailer. This should aid in maximizing the flagman's time and efficiency on the Project.

Norfolk Southern will be provided as-built drawings of the bridge showing the actual clearances as constructed. Depth, size, and location of all foundation components shall be shown on the drawings.

INDEX

Know what's below. Call before you dig.
CALL TWO WORKING DAYS BEFORE YOU DIG
Call 811 or 800-382-5544

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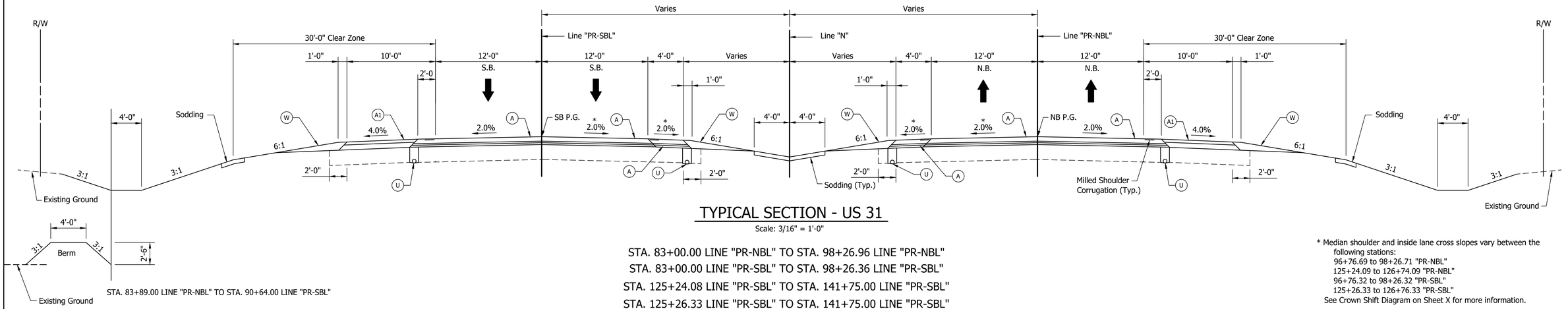
DESIGNED: CJD DRAWN: RSJ
CHECKED: JRL CHECKED: CJD

INDIANA
DEPARTMENT OF TRANSPORTATION

INDEX
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1901368 (SB)
SURVEY BOOK	SHEETS
-	2 of 144
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\BR\C3D\16-217\Bridge\Dwg\Plans\Index.dwg Plot Date: 1/1/2020 Plotted By: Andrew Wolka



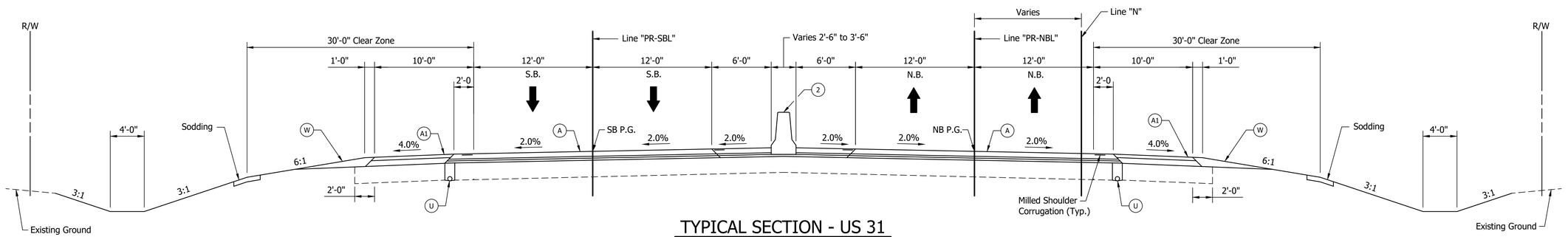
TYPICAL SECTION - US 31

Scale: 3/16" = 1'-0"

STA. 83+89.00 LINE "PR-NBL" TO STA. 90+64.00 LINE "PR-SBL"

STA. 83+00.00 LINE "PR-NBL" TO STA. 98+26.96 LINE "PR-NBL"
STA. 83+00.00 LINE "PR-SBL" TO STA. 98+26.36 LINE "PR-SBL"
STA. 125+24.08 LINE "PR-SBL" TO STA. 141+75.00 LINE "PR-SBL"
STA. 125+26.33 LINE "PR-SBL" TO STA. 141+75.00 LINE "PR-SBL"

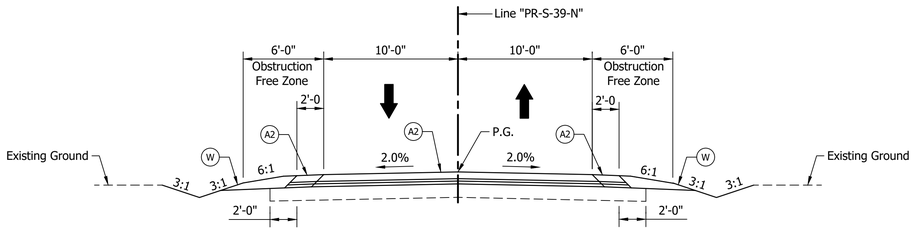
* Median shoulder and inside lane cross slopes vary between the following stations:
96+76.69 to 98+26.71 "PR-NBL"
125+24.09 to 126+74.09 "PR-NBL"
96+76.32 to 98+26.32 "PR-SBL"
125+26.33 to 126+76.33 "PR-SBL"
See Crown Shift Diagram on Sheet X for more information.



TYPICAL SECTION - US 31

Scale: 3/16" = 1'-0"

STA. 98+26.96 LINE "PR-NBL" TO STA. 100+04.55 LINE "PR-NBL"
STA. 98+26.36 LINE "PR-SBL" TO STA. 100+04.16 LINE "PR-SBL"
STA. 101+67.65 LINE "PR-NBL" TO STA. 125+24.08 LINE "PR-NBL"
STA. 101+67.48 LINE "PR-SBL" TO STA. 125+26.33 LINE "PR-SBL"



TYPICAL SECTION - CR 100 SOUTH

Scale: 3/16" = 1'-0"

STA. 53+50.00 LINE "PR-S-39-N" TO STA. 56+25.00 LINE "PR-S-39-N"

Legend

(A) Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
165 #/sys QC/QA-HMA, 4, 76, Surface, 9.5mm on
275 #/sys QC/QA-HMA, 4, 76, Intermediate, 19.0mm on
880 #/sys QC/QA-HMA, 4, 64, Base, 25.0mm (2 lifts) on
300 #/sys QC/QA-HMA, 4, 76, Intermediate OG, 19.0mm on
3" Compacted Aggregate, No. 53 on
Cement Stabilized Subgrade Soil

(A1) Full-Depth Outside Shoulder Pavement (US 31)
165 #/sys QC/QA-HMA, 3, 70, Surface, 9.5mm on
275 #/sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on
440 #/sys QC/QA-HMA, 3, 64, Base, 25.0mm on
10" Compacted Aggregate, No. 53 on
Cement Stabilized Subgrade Soil

(A2) Full-Depth Pavement (CR 100S)
165 #/sys QC/QA-HMA, 2, 64, Surface, 9.5mm on
275 #/sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on
6" Compacted Aggregate, No. 53 on
Cement Stabilized Subgrade Soil

(2) Concrete Barrier, 45"

(R) Milling, Asphalt, 1-1/2", then
165 #/sys QC/QA-HMA, 4, 76, Surface, 9.5mm on
Existing HMA Pavement

(R2) Milling, Asphalt, 1-1/2", then
165 #/sys QC/QA-HMA, 2, 64, Surface, 9.5mm on
Existing HMA Pavement

(U) 6" Underdrain

(W) Compacted Aggregate, No. 53

(A3) HMA for Approaches, Type B
165 #/sys HMA Surface, Type B on
275 #/sys HMA Intermediate, Type B on
6" Compacted Aggregate, No. 53 on
Subgrade Treatment, Type II (6" Comp. Agg., No. 53)

(D) HMA for Approaches, Type B
165 #/sys HMA Surface, Type B on
275 #/sys HMA Intermediate, Type B on
Subgrade Treatment, Type II

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CHECKED: JRL CHECKED: CJD

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
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VERTICAL SCALE	DESIGNATION
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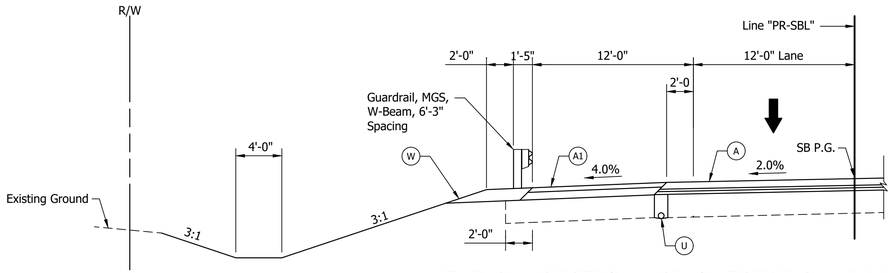
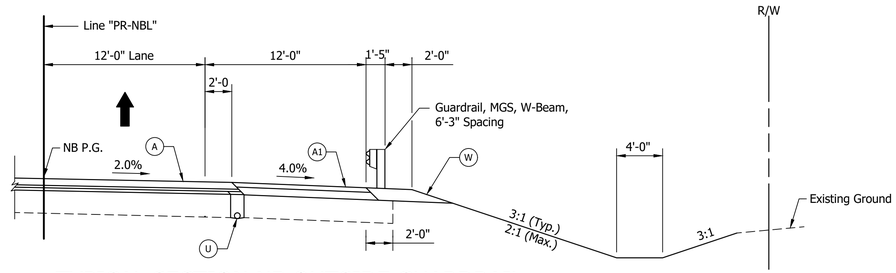
SURVEY BOOK	SHEETS
-	3 of 144
CONTRACT	PROJECT
B-39052	1592421



TYPICAL SECTION - SB OUTSIDE GUARDRAIL

Scale: 3/16" = 1'-0"

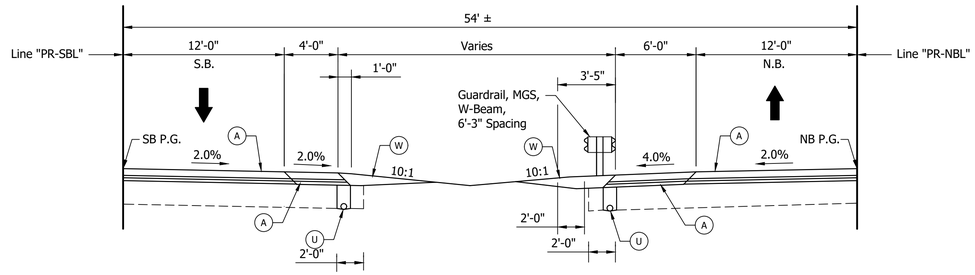
STA. 99+21.32 "PR-SBL" TO STA. 100+04.16 "PR-SBL"
STA. 101+67.16 "PR-SBL" TO STA. 104+06.32 "PR-SBL"
STA. 132+74.67 "PR-SBL" TO STA. 135+43.45 "PR-SBL"



TYPICAL SECTION NB OUTSIDE GUARDRAIL

Scale: 3/16" = 1'-0"

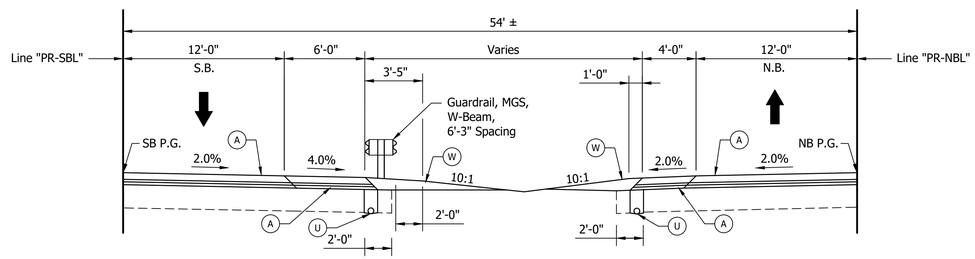
STA. 97+65.71 "PR-NBL" TO STA. 100+04.55 "PR-NBL"
STA. 101+67.55 "PR-NBL" TO STA. 111+50.00 "PR-NBL"
STA. 125+90.11 "PR-NBL" TO STA. 133+27.61 "PR-NBL"



TYPICAL SECTION - NB INSIDE GUARDRAIL

Scale: 3/16" = 1'-0"

STA. 125+24.08 "PR-NBL" TO STA. 131+70.26 "PR-NBL"



TYPICAL SECTION - SB INSIDE GUARDRAIL

Scale: 3/16" = 1'-0"

STA. 92+03.03 "PR-SBL" TO STA. 98+26.36 "PR-SBL"

Legend

(A) Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
165 #/sys QC/QA-HMA, 4, 76, Surface, 9.5mm on
275 #/sys QC/QA-HMA, 4, 76, Intermediate, 19.0mm on
880 #/sys QC/QA-HMA, 4, 64, Base, 25.0mm (2 lifts) on
300 #/sys QC/QA-HMA, 4, 76, Intermediate OG, 19.0mm on
3" Compacted Aggregate, No. 53 on
Cement Stabilized Subgrade Soil

(A1) Full-Depth Outside Shoulder Pavement (US 31)
165 #/sys QC/QA-HMA, 3, 70, Surface, 9.5mm on
275 #/sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on
440 #/sys QC/QA-HMA, 3, 64, Base, 25.0mm on
10" Compacted Aggregate, No. 53 on
Cement Stabilized Subgrade Soil

(W) Compacted Aggregate, No. 53

(U) 6" Underdrain

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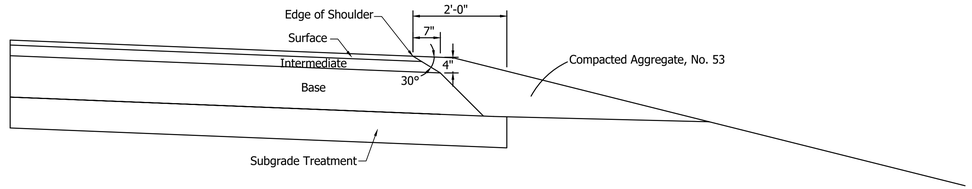
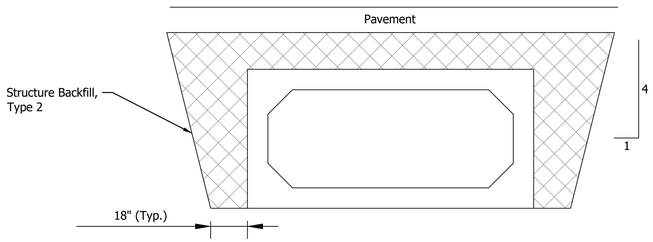
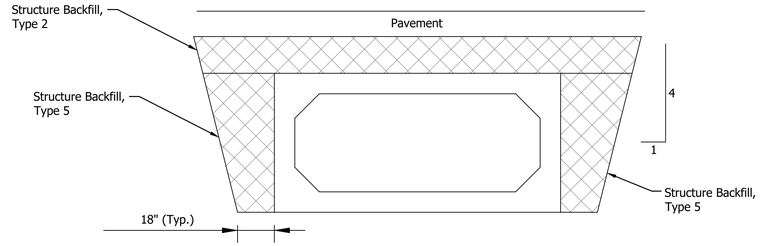
SURVEY BOOK	SHEETS
-	4 of 144
CONTRACT	PROJECT
B-39052	1592421



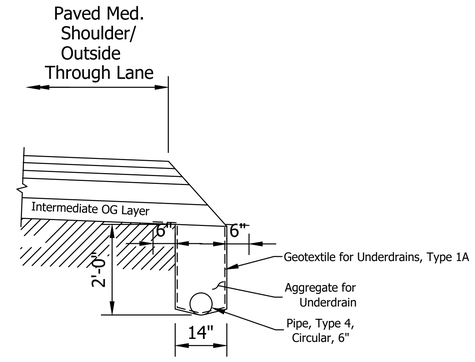
SAFETY EDGE DETAIL - HMA



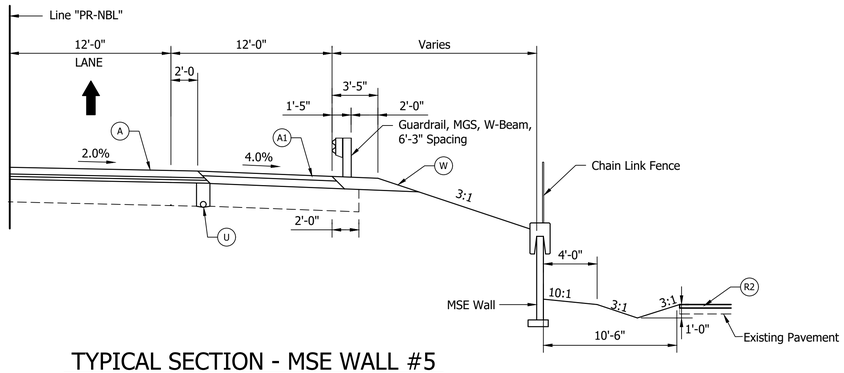
STRUCTURE BACKFILL AT BOX CULVERT
(FOR BOXES WITH 2.0' OF COVER OR MORE)



STRUCTURE BACKFILL AT BOX CULVERT
(FOR BOXES WITH LESS THAN 2.0' OF COVER)



UNDERDRAIN DETAIL FOR HMA PAVEMENT



TYPICAL SECTION - MSE WALL #5

Scale: 3/16" = 1'-0"

STA. 108+40.97 "PR-NBL" TO STA. 110+35.73 "PR-NBL"

Legend

- (A) Full-Depth Pavement - Inside Shoulder and Mainline Pavement (US 31)
  165 #/sys QC/QA-HMA, 4, 76, Surface, 9.5mm on
  275 #/sys QC/QA-HMA, 4, 76, Intermediate, 19.0mm on
  880 #/sys QC/QA-HMA, 4, 64, Base, 25.0mm (2 lifts) on
  300 #/sys QC/QA-HMA, 4, 76, Intermediate OG, 19.0mm on
  3" Compacted Aggregate, No. 53 on
  Cement Stabilized Subgrade Soil
- (A1) Full-Depth Outside Shoulder Pavement (US 31)
  165 #/sys QC/QA-HMA, 3, 70, Surface, 9.5mm on
  275 #/sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on
  440 #/sys QC/QA-HMA, 3, 64, Base, 25.0mm on
  10" Compacted Aggregate, No. 53 on
  Cement Stabilized Subgrade Soil
- (W) Compacted Aggregate, No. 53
- (U) 6" Underdrain

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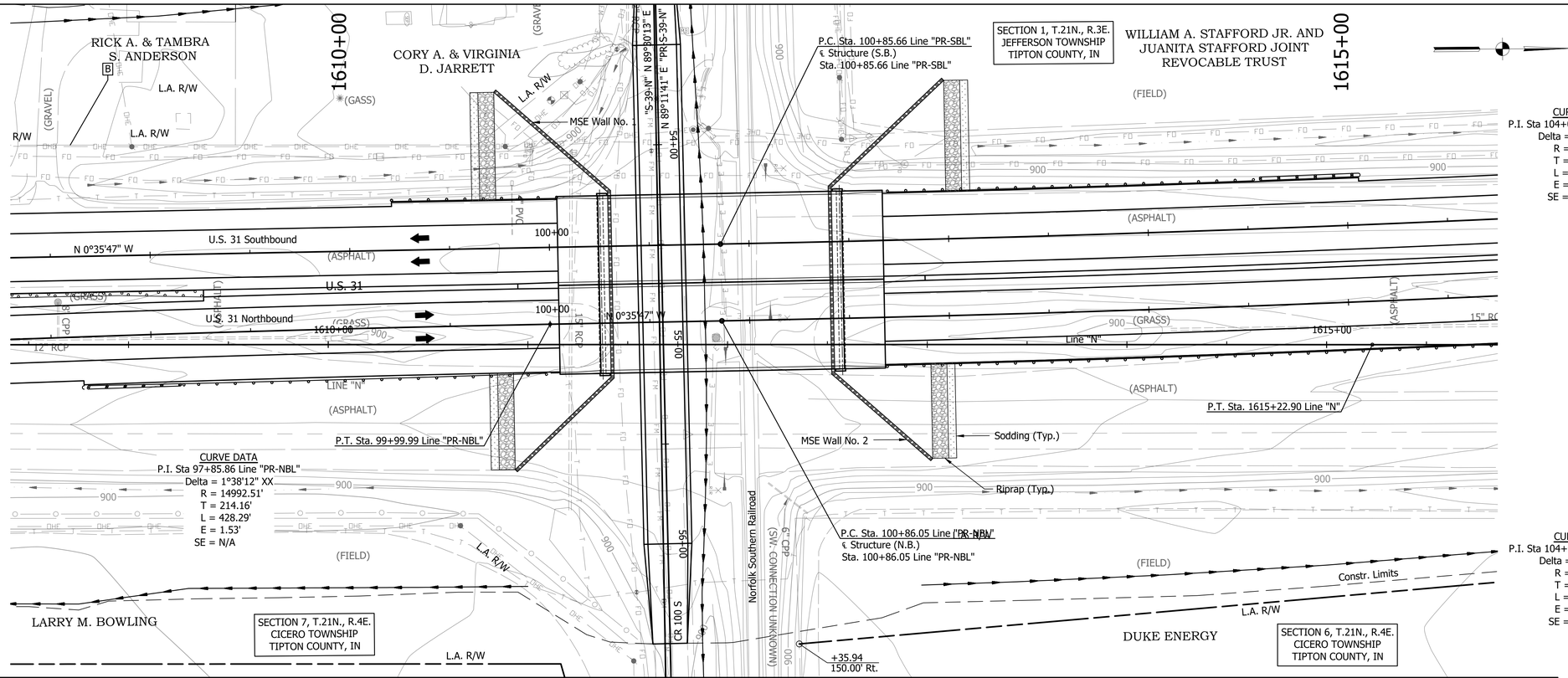
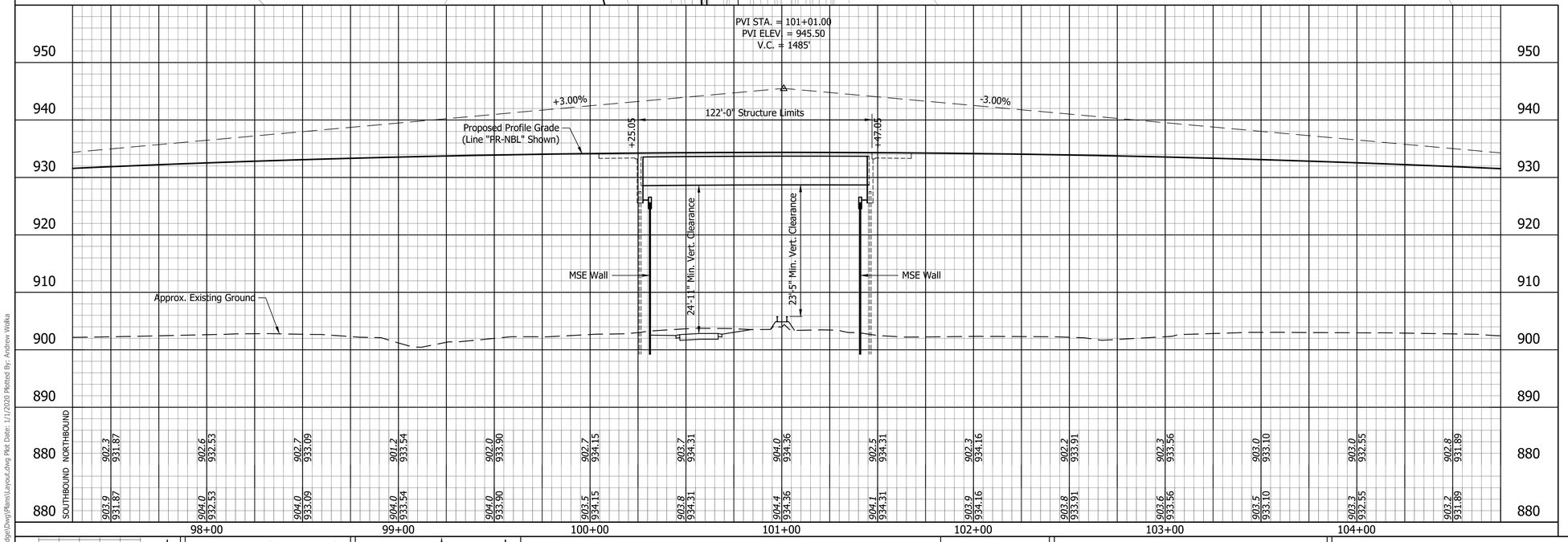
SURVEY BOOK	SHEETS
-	5 of 144
CONTRACT	PROJECT
B-39052	1592421





EXISTING STRUCTURE

No Existing Structure

Riprap

Sodding

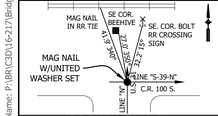
EARTHWORK TABULATION

Fill + 20%	9638 cys
Common Excavation	5952 cys
Usable Waterway Excavation (70%)	238 cys
Surplus Foundation Excavation (70%)	68 cys
Borrow	3380 cys
Total Waterway Excavation	340 cys
Excavation Unclassified	97 cys
Benching (Estimated)	1908 cys

No direct payment for Benching. Benching will not be paid for as Common Excavation.

Notes:
All R/W & Existing Topo described from Line "N"
Line "PR-NBL" & Line "PR-SBL" to be constructed.
See Sheet No. 7 for Reference Ties

TWIN STRUCTURES
HYBRID COMPOSITE PRESTRESSED CONCRETE BULB-TEE BEAM BRIDGE
SINGLE SPAN: 120'-0", NO SKEW,
41'-7" CLEAR ROADWAYS
U.S. 31 OVER NORFOLK SOUTHERN RAILROAD & COUNTY ROAD 100 S
TIPTON COUNTY



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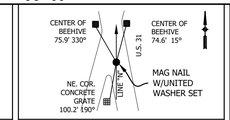
P.O.T. 5+00.10 "S-39-N"



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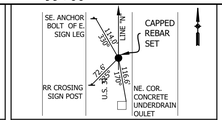

P.O.T. 1626+00.00 "N"

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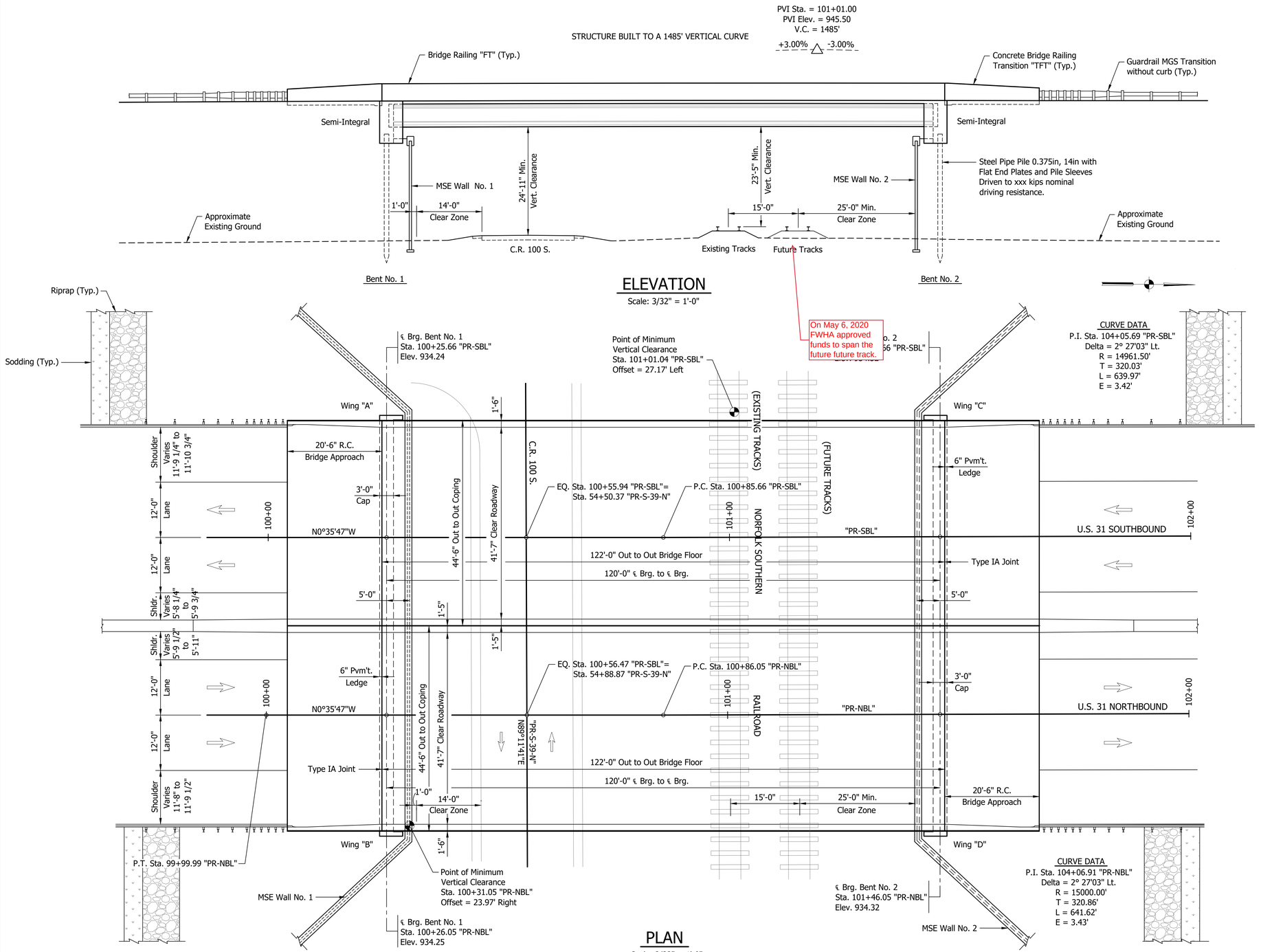
CHECKED: JDS CHECKED: NAR

INDIANA DEPARTMENT OF TRANSPORTATION

LAYOUT
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1592421 (NB) / 1901368 (SB)
SURVEY BOOK	SHEETS
-	81 of 144
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\BR\C3D\16-217\Bridge\Dwg\Plans\Layout.dwg Plot Date: 1/1/2020 Plotted By: Andrew Wolka



GENERAL NOTES

Reinforcing steel covering shall be 2 1/2" in top and 1" min. in bottom of floor slabs, and 2" in all other parts, unless noted.

Surface seal top of bridge deck, all surfaces of concrete railing, railing transitions, face of deck coping and underside of deck from outside edge to flange of exterior beams, approach slabs and all exposed surfaces of end bents.
(Estimated Qnty. = X,XXX sft.)

DESIGN DATA

Live Load:
Superstructure and Substructure designed for HL-93 Loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017, and its Subsequent Interims.

Dead Load:
Actual loads plus 35 psf allowance for future wearing surfaces and additional 15 psf for permanent metal forms.

Floor slab designed with a 7.5 inch structural depth and a 0.5 in integral wearing surface.

CONSTRUCTION LOADING

The exterior girder has been checked for strength, deflection, and overturning using the construction loads shown below. Cantilever overhang brackets were assumed for support of the deck overhang past the edge of the exterior girder. The finishing machine was assumed to be supported 6 in. past the outside of the vertical coping form. The top overhang brackets were assumed to be located 6 in. past the edge of the vertical coping form. The bottom overhang brackets were assumed to be braced against the intersection of the girder bottom flange and web.

Deck Falsework Loads: Designed for 15 lb/ft^2 for permanent metal stay-in-place deck forms, removable deck forms, and 2-ft exterior walkway

Construction Live Load: Designed for 20 lb/ft^2 extending 2-ft past the edge of coping and 75 lb/ft vertical force applied at a distance of 6 in. outside the face of coping over a 30-ft length of the deck centered with the finishing machine

Finishing-Machine Load: 4500 lb distributed over 10 ft along the coping

Wind Load: Designed for 70 mph horizontal wind loading in accordance with LRFD 3.8.1

SEISMIC DESIGN DATA

Seismic Performance Zone TBD
Acceleration Coefficient = TBD
Seismic Soil Profile Type Site Class TBD

UNIT STRESSES

Class "A" Concrete	f'c = 3,500 p.s.i.
Class "B" Concrete	f'c = 3,000 p.s.i.
Class "C" Concrete	f'c = 4,000 p.s.i.
Reinforcing Steel (Grade 60)	fy = 60,000 p.s.i.

TWIN STRUCTURES
HYBRID COMPOSITE PRESTRESSED CONCRETE
BULB-TEE BEAM BRIDGE
SINGLE SPAN: 120'-0", NO SKEW,
41'-7" CLEAR ROADWAYS
U.S. 31 OVER NORFOLK SOUTHERN RAILROAD
& COUNTY ROAD 100 S
TIPTON COUNTY

UNITED Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

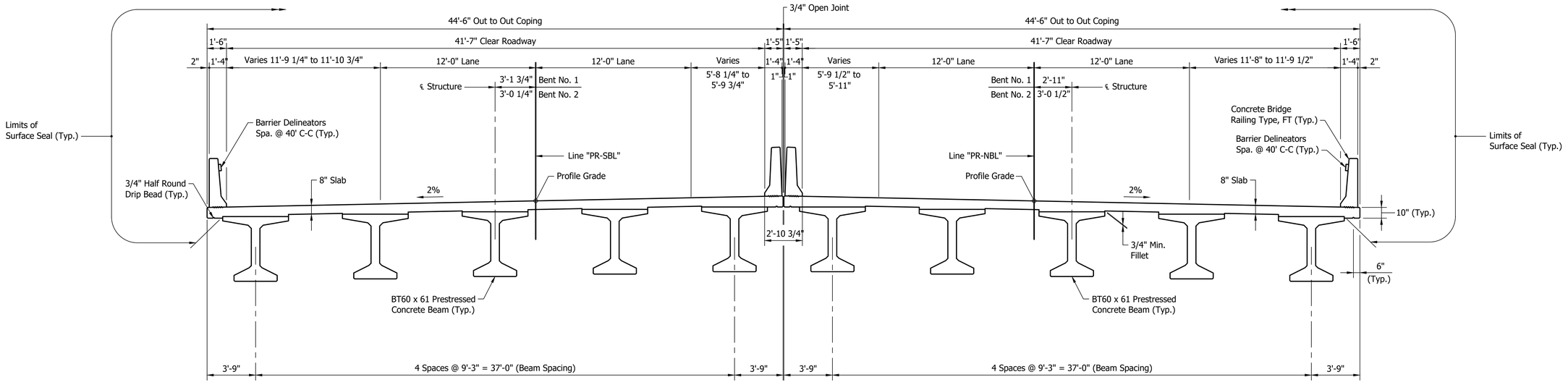
DESIGNED: NAR DRAWN: DJZ
CHECKED: JDS CHECKED: NAR

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS
-	82 of 144
CONTRACT	PROJECT
B-39052	1592421

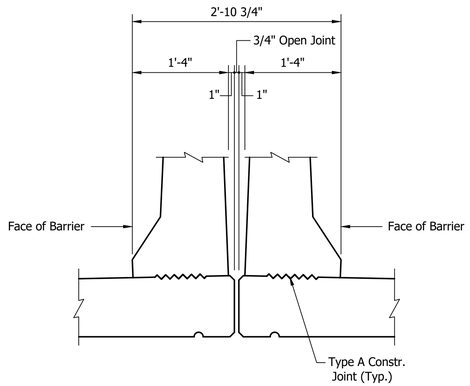


SOUTHBOUND U.S. 31

TYPICAL SECTION

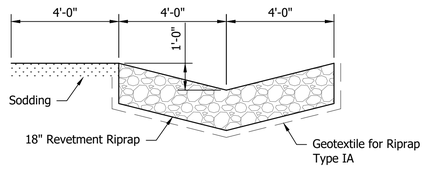
Scale: 1/4" = 1'-0"

NORTHBOUND U.S. 31



JOINT DETAIL

Scale: 1" = 1'-0"



RIPRAP DRAINAGE TURNOUT

Scale: 3/8" = 1'-0"

TWIN STRUCTURES
HYBRID COMPOSITE PRESTRESSED CONCRETE
BULB-TEE BEAM BRIDGE
SINGLE SPAN: 120'-0", NO SKEW,
41'-7" CLEAR ROADWAYS
U.S. 31 OVER NORFOLK SOUTHERN RAILROAD
& COUNTY ROAD 100 S
TIPTON COUNTY

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INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
AS NOTED	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS		
-	83	of	144
CONTRACT	PROJECT		
B-39052	1592421		

1588+27.7 85.9' POWER POLE
1588+75.5 87.2' WOVEN WIRE FENCE
1590+00
1590+71.9 86.7' POWER POLE
1592+00.1 3.2' EDGE OF CONCRETE
1592+02.8 0.4' BEEHIVE INLET
1592+08.8 3.0' EDGE OF CONCRETE
1592+35.5 81.4' BEEHIVE INLET
1593+15.6 87.4' POWER POLE
1593+20.7 88.7' WOVEN WIRE FENCE
1594+55.1 84.3' TELEPHONE VAULT
1594+77.1 88.5' WOVEN WIRE FENCE
1595+00
1595+26.1 89.6' TELEPHONE PEDESTAL
1595+52.8 87.8' POWER POLE
1596+98.1 3.3' EDGE OF CONCRETE
1596+99.3 2.9' REINFORCED CONC PIPE
1596+99.7 3.1' EDGE OF CONCRETE
1597+01.0 3.6' EDGE OF CONCRETE
1597+04.9 89.3' WOVEN WIRE FENCE

SECTION 12, T.21N., R.3E.
JEFFERSON TOWNSHIP
TIPTON COUNTY, IN

RONALD LEE JACKSON, TRUSTEE

Begin Project
Sta. 83+00.00 Line "PR-SBL"

Begin Incidental Constr.
Sta. 82+50.00 Line "PR-SBL"

+61.14
89.51' L

+25.00
R/W

+75.00
R/W

+20.00
115.00' L

+35.00
100.00' L

PC Sta. 1595+22.90 Line "N"

+20.00
R/W

+35.00
R/W

R/W

L.A. R/W

Constr. Limits

Constr. Limits
A.C.L.

(FIELD)

15" RCP

Exist. L.A. R/W

Constr. Limits

U.S. 31 SOUTHBOUND

(ASPHALT)

30" RCP IS ABOVE 18" RCP

82+39

10'
12'
12'

(R)

(ASPHALT)

(A)

"PR-SBL"

85+00

N 0°21'13" E

12" RCP

10'

24"

4'

1590+00

Line "N"

N 0°21'13" E

(GRASS)

18" RCP

30" RCP

12" CMP

4'-4"

12" CMP
(N. CONNECTION UNKNOWN)

(ASPHALT)

1595+00

Line "N"

(GRASS)

82+88 "PR-NBL", Str. No. 17
Inlet P-12A w/ 56' of
15" Type 2 Pipe, Req'd

3'-6"

4' PCP

4'

24"

10'

Matchline - Sta. 1597+80 Line "N"

U.S. 31 NORTHBOUND

(ASPHALT)

Section Line

82+38

12'
12'

(R)

(ASPHALT)

(A)

"PR-NBL"

N 0°21'50" E

85+00

11'-4"

12" CMP

(D)

+00.00
R/W

Exist. L.A. R/W

Exist. R/W

A.C.L.

A.C.L.

Exist. L.A. R/W

+26.47
R/W

+75.47
R/W

(B)

+00.00
95.00' R

L.A. R/W

Constr. Limits

18" RCP

Begin Incidental Constr.
Sta. 82+50.00 Line "PR-NBL"

(GRASS)

(FIELD)

(GRASS)

(GRAVEL)

(FIELD)

PC Sta. 85+09.45 Line "PR-NBL"

Begin Project
Sta. 83+00.00 Line "PR-SBL"

83+42 "PR-NBL", Str. No. 150
39' of 3' x 2' Box Culvert

CURVE DATA
P.I. Sta 88+49.48 Line "PR-NBL"
Delta = 2°35'50" Lt.
R = 15000.00'
T = 340.03'
L = 679.94'
E = ???'
SE= N.C.

THE STROUP TRUST

BRADY E. DOLEZAL

THE STROUP TRUST

1588+49.3 85.7' CHAIN LINK FENCE
1589+42.9 85.4' CHAIN LINK FENCE
1591+71.1 85.7' CHAIN LINK FENCE
1592+01.7 221.9' WOOD RAIL FENCE
1592+02.1 90.9' POWER POLE
1592+02.2 189.6' WOOD RAIL FENCE
1592+09.5 87.2' WOOD RAIL FENCE
1592+23.1 64.5' REINFORCED CONC PIPE
1592+23.6 68.2' BEEHIVE INLET
1592+45.1 162.1' 10" TREE
1592+64.3 85.9' CHAIN LINK FENCE
1592+64.6 87.1' WOOD RAIL FENCE
1592+87.3 199.4' 12" TREE
1592+89.1 177.5' 12" TREE
1592+97.4 122.2' 60" TREE
1592+99.2 172.9' 12" TREE
1593+06.6 260.1' CHAIN LINK FENCE
1593+16.0 103.9' BUILDING
1593+27.5 177.2' BUILDING
1593+29.4 128.2' 18" TREE
1593+31.7 174.6' BUSH
1593+36.9 232.2' CHAIN LINK FENCE
1593+45.9 167.5' WOOD FENCE
1593+46.2 157.8' 12" TREE
1593+48.2 215.0' DECK
1593+52.6 249.2' CHAIN LINK FENCE
1593+61.4 215.1' BUILDING
1593+62.4 215.1' DECK
1593+65.8 229.9' 14" TREE
1593+68.7 266.2' 16" TREE
1593+74.3 170.6' 12" TREE
1593+86.7 251.4' 6" TREE
1593+87.2 241.0' BUSH
1593+89.2 160.3' 6" TREE
1593+91.4 246.3' BUILDING
1593+94.2 309.5' BUILDING
1593+98.5 182.5' BUILDING
1594+02.4 218.1' BUILDING
1594+06.2 179.4' 28" TREE
1594+09.6 168.5' WOOD FENCE
1594+17.6 167.2' WOOD FENCE
1594+20.3 179.0' 6" TREE
1594+21.0 135.3' 2" TREE
1594+24.6 165.7' FLAG POLE
1594+28.6 282.4' BUILDING
1594+33.5 233.2' 4" TREE
1594+33.5 183.1' BOULDER
1594+35.1 69.7' CORR METAL PIPE
1594+38.0 176.6' BOULDER
1594+40.7 175.3' SIGN BOX
1594+63.2 262.5' GUY ANCHOR
1594+64.6 248.4' LIGHT POLE
1594+72.8 69.7' CORR METAL PIPE
1594+78.0 84.2' TELEPHONE PEDESTAL
1594+86.2 89.3' POWER POLE
1595+23.0 86.9' R/W MONUMENT
1595+51.2 85.9' CHAIN LINK FENCE
1596+84.1 88.6' POWER POLE
1596+92.2 4.7' EDGE OF CONCRETE
1596+93.1 6.5' POLYVINYL CHLORIDE PIPE
1596+93.5 4.8' EDGE OF CONCRETE

SECTION 7, T.21N., R.4E.
CICERO TOWNSHIP
TIPTON COUNTY, IN

NOTE:
All R/W and Topo described from Line "N".

LEGEND:
(A) Full Depth Pavement - TBD.
(R) Mill and Resurface - TBD.

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RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: NJK DRAWN: RSJ
CHECKED: CJD CHECKED: CJD

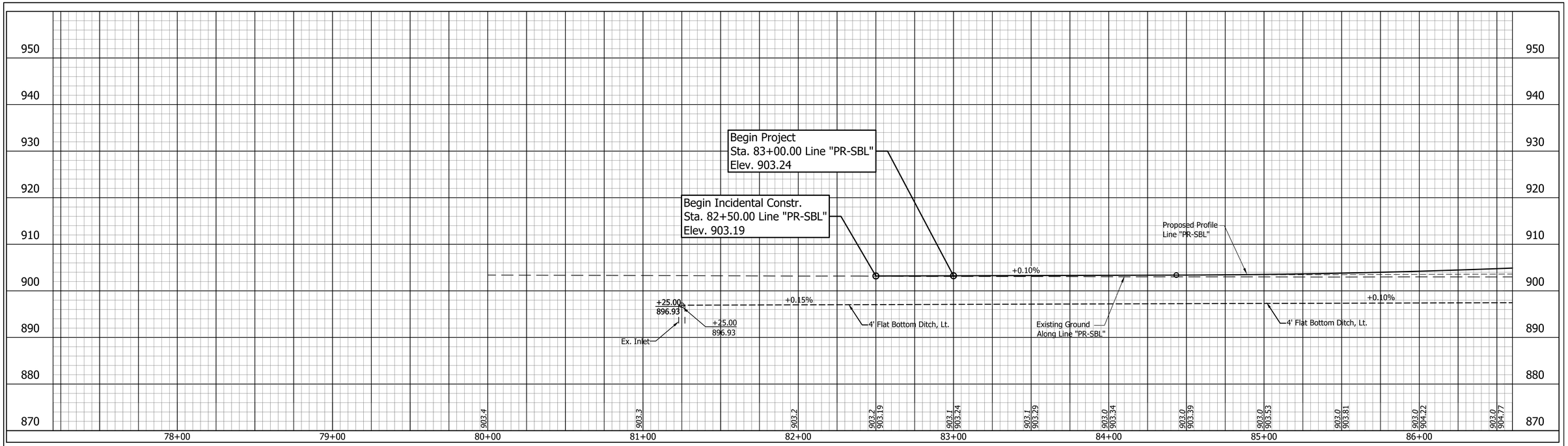
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN LINE "N"
US 31 OVER NS RAILROAD & CR100S

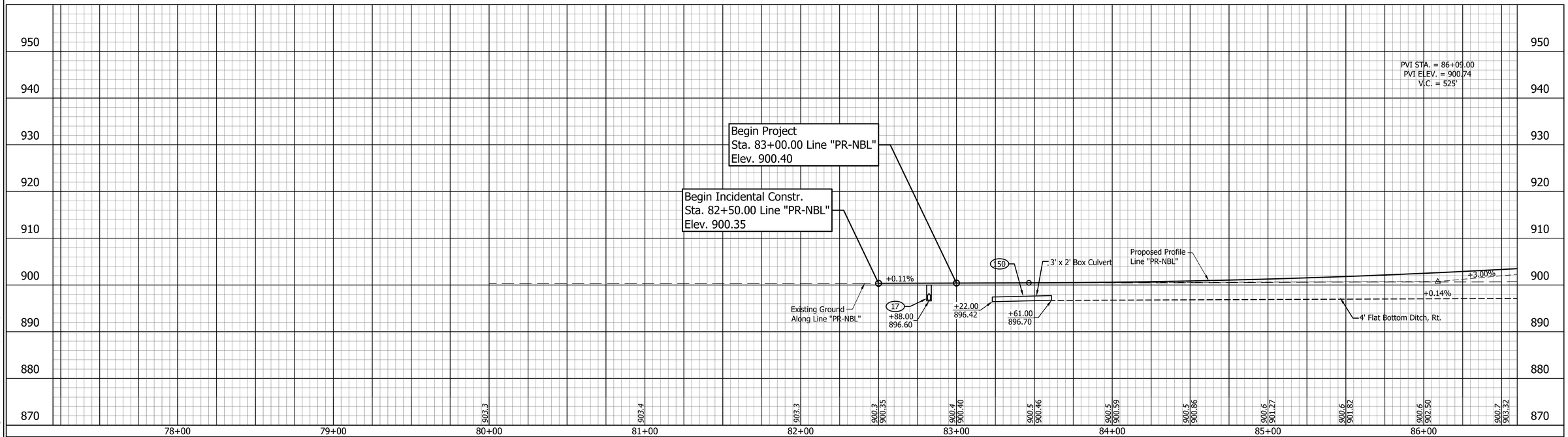
HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
N/A	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS
-	11 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D\16+21\Bridge\Dwg\Plans\Plan 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: NJK DRAWN: RSJ

CHECKED: CJD CHECKED: CJD

INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS		
-	12	of	121
CONTRACT	PROJECT		
B-39052	1592421		

File Name: P:\CSD\16-217\Bridge\Dwg\Plans\Profile 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

NOTE:
All R/W and Topo described from Line "N".

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Plan 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

LEGEND:
- (A) Full Depth Pavement - TBD.
- (K) Full Depth Pavement - TBD
- (R) Mill and Resurface - TBD.
- MSE Wall
- Guardrail Type

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Phone 317-895-2585
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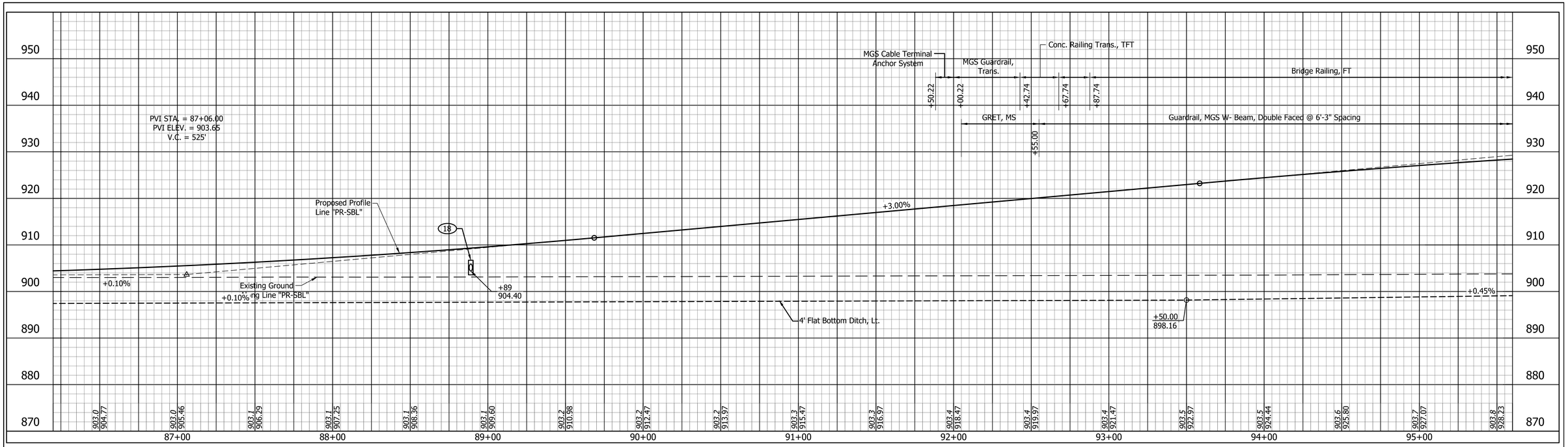
RECOMMENDED FOR APPROVAL		DESIGN ENGINEER	DATE
DESIGNED: NJK		DRAWN: RSJ	
CHECKED: CJD		CHECKED: CJD	

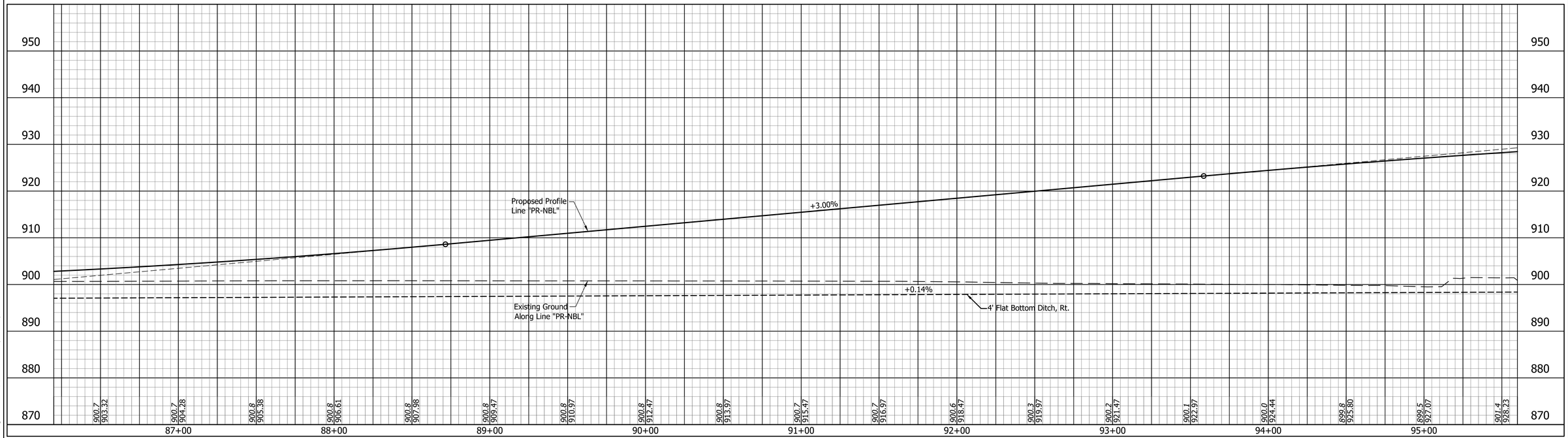
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN LINE "N"
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE	
1" = 30'	031-80-02807 NBL & SBL	
VERTICAL SCALE	DESIGNATION	
N/A	1592421 (NB) / 1901368 (SB)	
SURVEY BOOK	SHEETS	
-	13 of	121
CONTRACT	PROJECT	
B-39052	1592421	



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

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Phone 317-895-2585
www.ucindy.com

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

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INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS		
-	14	of	121
CONTRACT	PROJECT		
B-39052	1592421		

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Profile 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

TRUSTEES OF THE CHESTER J. KASZUBA TRUST

RICK ALLEN & TAMBRA S. ANDERSON

CORY A. & VIRGINA D. JARRETT

WILLIAM A. STAFFORD JR. AND JUANITA STAFFORD AS CO-TRUSTEES

SANDRA D. SHERRICK & LAURENCE B. BOWLING

DUKE ENERGY INDIANA, LLC

SECTION 12, T.21N., R.3E.
JEFFERSON TOWNSHIP
TIPTON COUNTY, IN

SECTION 7, T.21N., R.4E.
CICERO TOWNSHIP
TIPTON COUNTY, IN

C.R. 100 S.

NORFOLK SOUTHERN RAILROAD

Line "PR-S-39-N"

Line "S-39-N"

Begin Bridge Exception
Sta. 1611+15.88 "N"

End Bridge Exception
Sta. 1612+78.91 "N"

P.T. Sta. 95+36.37 Line "PR-SBL"

PC Sta. 95+71.70 Line "PR-NBL"

PT Sta. 99+99.99 Line "PR-NBL"

PC Sta. 100+85.66 Line "PR-SBL"

PC Sta. 100+86.05 Line "PR-NBL"

P.O.T. 55+00.14 "PR-S-39-N" =
P.O.T. 1611+67.85 "N"

PT Sta. 1615+22.90 Line "N"

Line "PR-SBL" N 0°35'47" W

Line "N"

N 89°11'41" E

N 89°30'13" E

U.S. 31 SOUTHBOUND

U.S. 31 NORTHBOUND

MSE Wall No. 2

MSE Wall No. 4

Matchline - Sta. 1606+20 Line "N"

Matchline - Sta. 1615+80 Line "N"

Section Line

Exist. L.A. R/W

Exist. R/W

Constr. Limits

L.A. R/W

R/W

160' L.A. R/W

250' R/W

235' L.A. R/W

+53.81
250.00' Lt.

+53.78
235.00' Lt.

+PL
250.00' Lt.

+PL
235.00' Lt.

+PL
250.00' Lt.

+PL
235.00' Lt.

+P.T.(+22.90)
250.00' L

+P.T.(+22.90)
235.00' L

+22.50
160.00' R

+16.50
160.00' R

+PL
150.00' R

+55.00
27.00' R
"S-39-N"

+55.00
PL(5.00') R
"S-39-N"

CURVE DATA
P.I. Sta 104+05.69 Line "PR-SBL"
Delta = 2°27'03" Lt.
R = 14961.50'
T = 320.03'
L = 639.97'
E = ???'
SE = N.C.

CURVE DATA
P.I. Sta 97+85.86 Line "PR-NBL"
Delta = 1°38'12" Rt.
R = 14992.51'
T = 214.16'
L = 428.29'
E = ???'
SE = N.C.

CURVE DATA
P.I. Sta 1605+22.90 Line "N"
Delta = 0°11'00" Rt.
R = 625044.87'
T = 1000.00'
L = 2000.00'
E = ???'
SE = N/A

CURVE DATA
P.I. Sta 104+06.91 Line "PR-NBL"
Delta = 2°27'03" Lt.
R = 15000.00'
T = 320.86'
L = 641.62'
E = ???'
SE = N.C.

NOTE:
All R/W and Topo described from Line "N".

LEGEND:
- (A) Full Depth Pavement - TBD.
- (K) Full Depth Pavement - TBD
- (M) Moment Slab
- (R) Mill and Resurface - TBD.
- MSE Wall
- Guardrail Type
- (2) Concrete Barrier

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

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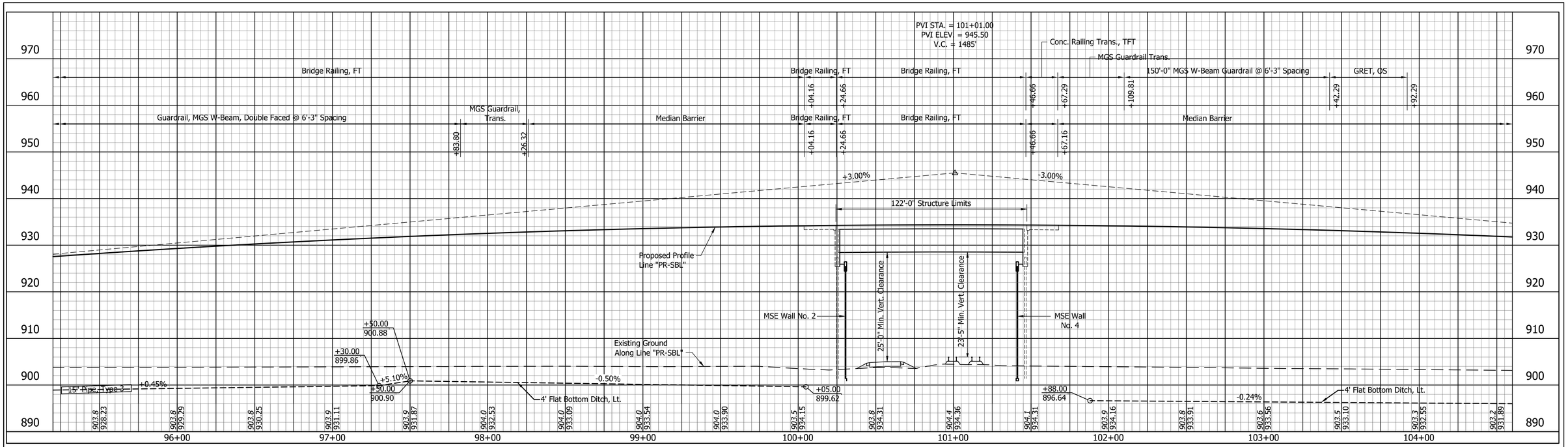
CHECKED: CJD CHECKED: CJD

INDIANA DEPARTMENT OF TRANSPORTATION

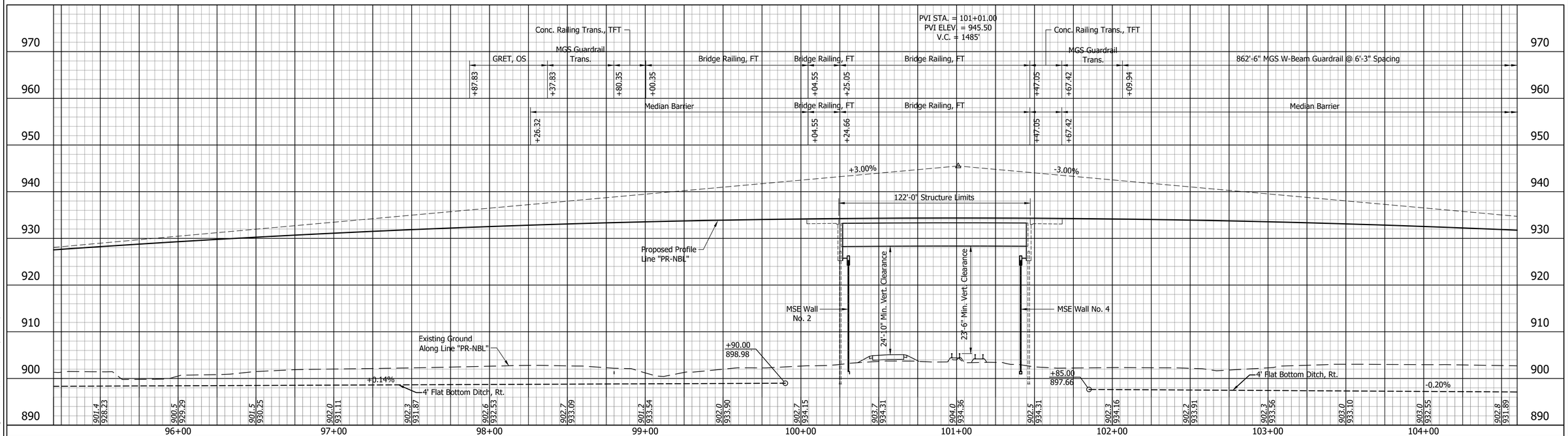
PLAN LINE "N"
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
N/A	1592421 (NB) / 1901368 (SB)
SURVEY BOOK	SHEETS
-	15 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Plan 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

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DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS
-	16 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Profile_1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

SECTION 1, T.21N., R.3E.
JEFFERSON TOWNSHIP
TIPTON COUNTY, IN

1620+00

250' R/W
235' L.A. R/W

1614+93.7 27.9' BEEHIVE INLET
1617+38.0 89.2' INFO SIGN
1617+53L 10.6' EDGE OF CONCRETE
1617+53R 13.8' EDGE OF CONCRETE
1617+53.7 12.1' REINFORCED CONCRETE PIPE
1617+76R 10.7' EDGE OF CONCRETE
1617+76L 13.7' EDGE OF CONCRETE
1617+96R 11.7' EDGE OF CONCRETE
1617+99.2 103.4' REINFORCED CONC PIPE
1618+00.3 11.8' BEEHIVE INLET
1618+01L 5.6' EDGE OF CONCRETE
1618+01R 6.8' EDGE OF CONCRETE
1618+11 0.92.5'POLYVINYL CHLORIDE PIPE
1618+15R 90.2' EDGE OF CONCRETE
1619+03R 11.7' EDGE OF CONCRETE
1619+25.8 13.7' CORR METAL PIPE
1619+26L 12.3' EDGE OF CONCRETE
1620+86.7 117.0' CORRUGATED METAL PIPE
1620+94.9 130.8' FIBER OPTIC MARKER POST
1620+99.4 131.8' FENCE POST
1621+49.9 134.4' R/W MONUMENT
1621+51.0 134.3' FENCE POST
1621+66.5 118.1' CORRUGATED METAL PIPE
1622+36.1 96.9' WARNING SIGN
1622+57L 12.8' EDGE OF CONCRETE
1622+58.4 14.6' CORR METAL PIPE
1622+77.5 12.7' EDGE OF CONCRETE
1622+99L 96.6' EDGE OF CONCRETE
1623+02.7 98.1' POLYVINYL CHLORIDE PIPE
1623+02.8 0.3' EDGE OF CONCRETE
1623+03R 0.3' EDGE OF CONCRETE
1623+11.3 7.3'POLYVINYL CHLORIDE PIPE
1623+18.9 4.0' EDGE OF CONCRETE
1623+54L 27.9' EDGE OF CONCRETE
1623+54.2 13.4' POLYVINYL CHLORIDE PIPE
1623+59R 28.2' EDGE OF CONCRETE
1623+60L 14.1' EDGE OF CONCRETE
1623+63.0 111.7' REINFORCED CONC PIPE
1624+23.8 28.6' TRAFFIC SIGNAL MANHOLE
1624+58.2 4.3' EDGE OF CONCRETE
1624+60.4 0' POLYVINYL CHLORIDE PIPE INVERT 4 INCH
1624+62.7 5.0' EDGE OF CONCRETE

Constr. Limits

CURVE DATA
P.I. Sta 115+55.65 Line "PR-SBL"
Delta = 6°04'54" Lt.
R = 15038.50'
T = 798.88'
L = 1596.25'
E = ???'
SE = N.C.

WILLIAM A. STAFFORD JR. AND
JUANITA STAFFORD
AS CO-TRUSTEES

(FIELD)

PT Sta. 107+25.63 Line "PR-SBL"
PC Sta. 107+56.77 Line "PR-SBL"

Exist. L.A. R/W
105+00 Line "PR-SBL"
N 3°02'50" W
U.S. 31 SOUTHBOUND
U.S. 31 NORTHBOUND
110+00
+50.00
12" CMP
15" CMP
15" RCP
8" CDP
4" PVC
12" RCP
(ASPHALT)
(GRASS)
(GRAVEL)
10'
24'
6'
12'

Matchline - Sta. 1615+20 Line "N"
Matchline - Sta. 1624+80 Line "N"

PC Sta. 107+58.81 Line "PR-NBL"
PT Sta. 107+27.67 Line "PR-NBL"
MSE Wall No. 5
Section Line
Exist. R/W
L.A. R/W
Constr. Limits
(FIELD)
(GRASS)
(GRAVEL)
E

108+97 "PR-NBL", Str. No. 153
37' of 43.75" x 26.62" Deformed
Pipe, Type 3 Req'd

110+93 "PR-NBL", Str. No. 156
40' of 43.75" x 26.62" Deformed
Pipe, Type 3 Req'd

112+80 "PR-NBL", Str. No. 157
34' of 43.75" x 26.62" Deformed
Pipe, Type 3 Req'd

+97 ℄ Class II Drive
Width = 24'
+94 ℄ Class II Drive
Width = 24'
+81 ℄ Class II Drive
Width = 12'

CURVE DATA
P.I. Sta 118+04.06 Line "PR-NBL"
Delta = 7°58'20" Lt.
R = 15000.00'
T = 1045.25'
L = 2087.12'
E = ???'
SE = N.C.

NOTE:
All R/W and Topo described from Line "N".

DUKE ENERGY INDIANA, LLC

FERNUNG FAMILY
FARMS, LLC

SECTION 6, T.21N., R.4E.
CICERO TOWNSHIP
TIPTON COUNTY, IN

RICHARD L. FERNUNG

INGRESS & EGRESS EASEMENT

ROBERT & MARGARET
FUQUAY

1615+96.4 13.8' BEEHIVE INLET
1616+88.0 67.0' EDGE OF CONCRETE
1616+88.6 67.5' POLYVINYL CHLORIDE PIPE
1616+89.3 66.9' EDGE OF CONCRETE
1618+61.5 109.1' 16" TREE
1618+71.7 185.6' 16" TREE
1618+98.5 123.8' 42" OAK TREE
1619+18.6 210.3' BUILDING
1619+29.9 196.6' WELL
1619+36.3 177.4' 20" TREE
1619+61.9 128.0' 36" OAK TREE
1619+76.9 63.9' EDGE OF CONCRETE
1619+78.7 66.3' POLYVINYL CHLORIDE PIPE
1619+79.2 67.5' EDGE OF CONCRETE
1619+85.9 173.8' 22" TREE
1619+92.1 71.1' CORR METAL PIPE
1619+96.6 90.8' TOP OF WALL
1620+01.0 90.8' TOP OF WALL
1620+01.3 90.8' TOP OF WALL
1620+13.5 90.7' TOP OF WALL
1620+15.2 214.9' EDGE OF CONCRETE
1620+24.9 90.9' TOP OF WALL
1620+27.2 90.9' TOP OF WALL
1620+27.5 90.9' TOP OF WALL
1620+30.3 69.8' CORR METAL PIPE
1620+30.9 86.9' GUY ANCHOR
1620+31.9 90.9' TOP OF WALL
1620+32.5 211.8' MAILBOX
1620+45.9 87.0' POWER POLE
1620+95.9 128.3' 36" OAK TREE
1621+25.3 77.2' FIBER OPTIC HANDHOLE
1621+58.1 128.9' 16" TREE
1621+72.6 66.1' EDGE OF CONCRETE
1621+74.6 67.0' POLYVINYL CHLORIDE PIPE
1621+77.5 66.6' EDGE OF CONCRETE
1621+85.6 71.3' CORR METAL PIPE INVERT
1622+22.3 232.3' POWER POLE
1622+22.3 247.4' GUY ANCHOR
1622+25.7 70.4' CORR METAL PIPE
1622+26.5 70.6' CORR METAL PIPE
1622+27.0 87.1' TELEPHONE PEDESTAL
1622+40.5 100.0' 22" TREE
1622+52.4 149.3' BUILDING
1622+61.9 133.7' BUILDING
1622+87.3 167.3' DECK
1622+87.3 167.3' BUILDING
1622+90.5 133.4' BUILDING
1622+95.8 182.4' BUILDING
1623+14.9 182.9' BUILDING
1623+15.1 182.9' DECK
1623+15.1 179.9' DECK
1623+30.3 183.9' GRAPE ARBOR
1623+47.8 184.1' GRAPE ARBOR
1623+67.3 64.6' EDGE OF CONCRETE
1623+69.2 66.4' POLYVINYL CHLORIDE PIPE
1623+71.2 65.1' EDGE OF CONCRETE
1623+74.9 66.0' CORR METAL PIPE
1623+75.6 86.6' POWER POLE
1623+80.2 196.5' 18" TREE
1623+81.2 77.3' POWER POLE
1624+11.5 70.7' CORR METAL PIPE
1624+12.5 195.9' 16" DEAD TREE
1624+15.3 135.5' 18" TREE
1624+18.3 65.4' EDGE OF CONCRETE
1624+20.4 66.7' POLYVINYL CHLORIDE PIPE
1624+22.9 65.0' EDGE OF CONCRETE
1624+58.6 4.1' EDGE OF CONCRETE
1624+63.0 3.7' EDGE OF CONCRETE

LEGEND:
(A) Full Depth Pavement - TBD.
(K) Full Depth Pavement - TBD
(R) Mill and Resurface - TBD.
MSE Wall
Guardrail Type
(2) Concrete Barrier
(D) HMA for Approaches, Type B 165 #/sys HMA Surface, Type B on 275 #/sys HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53 on Subgrade Treatment, Type II

UNITED Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

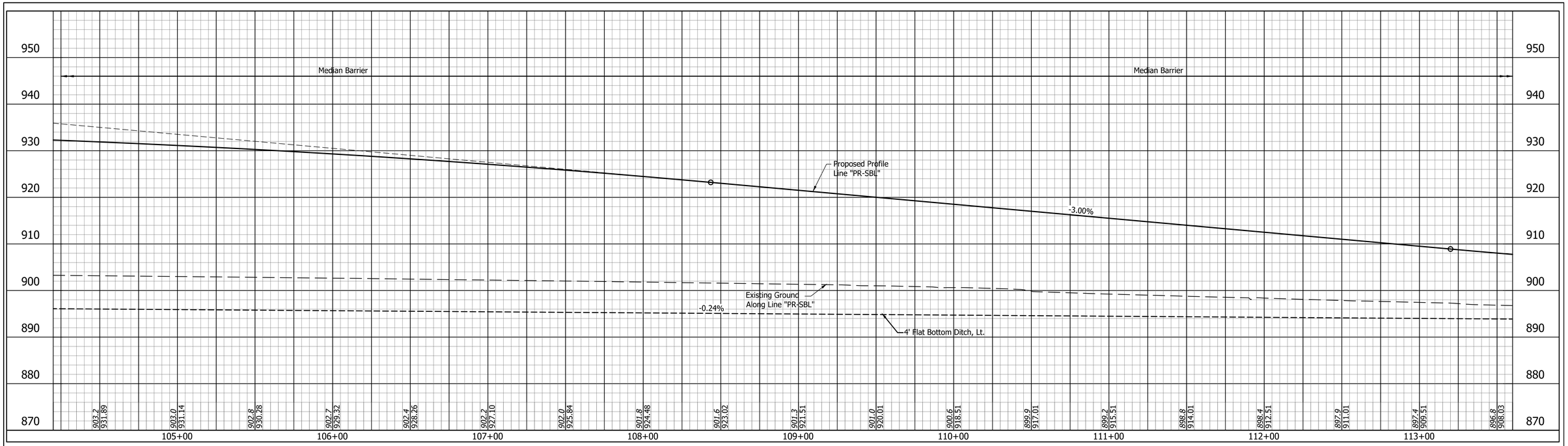
DESIGNED: NJK DRAWN: RSJ
CHECKED: CJD CHECKED: CJD

INDIANA
DEPARTMENT OF TRANSPORTATION

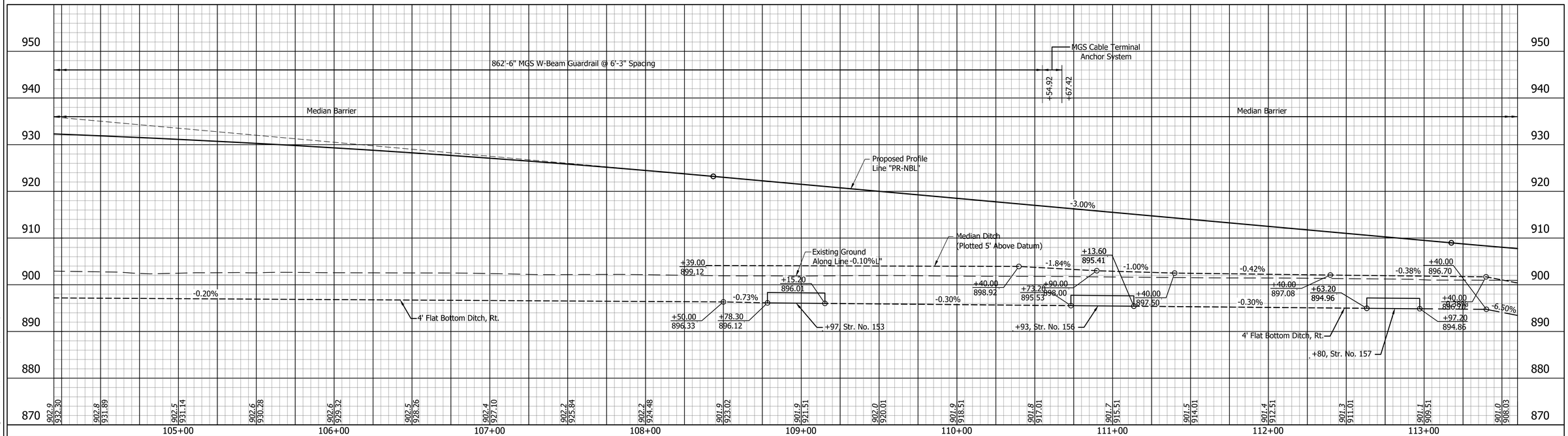
PLAN LINE "N"
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
N/A	1592421 (NB) / 1901368 (SB)
SURVEY BOOK	SHEETS
-	17 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Plan 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

UNITED Consulting
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Indianapolis, IN 46250
Phone 317-895-2585
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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: NJK DRAWN: RSJ

CHECKED: CJD CHECKED: CJD

INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1592421 (NB) / 1901368 (SB)
SURVEY BOOK	SHEETS
-	18 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Profile 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

Matchline - Sta. 1624+20 Line "N"

Matchline - Sta. 1633+80 Line "N"

1625+00

1630+00

CURVE DATA
P.I. Sta 115+55.65 Line "PR-SBL"
Delta = 6°04'54" Rt.
R = 15038.50'
T = 798.88'
L = 1596.25'
E = ???'

250' R/W

235' L.A. R/W

SECTION 1, T.21N., R.3E.
JEFFERSON TOWNSHIP
TIPTON COUNTY, IN

WILLIAM A. STAFFORD JR. AND
JUANITA STAFFORD
AS CO-TRUSTEES

ELIZABETH L. HOOP, TRUSTEE

+PL 250.00' L

+PL 235.00' L

R/W

L.A. R/W

(FIELD)

Peat Delineation

Constr. Limits

120+40 "PR-SBL", Culvert No. 1A
150' of 6' x 3' Box Culvert

Proposed Muck Trestle, Des. No. 1901372

Exist. L.A. R/W

115+00

115-93

117-43

U.S. 31 SOUTHBOUND

U.S. 31 NORTHBOUND

10'

24'

6'

(ASPHALT)

2.4' X 36' ELLIPTICAL CMP

120+00

Line "PR-SBL"

Line "PR-NBL"

4" PVC

117+99 "PR-NBL", Str. No. 158
78' of Existing 3' x 2'
Box Culvert (Remove 14'
of Box Culvert) and 78'
of 5' x 3' Box Culvert Req'd

Remove Pipe (Partial)

Remove Inlet

12" RCP

(GRASS)

Line "N" N 08°32'13" E

Approximate Limits of Existing NB Muck Trestle

2.0' X 1.0' Box Culvert

Section Line

Const. Limits

12" CMP

(WOODS)

119+64 "PR-NBL", Str. No. 159
40' of 18" Pipe, Type 3 Req'd

Constr. Limits

+65 ℄ Class II Drive
Width = 12'

(GRAVEL)

CURVE DATA
P.I. Sta 118+04.06 Line "PR-NBL"
Delta = 7°58'20" Rt.
R = 15000.00'
T = 1045.25'
L = 2087.12'
E = ???'
SE = N.C.

DEED GAP

ROBERT & MARGARET
FUQUAY

MICHAEL P. & KAREN S.
LOCHARD

MICHAEL P. & KAREN S.
LOCHARD

SECTION 6, T.21N., R.4E.
CICERO TOWNSHIP
TIPTON COUNTY, IN

NOTE:
All R/W and Topo described from Line "N".

1624+20.4 66.7' POLYVINYL CHLORIDE PIPE
1624+22.9 65.0' EDGE OF CONCRETE
1624+58.6 41' EDGE OF CONCRETE
1624+63.0 3.7' EDGE OF CONCRETE
1625+20.7 113.6' 18" TREE
1625+63.9 170.9' 24" TREE
1625+93.8 86.6' TEMP BENCHMARK
1625+94.1 86.7' POWER POLE
1626+10.9 190.6' 18" APPLE TREE
1626+59.0 90.4' CHAIN LINK FENCE
1626+59.2 89.1' FENCE POST
1626+61.0 249.6' CHAIN LINK FENCE
1626+61.4 88.7' RW MONUMENT
1626+66.7 432.5' EDGE OF WOODS
1626+78.1 99.7' TREE ROW
1627+04.0 65.4' WARNING SIGN
1628+27.0 85.6' POWER POLE
1628+28.1 89.7' TREE ROW
1628+29.1 113.1' EDGE OF WOODS
1628+29.3 86.7' CHAIN LINK FENCE
1629+06.1 78.9' WING WALL
1629+07.6 76.6' WING WALL
1629+07.7 75.7' HEADWALL
1629+10.0 76.7' BOX CULVERT
1629+12.5 75.5' WING WALL
1629+12.9 75.5' HEADWALL
1629+14.0 78.8' WING WALL
1629+27.5 85.1' CHAIN LINK FENCE
1630+33.3 71.9' CORR METAL PIPE
1630+38.5 229.2' EDGE OF WOODS
1630+44.0 135.5' EDGE OF WOODS
1630+47.9 89.4' CHAIN LINK FENCE
1630+48.0 89.6' ROAD MARKER
1630+58.0 126.0' CHAIN LINK FENCE
1630+58.7 103.2' FENCE POST
1630+59.4 223.8' CHAIN LINK
1630+70.0 182.1' CATTLE GATE
1630+85.1 182.0' EDGE OF CONCRETE
1630+92.0 86.6' POWER POLE
1630+92.8 81.5' GUY ANCHOR
1630+96.6 81.5' MAILBOX
1630+97.5 89.4' WOOD FENCE END
1630+98.6 85.9' CHAIN LINK FENCE END
1631+00.9 61.6' MAILBOX
1631+03.2 70.3' CORR METAL PIPE
1631+10.4 66.8' EDGE OF CONCRETE
1631+14.7 64.7' EDGE OF CONCRETE
1631+15.1 2.8' EDGE OF CONCRETE
1631+16.9 83.7' FIBER OPTIC HANDHOLE
1631+17.7 6.9' POLYVINYL CHLORIDE PIPE
1631+19.4 2.4' EDGE OF CONCRETE
1631+85.2 1.8' EDGE OF CONCRETE
1631+85.9 4.0' POLYVINYL CHLORIDE PIPE
1631+86.5 1.9' EDGE OF CONCRETE
1632+10.9 86.2' CHAIN LINK FENCE
1632+11.9 89.4' WOOD FENCE
1633+09.9 83.6' TEMP BENCHMARK
1633+10.6 84.0' POWER POLE

LEGEND:
(A) Full Depth Pavement - TBD.
(K) Full Depth Pavement - TBD
(M) Moment Slab
(R) Mill and Resurface - TBD.
MSE Wall
Guardrail Type
(Z) Concrete Barrier

UNITED Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: NJK DRAWN: RSJ
CHECKED: CJD CHECKED: CJD

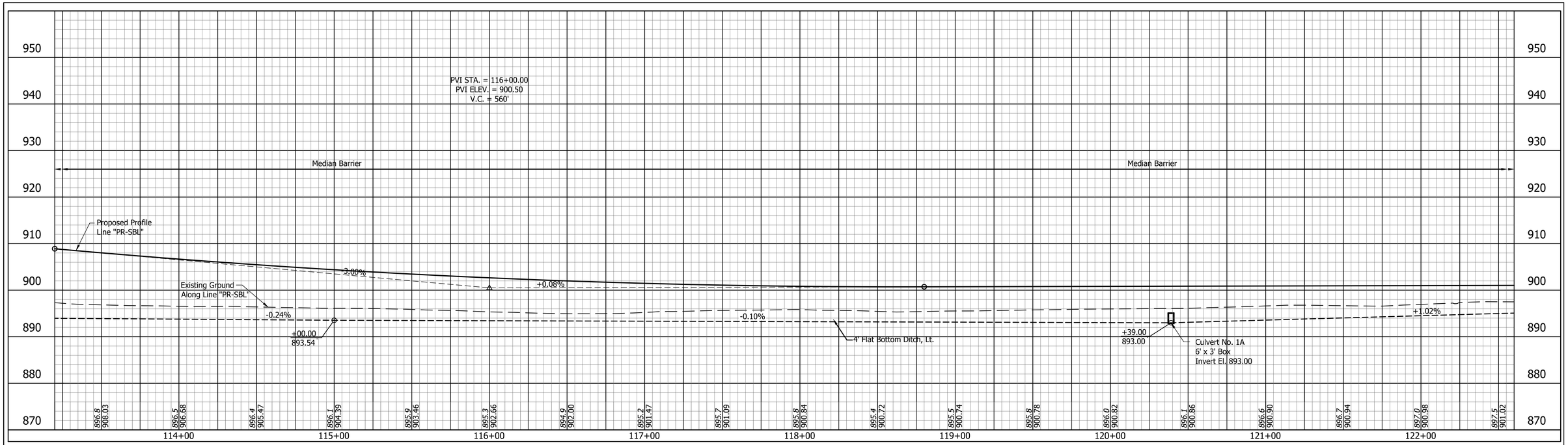
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN LINE "N"
US 31 OVER NS RAILROAD & CR100S

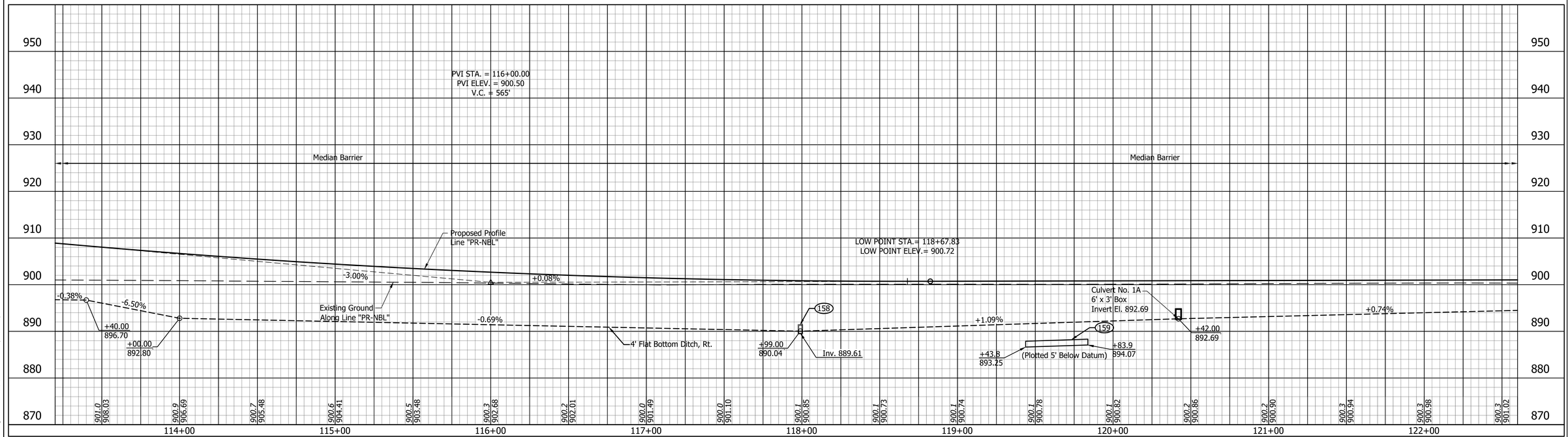
HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
N/A	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS
-	19 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\CSD\16-217\Bridge\Dwg\Plans\Plan 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

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Indianapolis, IN 46250
Phone 317-895-2585
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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: NJK DRAWN: RSJ

CHECKED: CJD CHECKED: CJD

INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS		
-	20	of	121
CONTRACT	PROJECT		
B-39052	1592421		

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Profile 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

1635+00

1640+00

SECTION 1, T.21N., R.3E.
JEFFERSON TOWNSHIP
TIPTON COUNTY, IN

ELIZABETH L. HOOP, TRUSTEE

ELIZABETH L. HOOP, TRUSTEE

1633+20.1 95.00' EDGE OF CONCRETE
1633+23.4 98.1' POLYVINYL CHLORIDE
1633+94.4 29.1' EDGE OF CONCRETE

1633+93.4 106.6' REINFORCED CONC PIPE
1633+99.7 246.9' BUILDING
1634+00 209.9' BUILDING
1634+07.6 126.1' CHAIN LINK FENCE

1634+44.3 10.5' EDGE OF CONCRETE
1634+44.8 248' BUILDING
1634+45.5 210.8' BUILDING
1634+46.3 12.8' DROP INLET
1634+53.0 9.6' EDGE OF CONCRETE
1634+57.6 124.8' CHAIN LINK FENCE

1635+84.3 92.2' EDGE OF CONCRETE
1636+85.5 90.7' POLYVINYL CHLORIDE PIPE
1636+86.1 89.7' EDGE OF CONCRETE

1637+02.7 113.1' CHAIN LINK FENCE

1638+57.8 16.1' YIELD SIGN

1638+95.4 106.3' CHAIN LINK FENCE
1638+96.7 21.6' DO NOT ENTER SIGN
1639+04.3 13.1' EDGE OF CONCRETE
1639+05.7 14.6' POLYVINYL CHLORIDE PIPE
1639+08.5 13.4' EDGE OF CONCRETE
1639+08.5 13.5' EDGE OF CONCRETE
1639+10.6 15.6' POLYVINYL CHLORIDE PIPE
1639+12.3 13.1' EDGE OF CONCRETE

1642+11.9 100.9' CHAIN LINK FENCE

(BUILDING)

CURVE DATA
P.I. Sta 115+55.65 Line "PR-SBL"
Delta = 6°04'54" Lt.
R = 15038.50'
T = 798.88'
L = 1596.25'
E = ???'
SE = N.C.

R/W
L.A. R/W
LA R/W

+24.19
160.00' L

+23.88
175.00' L

+P.C.(+95.00)
175.00' L

+P.C.(+95.00)
160.00' L

175' R/W
R/W
160' L.A. R/W
LA R/W

PT Sta. 123+53.03 Line "PR-SBL"

(FIELD)

Exist. L.A. R/W

Line "PR-SBL" N 3°02'04" E 125+00

Line "PR-NBL" 125+00

10'
24'
6'
4" PVC
12" RCP
(ASPHALT)
(GRASS)

Line "N" N 0°32'13" E 1635+00

20'-0"

Section Line

(FIELD)

+70.00
R/W

R/W

+80.00 "S-40-N"
100.00' R

+00.00 "S-40-N"
25.00' R

MICHAEL P. & KAREN S.
LOCHARD

SECTION 6, T.21N., R.4E.
CICERO TOWNSHIP
TIPTON COUNTY, IN

(FIELD)

PT Sta. 128+45.94 Line "PR-NBL"

Exist. L.A. R/W

U.S. 31 SOUTHBOUND

U.S. 31 NORTHBOUND

N 4°55'30" E

130+00

1640+00

129+93, "PR-SBL" Str. No. 19
Modified Inlet P-12A w/ 56' of
15" Type 2 Pipe Req'd

+79.24

PC Sta. 130+29.74 Line "PR-NBL"

Constr. Limits

PC Sta. 1638+95.00 Line "N"

+R/W
18.50' L "S-40-N"

+57.50 "S-40-N"
38.00' L

Temp. R/W for
Drive Construction & Grading

+85.00 "S-40-N"
38.00' L

+93.50 "S-40-N"
18.50' L

+PL
14.00' L "S-40-N"

+89.50 "S-40-N"
14.00' L

+00.00 "S-40-N"
40.50' L

LINE "S-40-N" N 88°45'07" E

JEREMY NICHOLS

NEWAIR FAMILY LLC

CURVE DATA
P.I. Sta 1659+76.07 Line "N"
Delta = 0°29'08" Lt.
R = 491106.68'
T = 2081.07'
L = 4162.12'
E = ???'
SE =N/A

CURVE DATA
P.I. Sta 136+66.94 Line "PR-NBL"
Delta = 4°43'51" Lt.
R = 15425.89'
T = 637.20'
L = 1273.68'
E = ???'
SE = N.C.

NOTE:
All R/W and Topo described from Line "N".

Matchline - Sta. 1633+20 Line "N"

Matchline - Sta. 1642+80 Line "N"

1633+92.6 86.4' CHAIN LINK FENCE
1634+63.3 88.9' FENCE
1635+02.2 83.6' POWER POLE
1635+80.0 89.0' FENCE
1635+98.8 86.0' CHAIN LINK FENCE
1636+99.0 88.4' FENCE
1637+48.6 88.6' FENCE CORNER
1637+49.0 86.8' RW MONUMENT
1637+49.5 85.7' POWER POLE
1637+51.2 87.9' CHAIN LINK FENCE
1637+52.5 87.5' EDGE OF CONCRETE
1637+56.5 3.1' POLYVINYL CHLORIDE PIPE
1637+57.2 1.7' EDGE OF CONCRETE
1637+59.7 11.9' DO NOT ENTER SIGN
1637+67.4 91.2' TELEPHONE PEDESTAL
1637+72.1 94.7' FIBER OPTIC MARKER POST
1637+77.1 94.7' FIBER OPTIC HANDHOLE
1637+78.4 117.0' FENCE
1637+78.7 11.7' ONE WAY SIGN
1637+92.7 0.9' YIELD SIGN
1637+99.3 99.2' CORR METAL PIPE
1638+17.1 153.1' GUY ANCHOR
1638+17.2 150.3' RW MONUMENT
1638+17.4 147.1' POWER POLE
1638+18.4 147.1' POWER POLE
1638+47.6 87.4' RW MONUMENT
1638+59.8 86.2' CORRUGATED METAL PIPE
1638+67.5 87.4' STOP SIGN
1638+68.5 73.4' ONE WAY SIGN
1638+98.1 82.4' TELEPHONE PEDESTAL
1638+99.7 87.4' RW MONUMENT
1639+84.4 85.2' POWER POLE
1640+46.1 86.3' CHAIN LINK FENCE
1642+21.2 86.4' CHAIN LINK FENCE
1642+50.7 86.3' FIBER OPTIC MARKER POST
1642+55.7 84.6' POWER POLE

LEGEND:

- (A) Full Depth Pavement - TBD.
- (K) Full Depth Pavement - TBD
- (M) Moment Slab
- (R) Mill and Resurface - TBD.
- MSE Wall
- Guardrail Type
- (Z) Concrete Barrier
- (D) HMA for Approaches, Type B 165 #/sys HMA Surface, Type B on 275 #/sys HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53 on Subgrade Treatment, Type II

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Phone 317-895-2585
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RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: NJK DRAWN: RSJ
CHECKED: CJD CHECKED: CJD

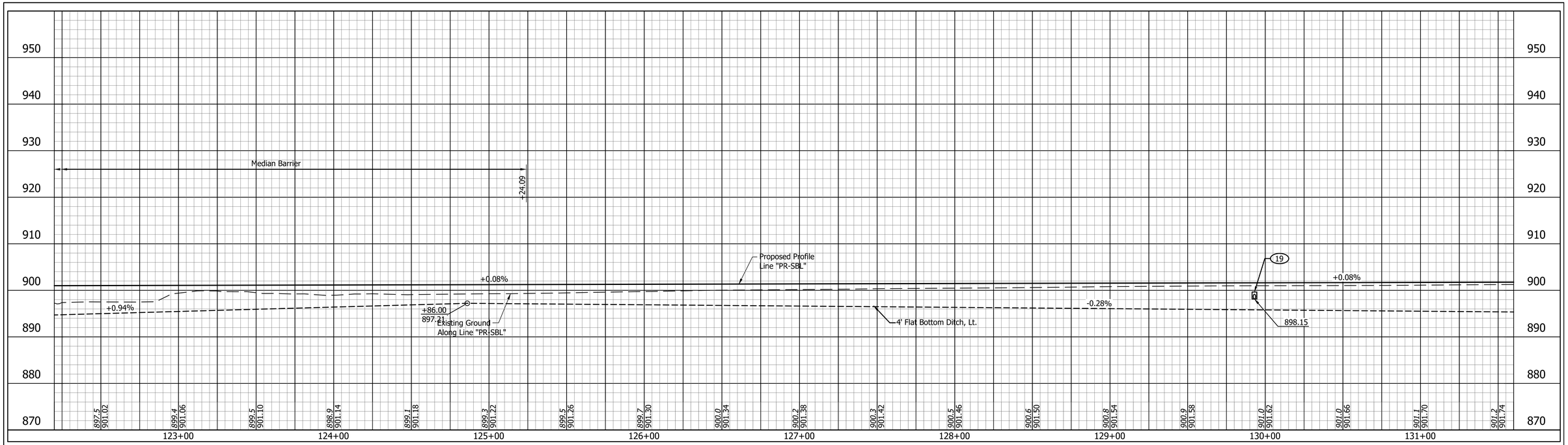
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN LINE "N"
US 31 OVER NS RAILROAD & CR100S

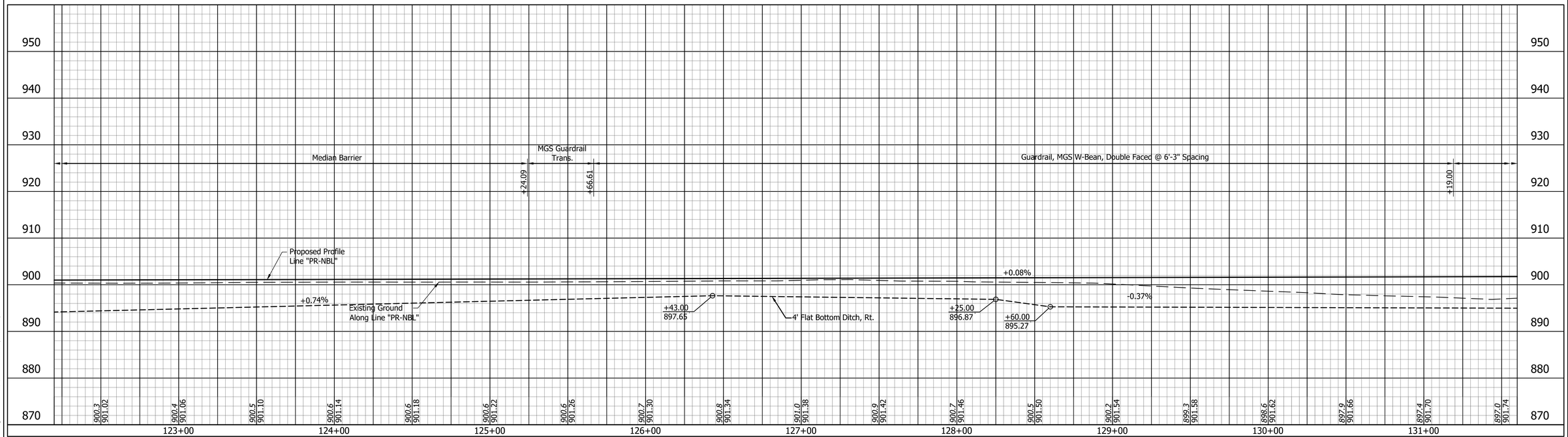
HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
N/A	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS
-	21 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Plan 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

UNITED Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: NJK DRAWN: RSJ

CHECKED: CJD CHECKED: CJD

INDIANA
DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS
-	22 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Profile 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

NOTE:
All R/W and Topo described from Line "N".

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Plan 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

LEGEND:
- (A) Full Depth Pavement - TBD.
- (M) Moment Slab
- (R) Mill and Resurface - TBD.
- MSE Wall
- Guardrail Type

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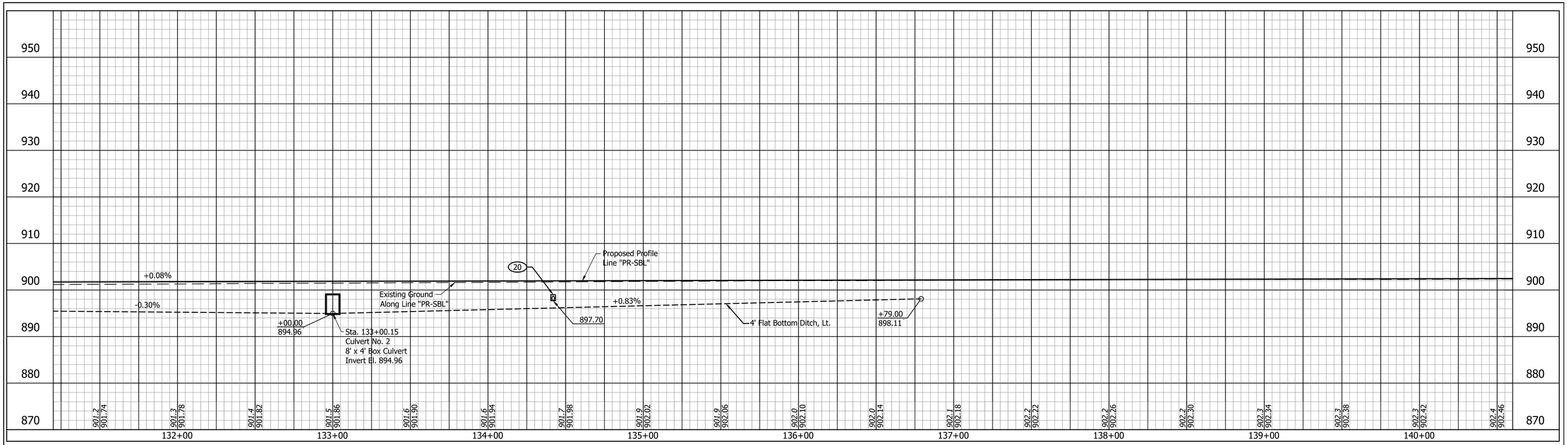
CHECKED: CJD CHECKED: CJD

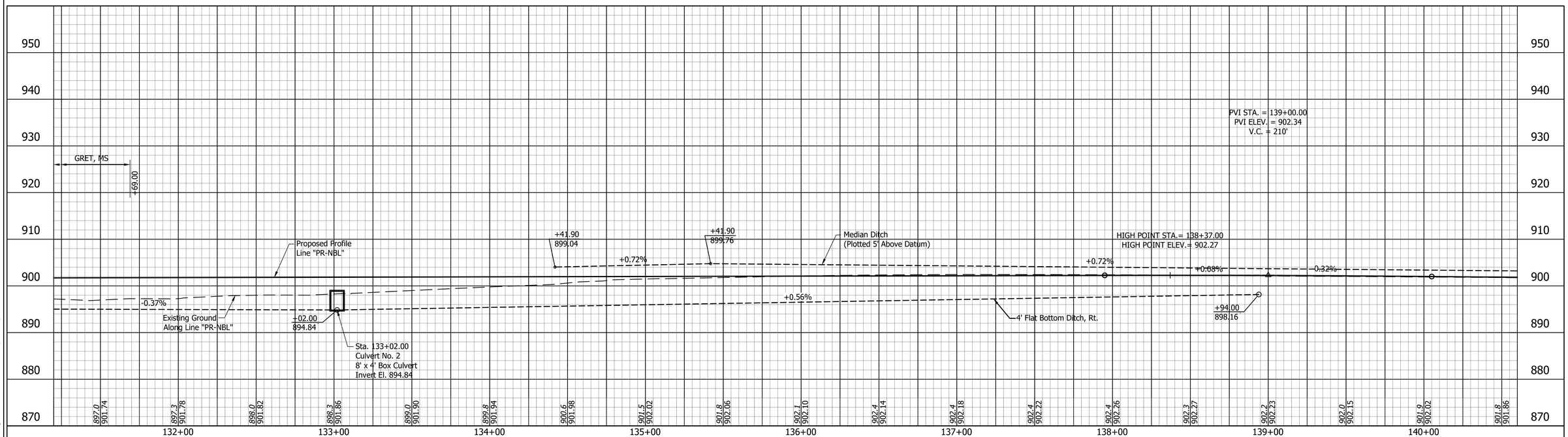
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN LINE "N"
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE		
1" = 30'	031-80-02807 NBL & SBL		
VERTICAL SCALE	DESIGNATION		
N/A	1592421 (NB) / 1901368 (SB)		
SURVEY BOOK	SHEETS		
-	23	of	121
CONTRACT	PROJECT		
B-39052	1592421		



SOUTHBOUND US 31 LINE "PR-SBL"



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DEPARTMENT OF TRANSPORTATION

PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1592421 (NB) / 1901368 (SB)
SURVEY BOOK	SHEETS
-	24 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Profile 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

1651+52.3 94.1' FENCE POST
1651+53.0 94.6' CONCRETE R/W MONUMENT
1652+45.5 92.8' WOVEN WIRE FENCE
1653+88.4 7.5' END OF 6" PVC
1653+90.6 91.2' POWER POLE
1653+96.1 0.4' END OF 18" CMP
1654+00.3 8.3' END OF 6" PVC
1654+49.7 93.0' WOVEN WIRE FENCE
1655+27.1 63.0' MILE MARKER SIGN
1655+37.9 66.7' END OF 6" PVC
1655+00
1655+99.1 91.5' WOVEN WIRE FENCE
SECTION 1, T.21N., R.3E.
JEFFERSON TOWNSHIP
TIPTON COUNTY, IN
1657+17.3 89.7' POWER POLE
1657+55.4 91.1' WOVEN WIRE FENCE
1658+14.6 71.3' END OF 2.3' X 3.5" CMP
1658+17.6 90.3' TELEPHONE MARKER POST
1658+17.8 90.2' TELEPHONE MARKER POST
1658+18.2 90.2' TELEPHONE MARKER POST
1658+41.7 65.6' SIGN
1659+36.6 90.4' END OF WOVEN WIRE FENCE
1660+44.1 88.5' POWER POLE
1660+53.7 84.2' TELEPHONE HANDHOLE
1660+69.1 100' TRAFFIC SIGNAL MANHOLE
1660+78.5 101.1' TRAFFIC SIGNAL POLE
1660+80 4.1' CORR METAL PIPE

EMILY A. MALONE, ET AL.

EMILY A. MALONE

End Project
Sta. 141+75.00 Line "PR-SBL"

End Incidental Constr.
Sta. 142+25.00 Line "PR-SBL"

(FIELD)

(GRASS)

Exst. L.A. R/W

10'
24'
4'
"PR-SBL"
A
R
U.S. 31 SOUTHBOUND
N 0°59'15" E
143+67
(ASPHALT)
6" PVC
4'-3"
18" CMP
1655+00
1660+00
12" RCP
2.3' X 3.5' CMP
Matchline - Sta. 1651+20 Line "N"
"PR-NBL"
143+69
U.S. 31 NORTHBOUND
N 0°11'39" E
Section Line
12" CMP
(GRAVEL)
PT Sta. 143+03.42 Line "PR-NBL"
DHU

End Incidental Constr.
Sta. 142+25.00 Line "PR-NBL"

End Project
Sta. 141+75.00 Line "PR-NBL"

CURVE DATA
P.I. Sta 136+66.94 Line "PR-NBL"
Delta = 4°43'51" Lt.
R = 15425.89'
T = 637.20'
L = 1273.68'
E = ???'
SE = N.C.

CURVE DATA
P.I. Sta 1659+76.07 Line "N"
Delta = 0°29'08" Lt.
R = 491106.68'
T = 2081.07'
L = 4162.12'
E = ???'
SE = N/A

NEWAIR FAMILY LLC

REGINA L. CHERRY

CHARLES F. & VICKI B. ROSE

HELEN M. SMITH

ROBERT M. ROSS & THE ANNIE BETH ROSS TRUST

1652+18.5 60.8' PLASTIC DELINEATOR
1652+19.2 63.0' END OF 6" PVC
1652+53.1 63.8' SIGN
1652+62.2 85.7' FIBER OPTIC MARKER POST
1652+64.8 85.1' POWER POLE
1652+72.3 87.3' FENCE POST
1653+47.6 62.6' END OF 12" CMP
1653+64.1 7.5' END OF 6" PVC
1653+80.8 61.9' MAILBOX
1653+84.0 63.6' END OF 12" CMP
1653+94.1 85.6' POWER POLE
1654+00.9 62.6' MAILBOX
1655+28.5 72.1' MILE MARKER SIGN
1655+29.3 85.0' POWER POLE
1655+58.9 85.1' FIBER OPTIC MARKER POST
1655+58.9 84.0' FIBER OPTIC HANDHOLE
1655+68.8 87.5' CAPPED REBAR FOUND (NO. 12435)
1655+70.1 85.9' TELEPHONE PEDESTAL
1655+76.9 70.3' SIGN POST (NO SIGN)
1655+95.2 78.2' END OF 12" CMP
1655+99.1 68.0' MAILBOX
1656+35.4 78.2' END OF 12" CMP
1656+71.8 17.4' TRAFFIC SIGNAL DETECTOR HOUSING
1656+82.1 7.9' TRAFFIC SIGNAL MANHOLE
1657+35.8 85.5' FENCE POST
1657+83.5 86.4' POWER POLE
1657+94.3 0.6' BEEHIVE INLET
1658+12.8 74.3' END OF 2.3' X 3.5" CMP
1658+22.7 72.9' SIGN
1660+46.5 86.3' POWER POLE
1660+49.7 87.9' CONCRETE R/W MARKER

SECTION 6, T.21N., R.4E.
CICERO TOWNSHIP
TIPTON COUNTY, IN

NOTE:
All R/W and Topo described from Line "N".

LEGEND:
(A) Full Depth Pavement - TBD.
(R) Mill and Resurface - TBD.

UNITED Consulting
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Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

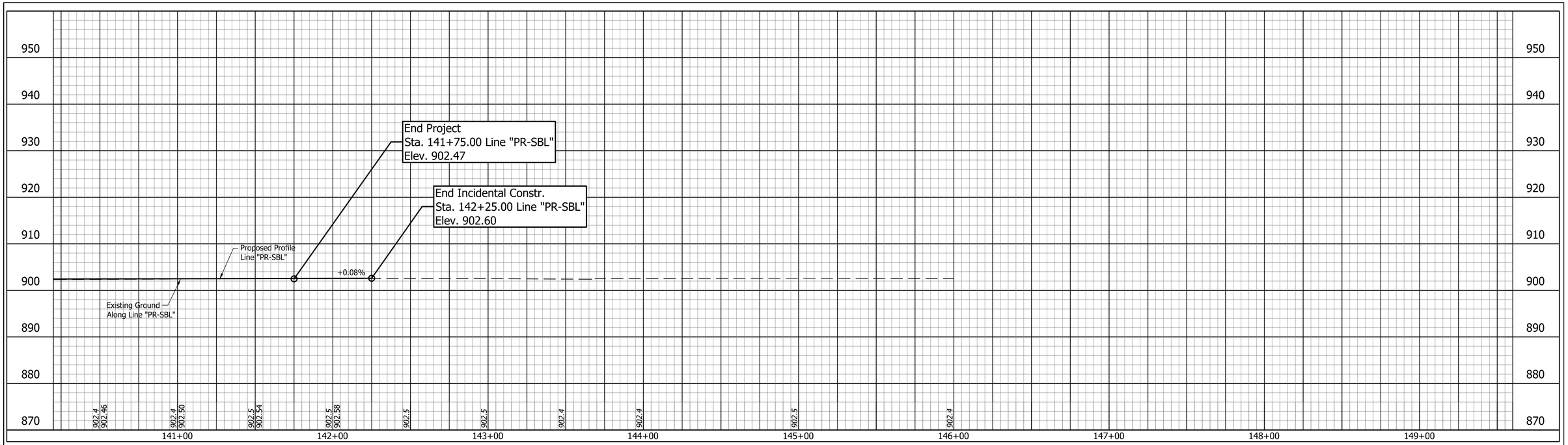
DESIGNED: NJK DRAWN: RSJ
CHECKED: CJD CHECKED: CJD

INDIANA
DEPARTMENT OF TRANSPORTATION

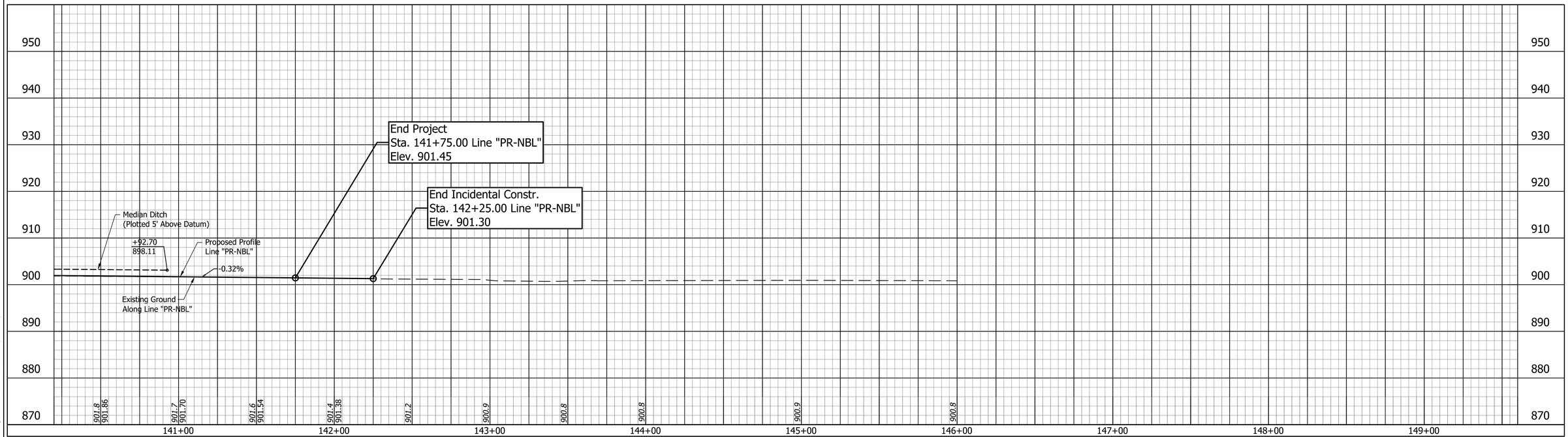
PLAN LINE "N"
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
N/A	1592421 (NB) / 1901368 (SB)
SURVEY BOOK	SHEETS
-	25 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Plan 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer



SOUTHBOUND US 31 LINE "PR-SBL"



NORTHBOUND US 31 LINE "PR-NBL"

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www.ucindy.com

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: NJK DRAWN: RSJ

CHECKED: CJD CHECKED: CJD

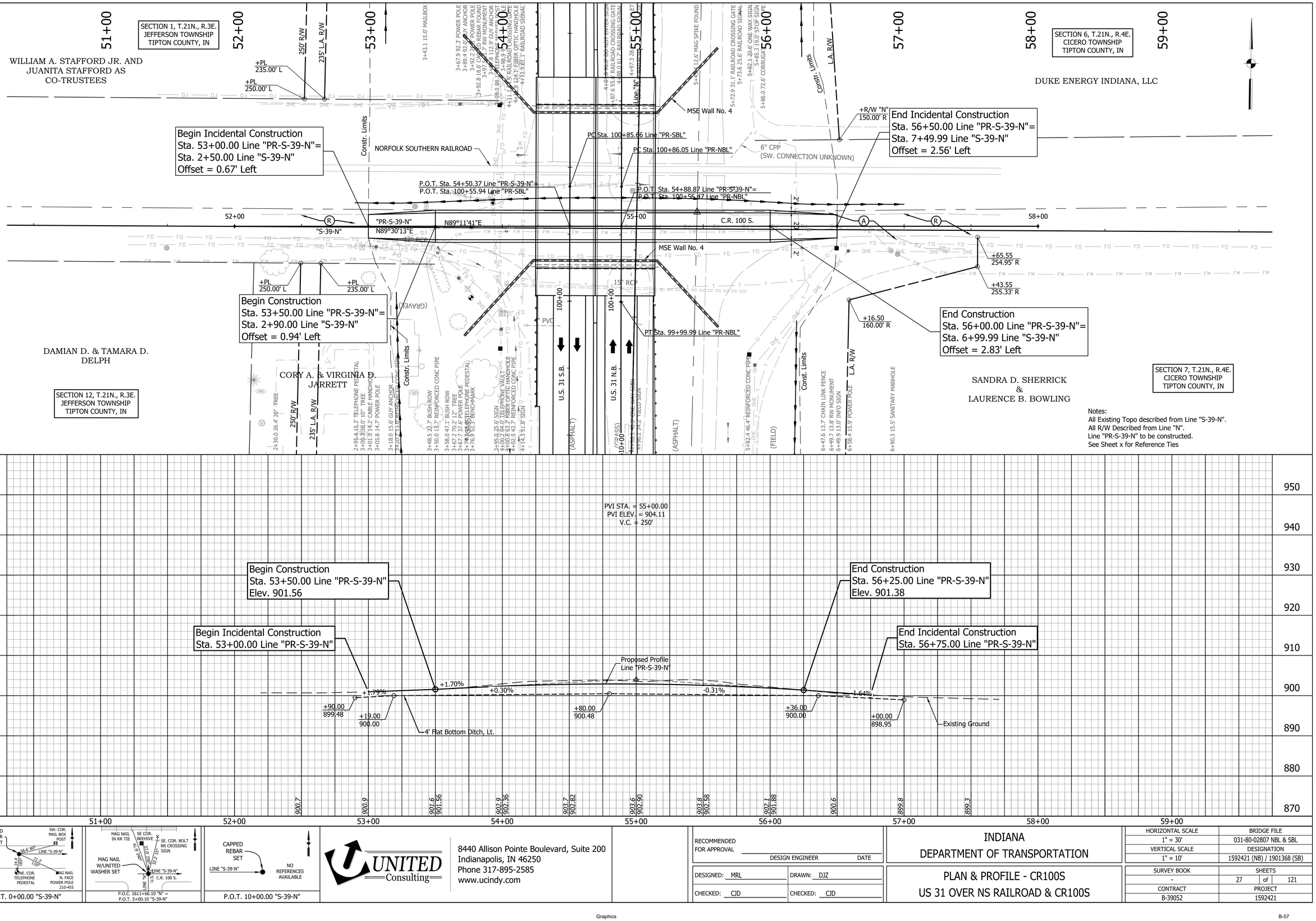
INDIANA
DEPARTMENT OF TRANSPORTATION

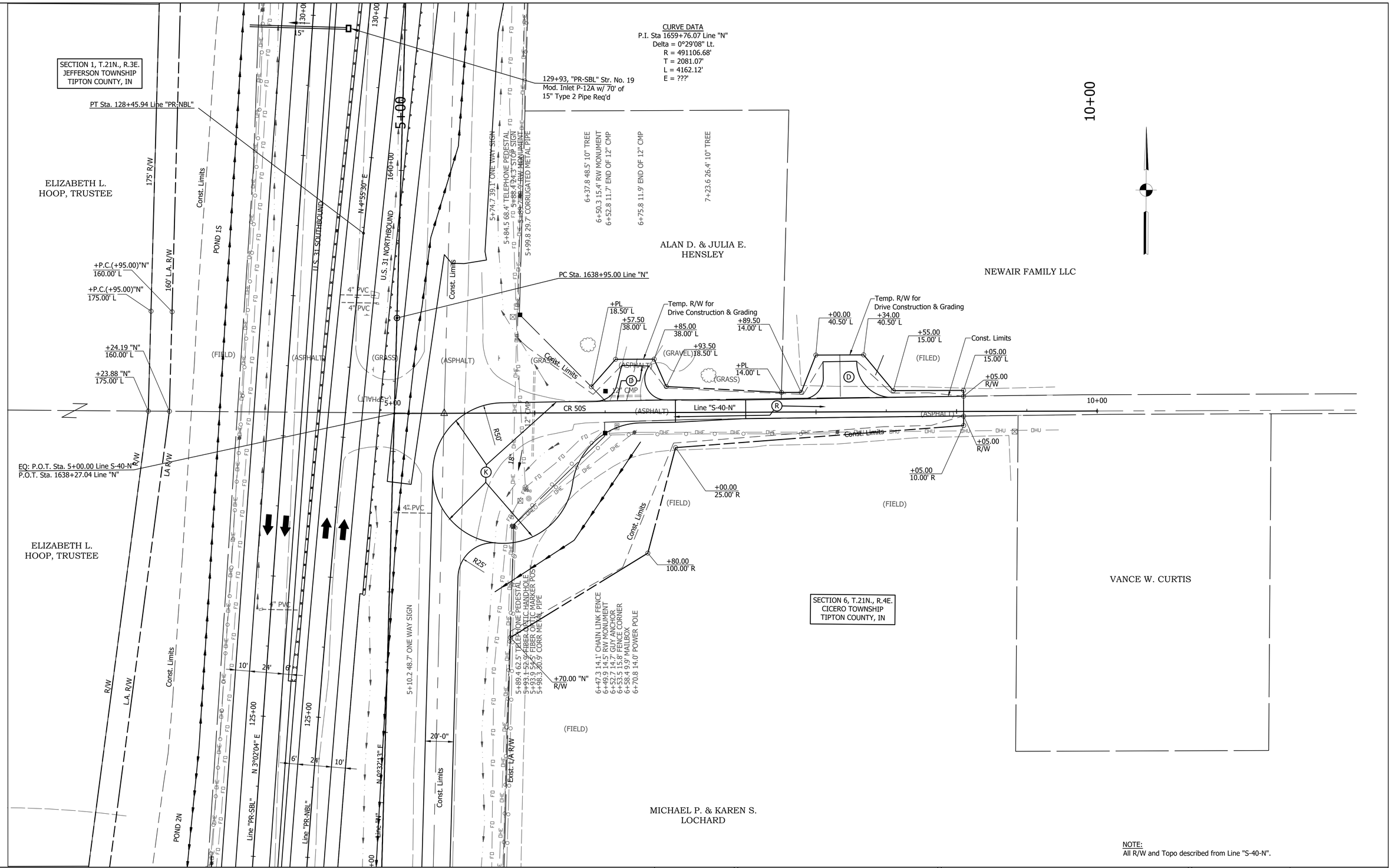
PROFILE DETAILS
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
1" = 10'	1592421 (NB) / 1901368 (SB)

SURVEY BOOK	SHEETS		
-	26	of	121
CONTRACT	PROJECT		
B-39052	1592421		

File Name: P:\C3D\16-217\Bridge\Dwg\Plans\Profile 1.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer


WILLIAM A. STAFFORD JR. AND JUANITA STAFFORD AS CO-TRUSTEES
SECTION 1, T.21N., R.3E. JEFFERSON TOWNSHIP TIPTON COUNTY, IN
SECTION 6, T.21N., R.4E. CICERO TOWNSHIP TIPTON COUNTY, IN
DUKE ENERGY INDIANA, LLC
DAMIAN D. & TAMARA D. DELPH
SECTION 12, T.21N., R.3E. JEFFERSON TOWNSHIP TIPTON COUNTY, IN
CORY A. & VIRGINIA D. JARRETT
SANDRA D. SHERRICK & LAURENCE B. BOWLING
SECTION 7, T.21N., R.4E. CICERO TOWNSHIP TIPTON COUNTY, IN
NORFOLK SOUTHERN RAILROAD
U.S. 31 S.B.
U.S. 31 N.B.
C.R. 100 S.
Constr. Limits
L.A. R/W
250' R/W
235' L.A. R/W
Begin Incidental Construction
Sta. 53+00.00 Line "PR-S-39-N"=
Sta. 2+50.00 Line "S-39-N"
Offset = 0.67' Left
Begin Construction
Sta. 53+50.00 Line "PR-S-39-N"=
Sta. 2+90.00 Line "S-39-N"
Offset = 0.94' Left
End Incidental Construction
Sta. 56+50.00 Line "PR-S-39-N"=
Sta. 7+49.99 Line "S-39-N"
Offset = 2.56' Left
End Construction
Sta. 56+00.00 Line "PR-S-39-N"=
Sta. 6+99.99 Line "S-39-N"
Offset = 2.83' Left
PC Sta. 100+85.66 Line "PR-SBL"
PC Sta. 100+86.05 Line "PR-NBL"
P.O.T. Sta. 54+50.37 Line "PR-S-39-N"=
P.O.T. Sta. 100+55.94 Line "PR-SBL"
P.O.T. Sta. 54+88.87 Line "PR-S-39-N"=
P.O.T. Sta. 100+56.47 Line "PR-NBL"
PT Sta. 99+99.99 Line "PR-NBL"
MSE Wall No. 4
"PR-S-39-N" N89°30'13"E
"S-39-N" N89°11'41"E
+PL 235.00' L
+PL 250.00' L
+R/W "N" 150.00' R
+65.55 254.95' R
+43.55 255.33' R
+16.50 160.00' R
15" RCP
6" CPP (SW. CONNECTION UNKNOWN)
Notes:
All Existing Topo described from Line "S-39-N".
All R/W Described from Line "N".
Line "PR-S-39-N" to be constructed.
See Sheet x for Reference Ties
PVI STA. = 55+00.00
PVI ELEV. = 904.11
V.C. = 250'
Begin Construction
Sta. 53+50.00 Line "PR-S-39-N"
Elev. 901.56
End Construction
Sta. 56+25.00 Line "PR-S-39-N"
Elev. 901.38
Begin Incidental Construction
Sta. 53+00.00 Line "PR-S-39-N"
End Incidental Construction
Sta. 56+75.00 Line "PR-S-39-N"
Proposed Profile Line "PR-S-39-N"
+1.79%
+1.70%
+0.30%
-0.31%
-1.64%
+90.00 899.48
+19.00 900.00
+80.00 900.48
+36.00 900.00
+00.00 898.95
4' Flat Bottom Ditch, Lt.
Existing Ground
900.7
900.9
901.6
901.56
902.9
902.36
903.7
902.82
903.6
902.90
903.8
902.58
902.1
901.88
900.6
899.8
899.3
CAPPED REBAR SET
SW. COR. MAIL BOX POST
LINE "S-39-N"
C.R. 100 S.
LINE. COR. TELEPHONE PEDESTAL
MAG NAIL N. FACE POWER POLE 210-455
P.O.T. 0+00.00 "S-39-N"
MAG NAIL IN RR TIE
SE COR. BEEHIVE
SE. COR. BOLT RR CROSSING SIGN
MAG NAIL W/UNITED WASHER SET
P.O.C. 1611+66.10 "N" =
P.O.T. 5+00.10 "S-39-N"
NO REFERENCES AVAILABLE
P.O.T. 10+00.00 "S-39-N"
UNITED Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE
DESIGNED: MRL
DRAWN: DJZ
CHECKED: CJD
CHECKED: CJD
INDIANA DEPARTMENT OF TRANSPORTATION
PLAN & PROFILE - CR100S
US 31 OVER NS RAILROAD & CR100S
HORIZONTAL SCALE 1" = 30'
VERTICAL SCALE 1" = 10'
BRIDGE FILE 031-80-02807 NBL & SBL
DESIGNATION 1592421 (NB) / 1901368 (SB)
SURVEY BOOK -
SHEETS 27 of 121
CONTRACT B-39052
PROJECT 1592421
File Name: P:\C3D\16-217\Bridge\Dwg\Plans\PP CR100.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer



LEGEND:

- (A) Full Depth Pavement - TBD.
- (M) Moment Slab
- (R) Mill and Resurface - TBD.
- MSE Wall
- Guardrail Type

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DESIGNED: BSH DRAWN: MAC

CHECKED: BJP CHECKED: BJP

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN LINE "S-40-N"
US 31 OVER NS RAILROAD & CR100S

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	031-80-02807 NBL & SBL
VERTICAL SCALE	DESIGNATION
N/A	1592421 (NB) / 1901368 (SB)
SURVEY BOOK	SHEETS
-	28 of 121
CONTRACT	PROJECT
B-39052	1592421

File Name: P:\C3D16+21\Bridge\Dwg\Plans\PLAN CR50.dwg Plot Date: 12/3/2019 Plotted By: Chris Dyer

Appendix C

Early Coordination

Sample Early Coordination Letter

The project requires the acquisition of approximately 13.97 acres of permanent right-of-way and 0.85 acres of temporary right-of-way for driveway construction. Proposed right-of-way widths along US 31 would be 150 feet from centerline. The proposed right-of-way has increased by 4.17 acres of new permanent agricultural and residential right-of-way from what was stated in this letter. This is due to the removal of two retaining walls in the vicinity of County Road 100 South. The overall design of the project has not changed.

UNITED Consulting

ENGINEERING
ENVIRONMENTAL
INSPECTION
LAND SURVEYING
LAND ACQUISITION
PLANNING
WATER & WASTEWATER
SINCE 1965

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Steven W. Jones
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B. Keith Bryant, PE
Michael Rowe, PE

PROFESSIONAL STAFF
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Jordan C. Baker, PE
Chris J. Andrzejewski, PE
Greg J. Broz, PE
John E. Harstad, PE

1625 N. Post Road, Indianapolis, IN 46219 (317) 895-2585 www.ucindy.com

February 12, 2018

Environmental Coordinator
Indiana Department of Natural Resources – Division of Fish and Wildlife
402 West Washington Street, Rm. W273
Indianapolis, IN 46204

RE: Des. No.:1592421, Grade Separation Structure Project on US 31 over County Road 100 South and Norfolk Southern Railroad, 1 Mile North of SR 28 in Tipton County, Indiana

Dear Sir or Madam,

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intends to proceed with a project involving the aforementioned grade separation structure in Tipton County, Indiana. This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. **Please use the above designation number and description in your reply.** We will incorporate your comments into a study of the project's environmental impacts.

This project is located on US 31, 1 mile north of SR 28, in Tipton County, Indiana. This section of US 31 is a four lane *Rural Other Principal Arterial.* The existing cross section consists of four 12 foot lanes bordered by 10 foot paved outside shoulders and 2 foot inside shoulders. A grassed roadway median varying from 40 feet to 75 feet in width exists between the northbound and southbound lanes. Roadside ditches exist along US 31 in the vicinity of the proposed structure. The approximate existing right-of-way is 70 feet each side of centerline throughout the project area.

The current proposed project would include construction of a single span twin structure carrying US 31 over County Road 100 South, the existing Norfolk Southern Railroad and an anticipated future track to be located 15 feet to the north of the existing rail line. In addition, the US 31 northbound lanes will be shifted to the west at the grade crossing of US 31 and County Road 100 South and Norfolk Southern Railroad. The shifted lanes would continue north around an identified peat deposit before transitioning back to their original alignment beyond the peat deposit. This shift will eliminate direct access of four private drives onto US 31, while allowing for the existing US 31 northbound lanes to act as a combined access drive for the four private driveways. This access drive will continue to County Road 50 South, providing a right-in / right-out intersection between US 31 and County Road 50 South. The project requires the acquisition of approximately 9.8 acres of permanent right-of-way. Proposed right-of-way widths along US 31 would be 150 feet from centerline. The project limits would be approximately 5,940 feet in length. The preferred method of traffic maintenance would be a temporary crossover shifting traffic from northbound to southbound lanes as the bridges are constructed.

Land use in the vicinity of the project is primarily agricultural and includes several residential properties. United Consulting will perform waters and wetlands determinations and a biological assessment to identify any ecological resources that may be present. This project qualifies for the application of the USFWS Range-Wide Programmatic Informal Consultation for the Indiana bat and Northern Long-eared bat and USFWS project information form will be provided to USFWS for review separately. Our firm will investigate areas of additional right-of-way for archaeological and historic resources for Section 106 compliance. The results of

these investigations will be forwarded to the State Historic Preservation Office for review and concurrence.

Should we not receive your response **within thirty (30) calendar days** from the date of this letter, it will be assumed that your agency feels that there will be no adverse effects incurred as a result of the proposed project. However, should you find that an extension to the response time is necessary, a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact Michael S. Oliphant, United Consulting, mikeo@ucindy.com, (317) 895-2585. Thank you in advance for your input.

Sincerely,

UNITED CONSULTING DCS

Michael S. Oliphant, AICP
Environmental Specialist

Maps and Photographs Included in Appendix B

Enclosure: Location Maps
Ground Level Photographs

cc: United States Fish and Wildlife Service – Bloomington Field Office
Federal Highway Administration
Natural Resources Conservation Service
Indiana Geological Survey
Indiana Department of Natural Resources – Division of Fish and Wildlife
Indiana Department of Environmental Management
Indiana Department of Environmental Management – Ground Water Section
Indiana Department of Transportation – Public Hearings
Indiana Department of Transportation – Project Manager, Runfa Shi
U.S. Department of Housing and Urban Development – Chicago Regional Office
U.S. Army Corps of Engineers – Louisville District
National Park Service – Midwest Regional Office
Tipton County Highway Department
United Consulting – Project Manager, Brian Frederick
United Consulting – File: (16-217)

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

DNR #: ER-20395 **Request Received:** February 12, 2018

Requestor: United Consulting
Aaron Toombs
1625 North Post Road
Indianapolis, IN 46219-1995

Project: US 31 over CR 100 South and Norfolk Southern Railroad grade separation, 1 mile north of SR 28; Des #1592421

County/Site info: Tipton

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

Regulatory Assessment: Formal approval by the Department of Natural Resources under the regulatory programs administered by the Division of Water is not required for this project.

Natural Heritage Database: The Natural Heritage Program's data have been checked.
To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

Fish & Wildlife Comments: Due to the presence or potential presence of wetland habitat on site, we recommend contacting and coordinating with the Indiana Department of Environmental Management (IDEM) 401 program and also the US Army Corps of Engineers (USACE) 404 program. Impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:
1. Revegetate "low maintenance" areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion; low endophyte tall fescue may be used in "high maintenance" areas only.
2. Minimize and contain within the project limits all tree and brush clearing.
3. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
4. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
5. Do not excavate or place fill in any riparian wetland.

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife

Early Coordination/Environmental Assessment

Contact Staff: Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife

Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.

Christie L. Stanifer

Date: March 13, 2018

Christie L. Stanifer
Environ. Coordinator
Division of Fish and Wildlife

Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

100 North Senate Avenue - Indianapolis, IN 46204

(800) 451-6027 - (317) 232-8603 - www.idem.IN.gov

Indiana Department of Transportation
Michelle Loveall
32 S Broadway St
Greenfield , IN 46140

United Consulting
Michael S. Oliphant
8440 Allison Pointe Boulevard, Suite 200
Indianapolis , IN 46250

Date: November 8, 2019

Date

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intends to proceed with a project involving the aforementioned grade separation structure in Tipton County, Indiana. This project is located on US 31, 1 mile north of SR 28, in Tipton County, Indiana. This section of US 31 is a four lane Rural Other Principal Arterial. The existing cross section consists of four 12 foot lanes bordered by 10 foot paved outside shoulders and 2 foot inside shoulders. A grassed roadway median varying from 40 feet to 75 feet in width exists between the northbound and southbound lanes. Roadside ditches exist along US 31 in the vicinity of the proposed structure. The approximate existing right-of-way is 70 feet each side of centerline throughout the project area. The current proposed project would include construction of a single span twin structure carrying US 31 over County Road 100 South, the existing Norfolk Southern Railroad and an anticipated future track to be located 15 feet to the north of the existing rail line. In addition, the US 31 northbound lanes will be shifted to the west at the grade crossing of US 31 and County Road 100 South and Norfolk Southern Railroad. The shifted lanes would continue north around an identified peat deposit before transitioning back to their original alignment beyond the peat deposit. This shift will eliminate direct access of four private drives onto US 31, while allowing for the existing US 31 northbound lanes to act as a combined access drive for the four private driveways. This access drive will continue to County Road 50 South, providing a right-in / right-out intersection between US 31 and County Road 50 South. The project requires the acquisition of approximately 9.8 acres of permanent right-of-way. Proposed right-of-way widths along US 31 would be 150 feet from centerline. The project limits would be approximately 5,940 feet in length. The preferred method of traffic maintenance would be a temporary crossover shifting traffic from northbound to southbound lanes as the bridges are constructed.

This letter from the Indiana Department of Environmental Management (IDEM) serves as a standardized response to enquiries inviting IDEM comments on roadway construction, reconstruction, or other improvement projects within existing roadway corridors when the proposed scope of the project is beneath the threshold requiring a formal National Environmental Policy Act-mandated Environmental Assessment or Environmental Impact Statement. As the letter attempts to address all

roadway-related environmental topics of potential concern, it is possible that not every topic addressed in the letter will be applicable to your particular roadway project.

For additional information on specific roadway-related topics of interest, please visit the appropriate Web pages cited below, many of which provide contact information for persons within the various program areas who can answer questions not fully addressed in this letter. Also please be mindful that some environmental requirements may be subject to change and so each person intending to include a copy of this letter in their project documentation packet is advised to download the most recently revised version of the letter; found at: http://www.in.gov/idem/5283.htm.

To ensure that all environmentally-related issues are adequately addressed, IDEM recommends that you read this letter in its entirety, and consider each of the following issues as you move forward with the planning of your proposed roadway construction, reconstruction, or improvement project:

WATER AND BIOTIC QUALITY

Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

USACE recommends that you have a consultant check to determine whether your project will abut, or lie within, a wetland area. To view a list of consultants that have requested to be included on a list posted by the USACE on their Web site, see USACE Permits and Public Notices (http://www.lrl.usace.army.mil/orf /default.asp) and then click on "Information" from the menu on the right-hand side of that page. Their "Consultant List" is the fourth entry down on the "Information" page. Please note that the USACE posts all consultants that request to appear on the list, and that inclusion of any particular consultant on the list does not represent an endorsement of that consultant by the USACE, or by IDEM.

Much of northern Indiana (Newton, Lake, Porter, LaPorte, St. Joseph, Elkhart, LaGrange, Steuben, and Dekalb counties; large portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and lesser portions of Benton, White, Pulaski, Kosciusko, and Wells counties) is served by the USACE District Office in Detroit (313-226-6812). The central and southern portions of the state (large portions of Benton, White, Pulaski, Kosciosko, and Wells counties; smaller portions of Jasper, Starke, Marshall , Noble, Allen, and Adams counties; and all other Indiana counties located in north-central, central, and southern Indiana) are served by the USACE Louisville District Office (502-315-6733).

Additional information on contacting these U.S. Army Corps of Engineers (USACE) District Offices, government agencies with jurisdiction over wetlands, and other water quality issues, can be found at http://www.in.gov/idem/4396.htm. IDEM recommends that impacts to wetlands and other water resources be avoided to the fullest extent.

In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality Wetlands Program. To learn more about the Wetlands Program, visit: http://www.in.gov/idem/4384.htm.

If the USACE determines that a wetland or other water body is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana . A State Isolated Wetland permit from IDEM's Office of Water Quality (OWQ) is required for any activity that results in the discharge of dredged or fill

materials into isolated wetlands. To learn more about isolated wetlands, contact the OWQ Wetlands Program at 317-233-8488.

If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to water bodies such as the creation of a dam or a water diversion, you should seek additional input from the OWQ Wetlands Program staff. Consult the Web at: http://www.in.gov/idem/4384.htm for the appropriate staff contact to further discuss your project.

Work within the one-hundred year floodway of a given water body is regulated by the Department of Natural Resources, Division of Water. The Division issues permits for activities regulated under the follow statutes:

IC 14-26-2 Lakes Preservation Act 312 IAC 11

IC 14-26-5 Lowering of Ten Acre Lakes Act No related code

IC 14-28-1 Flood Control Act 310 IAC 6-1

IC 14-29-1 Navigable Waterways Act 312 IAC 6

IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6

IC 14-29-4 Construction of Channels Act No related code

For information on these Indiana (statutory) Code and Indiana Administrative Code citations, see the DNR Web site at: http://www.in.gov/dnr/water/9451.htm . Contact the DNR Division of Water at 317-232-4160 for further information.

The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected water bodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.

For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of one (1), or more, acres of total land area, contact the Office of Water Quality – Watershed Planning Branch (317/233-1864) regarding the need for of a Rule 5 Storm Water Runoff Permit. Visit the following Web page

http://www.in.gov/idem/4902.htm

To obtain, and operate under, a Rule 5 permit you will first need to develop a Construction Plan (http://www.in.gov/idem/4917.htm#constreq), and as described in 327 IAC 15-5-6.5 (http://www.in.gov/legislative/iac/T03270/A00150 [PDF], pages 16 through 19). Before you may apply for a Rule 5 Permit, or begin construction, you must submit your Construction Plan to your county Soil and Water Conservation District (SWCD) (http://www.in.gov/isda/soil/contacts/map.html).

Upon receipt of the construction plan, personnel of the SWCD or the Indiana Department of Environmental Management will review the plan to determine if it meets the requirements of 327 IAC 15-5. Plans that are deemed deficient will require re-submittal. If the plan is sufficient you will be notified and instructed to submit the verification to IDEM as part of the Rule 5 Notice of Intent (NOI) submittal. Once construction begins, staff of the SWCD or Indiana Department of Environmental Management will perform inspections of activities at the site for compliance with the regulation.

Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas

obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: http://www.in.gov/idem/4900.htm.

If your project is located in an IDEM-approved MS4 area, please contact the local MS4 program about meeting their storm water requirements. Once the MS4 approves the plan, the NOI can be submitted to IDEM.

Regardless of the size of your project, or which agency you work with to meet storm water requirements, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize the impacts associated with storm water runoff. The use of appropriate planning and site development and appropriate storm water quality measures are recommended to prevent soil from leaving the construction site during active land disturbance and for post construction water quality concerns. Information and assistance regarding storm water related to construction activities are available from the Soil and Water Conservation District (SWCD) offices in each county or from IDEM.

For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317/232-4080) for addition project input.

For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits.

For projects involving effluent discharges to waters of the State of Indiana , contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.

For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits.

AIR QUALITY

The above-noted project should be designed to minimize any impact on ambient air quality in, or near, the project area. The project must comply with all federal and state air pollution regulations. Consideration should be given to the following:

Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed (http://www.in.gov/idem/4148.htm) under specific conditions. You also can seek an open burning variance from IDEM.

However, IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted; contact 317/232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) onsite, although burying large quantities of such material can lead to subsidence problems, later on.

Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized.

Additionally, if construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for 3-5 years precautionary measures should be taken to avoid an outbreak of histoplasmosis. This disease is caused by the fungus Histoplasma capsulatum, which stems from bird or bat droppings that have accumulated in one area for 3-5 years. The spores from this fungus become airborne when the area is disturbed and

can cause infections over an entire community downwind of the site. The area should be wetted down prior to cleanup or demolition of the project site. For more detailed information on histoplasmosis prevention and control, please contact the Acute Disease Control Division of the Indiana State Department of Health at (317) 233-7272.

The U.S. EPA and the Surgeon General recommend that people not have long-term exposure to radon at levels above 4 pCi/L. (For a county-by-county map of predicted radon levels in Indiana, visit: http://www.in.gov/idem/4145.htm.)

The U.S. EPA further recommends that all homes (and apartments within three stories of ground level) be tested for radon. If in-home radon levels are determined to be 4 pCi/L, or higher, EPA recommends a follow-up test. If the second test confirms that radon levels are 4 pCi/L, or higher, EPA recommends the installation of radon-reduction measures. (For a list of qualified radon testers and radon mitigation (or reduction) specialists visit:

http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf.) It also is recommended that radon reduction measures be built into all new homes, particularly in areas like Indiana that have moderate to high predicted radon levels.

To learn more about radon, radon risks, and ways to reduce exposure visit: http://www.in.gov/isdh/regsvcs/radhealth/radon.htm, http://www.in.gov/idem/4145.htm, or http://www.epa.gov/radon/index.html.

With respect to asbestos removal: all facilities slated for renovation or demolition (except residential buildings that have (4) four or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements.

If no asbestos is found where a renovation activity will occur, or if the renovation involves removal of less than 260 linear feet of RACM off of pipes, less than 160 square feet of RACM off of other facility components, or less than 35 cubic feet of RACM off of all facility components, the owner or operator of the project does not need to notify IDEM before beginning the renovation activity.

For questions on asbestos demolition and renovation activities, you can also call IDEM's Lead/Asbestos section at 1-888-574-8150.

However, in all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at http://www.in.gov/icpr/webfile/formsdiv/44593.pdf.

Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of $150 per project; projects below these amounts will be billed a fee of $50 per project. All notification remitters will be billed on a quarterly basis.

For more information about IDEM policy regarding asbestos removal and disposal, visit: http://www.in.gov/idem/4983.htm.

With respect to lead-based paint removal: IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978 , or a child-occupied facility is

required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal visit: http://www.in.gov/isdh/19131.htm.

Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months April through October. See 326 IAC 8-5-2 , Asphalt Paving Rule (http://www.ai.org/legislative/iac/T03260/A00080.PDF).

If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 (View at: www.ai.org/legislative/iac/t03260/a00020.pdf.) New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.

For more information on air permits visit: http://www.in.gov/idem/4223.htm, or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or OAMPROD atdem.state.in.us.

LAND QUALITY

In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that:

If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ)at 317-308-3103.

All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. For more information, visit http://www.in.gov/idem/4998.htm.

If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.

If PCBs are found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.

If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes (Asbestos removal is addressed above, under Air Quality).

If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM Underground Storage Tank program at 317/308-3039. See: http://www.in.gov/idem/4999.htm.

FINAL REMARKS

Should you need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that you notify all adjoining property owners and/or occupants within ten days your submittal of each permit application. However, if you are seeking multiple permits, you can still meet the notification requirement with a single notice if all required permit applications are submitted with the same ten day period.

Should the scope of the proposed project be expanded to the extent that a National Environmental Policy Act Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required, IDEM will actively participate in any early interagency coordination review of the project.

Meanwhile, please note that this letter does not constitute a permit, license, endorsement or any other form of approval on the part of the Indiana Department of Environmental Management regarding any project for which a copy of this letter is used. Also note that is it the responsibility of the project engineer or consultant using this letter to ensure that the most current draft of this document, which is located at http://www.in.gov/idem/5284.htm, is used.

Signature(s) of the Applicant

I acknowledge that the following proposed roadway project will be financed in part, or in whole, by public monies.

Project Description

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intends to proceed with a project involving the aforementioned grade separation structure in Tipton County, Indiana. This project is located on US 31, 1 mile north of SR 28, in Tipton County, Indiana. This section of US 31 is a four lane Rural Other Principal Arterial. The existing cross section consists of four 12 foot lanes bordered by 10 foot paved outside shoulders and 2 foot inside shoulders. A grassed roadway median varying from 40 feet to 75 feet in width exists between the northbound and southbound lanes. Roadside ditches exist along US 31 in the vicinity of the proposed structure. The approximate existing right-of-way is 70 feet each side of centerline throughout the project area. The current proposed project would include construction of a single span twin structure carrying US 31 over County Road 100 South, the existing Norfolk Southern Railroad and an anticipated future track to be located 15 feet to the north of the existing rail line. In addition, the US 31 northbound lanes will be shifted to the west at the grade crossing of US 31 and County Road 100 South and Norfolk Southern Railroad. The shifted lanes would continue north around an identified peat deposit before transitioning back to their original alignment beyond the peat deposit. This shift will eliminate direct access of four private drives onto US 31, while allowing for the existing US 31 northbound lanes to act as a combined access drive for the four private driveways. This access drive will continue to County Road 50 South, providing a right-in / right-out intersection between US 31 and County Road 50 South. The project requires the acquisition of approximately 9.8 acres of permanent right-of-way. Proposed right-of-way widths along US 31 would be 150 feet from centerline. The project limits would be approximately 5,940 feet in length. The preferred method of traffic maintenance would be a temporary crossover shifting traffic from northbound to southbound lanes as the bridges are constructed.

With my signature, I do hereby affirm that I have read the letter from the Indiana Department of Environment that appears directly above. In addition, I understand that in order to complete that project in which I am interested, with a minimum of impact to the environment, I must consider all the issues addressed in the aforementioned letter, and further, that I must obtain any required permits.

Date: 1/8/2020

Signature of the INDOT Michelle Loveall

Project Engineer or Other Responsible Agent _____

Michelle Loveall

Date: 1/9/19

Signature of the For Hire Consultant _____

Michael S. Oliphant

November 27, 2019

66-33
United Consulting
Attention: Michael S. Oliphant
8440 Allison Point Boulevard, Suite 200
Indianapolis, Indiana 46250

Dear Michael S. Oliphant,

RE: Wellhead Protection Area
Proximity Determination
Des No 1592421
Grade Separation Structure Project
on US 31 over County Road
100 South and Norfolk Southern
Railroad, 1 Mile North of SR 28 in
Tipton County, Indiana

Upon review of the above referenced project site, it has been determined that the proposed project area **is located within** a Wellhead Protection Area. If the contact information is needed for the WHPA, please contact the reference located at the bottom of the letter for the appropriate information. The information is accurate to the best of our knowledge; however, there are in some cases a few factors that could impact the accuracy of this determination. Some Wellhead Protection Area Delineations have not been submitted, and many have not been approved by this office. In these cases we use a 3,000 foot fixed radius buffer to make the proximity determination. To find the status of a Public Water Supply System's (PWSS's) Wellhead Protection Area Delineation please visit our tracking database at http://www.in.gov/idem/cleanwater/2456.htm and scroll to the bottom of the page.

Note: The Drinking Water Branch has launched a self-service feature which allows one to determine source water proximity without submitting the application form. This tool will identify whether a site is located in a Source Water Susceptibility Area and/or Wellhead Protection Area. Use the following instructions:

1. Go to http://idemmaps.idem.in.gov/whpa2/
2. Use the search tool located in the upper left hand corner of the application to zoom to your site of interest by way of city, county, or address; or use the mouse to click on the site of interest displayed on the map.
3. Once the site of interest has been located and selected, move the map so that the point is in the center of the window, and use the print tool to create a .pdf of a source water proximity determination response.

In the future please use this self service feature if it is suits your needs.

If you have any additional questions please feel free to contact me at the address above or at (317) 233-9158 and aturnbow@idem.in.gov.

Sincerely,

Alisha Turnbow

Alisha Turnbow, Environmental Manager,
Groundwater Section, Drinking Water
Branch, Office of Water Quality

Mike Oliphant

From: Jeff Heard <jcheard@tds.net>
Sent: Thursday, December 5, 2019 2:50 PM
To: Mike Oliphant
Subject: Re: US 31 New Bridge / Grade Separation Project (Des. No.: 1592421)

Mike

Since this project is located inside our wellhead protection area, the City asks that all contractors at the site have secondary containment for all fuel and chemical storage during construction. Futhermore, any spills of fuel and/or chemicals should be immediately reported to local responders by calling 911. Emergency responders will then notify Tipton Municipal Utilities for oversight during cleanup response.

Thank you

Jeff Heard

From: "Mike Oliphant" <Mike.Oliphant@ucindy.com>
To: jcheard@tds.net
Cc: "Devin Stettler" <Devin.Stettler@ucindy.com>
Sent: Thursday, December 5, 2019 9:35:03 AM
Subject: US 31 New Bridge / Grade Separation Project (Des. No.: 1592421)

Dear Mr. Heard-

Through coordination with the Indiana Department of Environmental Management it has been determined the proposed project is within a Wellhead Protection Area.

Our firm is part of a project team retained by the Indiana Department of Transportation to complete the required preliminary engineering for this project. A copy of a letter sent to resource agencies containing details of the project has been attached for your reference. Please verify the proposed project is within the wellhead protection area for Tipton Utility Service.

If the project is within the well protection area please, provide our office with management measures and requirements discussed in your local wellhead protection program developed for the CPWSS. This information will be included in the environmental commitments for this project.

If you have any questions, comments, or need additional information, please do not hesitate to contact me.

Sincerely,

Mike

Michael S. Oliphant, AICP
Environmental Specialist
United Consulting
8440 Allison Pointe Blvd., Suite 200
Indianapolis, Indiana 46250
317-895-2585

Email: michael.oliphant@ucindy.com
Web: www.ucindy.com
See what's new at **United Consulting** NEWS

INDIANA
GEOLOGICAL SURVEY

Organization and Project Information

Project ID:
Des. ID: 1592421
Project Title: US 31 New Bridge/Grade Separation over County Road
Name of Organization: United Consulting
Requested by: Michael Oliphant

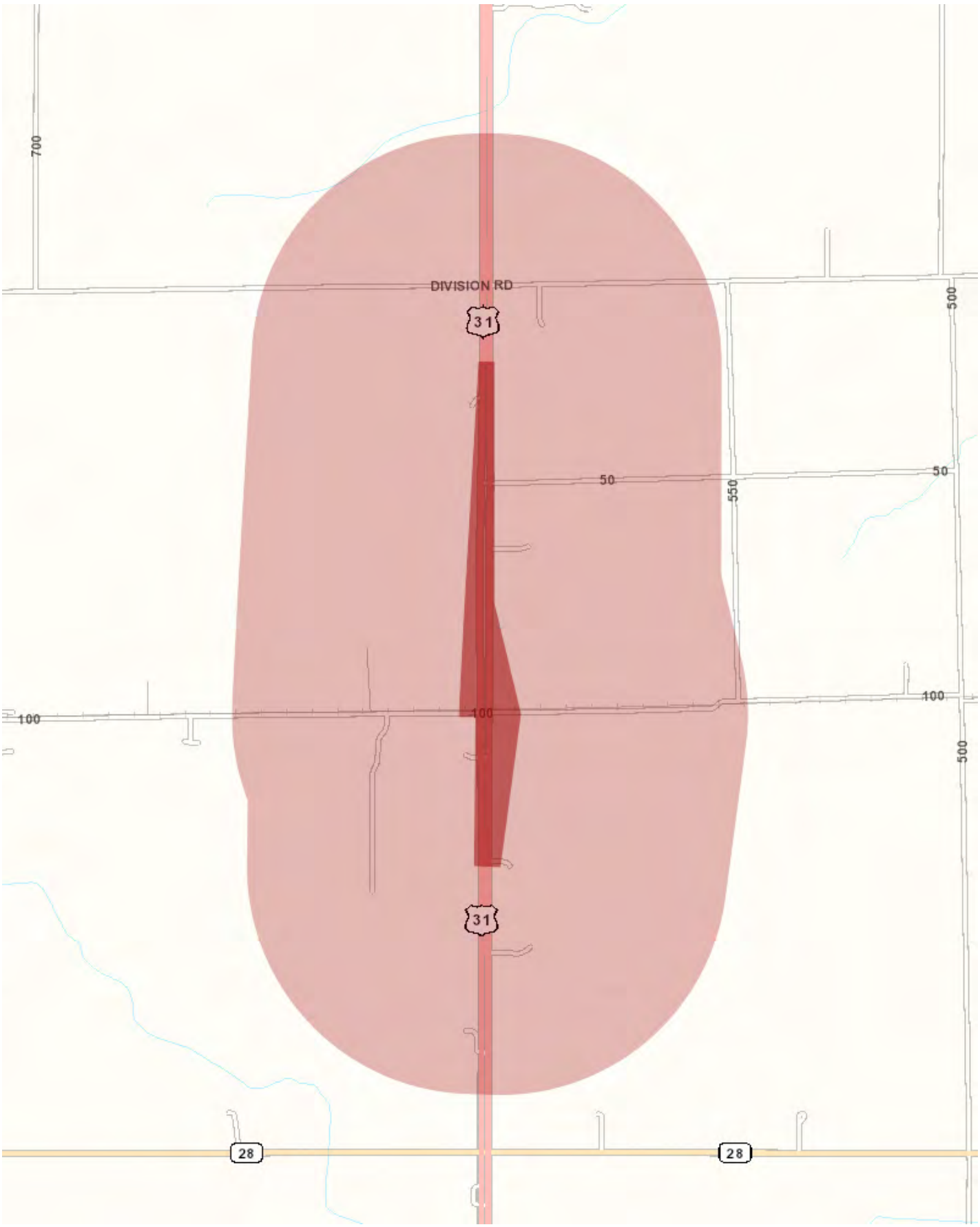
Environmental Assessment Report

1. Geological Hazards:
   - Moderate liquefaction potential
2. Mineral Resources:
   - Bedrock Resource: High Potential
   - Sand and Gravel Resource: Low Potential
3. Active or abandoned mineral resources extraction sites:
   - None documented in the area

*All map layers from Indiana Map (maps.indiana.edu)

This information was furnished by Indiana Geological Survey
Address: 420 N. Walnut St., Bloomington, IN 47404
Email: IGSEnvir@indiana.edu
Phone: 812 855-7428

Date: November 06, 2019



Metadata:

- https://maps.indiana.edu/metadata/Geology/Seismic_Earthquake_Liquefaction_Potential.html
- https://maps.indiana.edu/metadata/Geology/Industrial_Minerals_Sand_Gravel_Resources.html
- https://maps.indiana.edu/metadata/Geology/Bedrock_Geology.html

From:	McWilliams, Robin
To:	Toombs, Aaron
Subject:	Re: US 31 New Bridge / Grade Separation Project (Des. No.: 1592421) - Early Coordination Efforts
Date:	Tuesday, February 13, 2018 11:46:45 AM
Attachments:	image001.jpg

Dear Aaron,

This responds to your recent letter, requesting our comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (l6 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of l969, the Endangered Species Act of l973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The project is within the range of the Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) and should follow the new Indiana bat/northern long-eared bat programmatic consultation process, if applicable (*i.e*. a federal nexus is established). We will review that information once it is received.

Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections to the project as currently proposed. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation. Standard recommendations are provided below.

We appreciate the opportunity to comment at this early stage of project planning. If project plans change such that fish and wildlife habitat may be affected, please recoordinate with our office as soon as possible. If you have any questions about our recommendations, please call (812) 334-4261.

Sincerely,
Robin

Standard Recommendations:

1. Do not clear trees or understory vegetation outside the construction zone boundaries. (**This restriction is not related to the "tree clearing" restriction for potential Indiana Bat habitat.)**

2. Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap.

Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottomed culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community.

3. Restrict channel work and vegetation clearing to the minimum necessary for installation of the stream crossing structure.

4. Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If rip rap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat.

5. Implement temporary erosion and sediment control methods within areas of disturbed soil. All

disturbed soil areas upon project completion will be vegetated following INDOT's standard specifications.

6. Avoid all work within the inundated part of the stream channel (in perennial streams and larger intermittent streams) during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment shall be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams.

7. Evaluate wildlife crossings under bridge/culverts projects in appropriate situations. Suitable crossings include flat areas below bridge abutments with suitable ground cover, high water shelves in culverts, amphibian tunnels and diversion fencing.

Robin McWilliams Munson

U.S. Fish and Wildlife Service
620 South Walker Street
Bloomington, Indiana 46403
812-334-4261 x. 207 Fax: 812-334-4273

Monday, Tuesday - 7:30a-3:00p
Wednesday, Thursday - telework 8:30a-3:00p

On Mon, Feb 12, 2018 at 11:17 AM, Toombs, Aaron <Aaron.Toombs@ucindy.com> wrote:

> Dear Ms. McWilliams,
>
> The Indiana Department of Transportation (INDOT) Greenfield District and Federal Highway Administration (FHWA) intend to proceed with a new bridge/grade separation project carrying US 31 over County Road 100 South and the Norfolk Southern Railroad in Tipton County, Indiana (Des. No.: 1592421).
>
> The attached early coordination letter and project location maps have been provided for your review.
>
> Our firm is in the process of coordinating with resource agencies and facilities adjacent to the proposed project area which may have jurisdiction within the proposed location for this grade separation project.
>
> We ask that you review these materials and indicate any potential impacts that the proposed project may have on resources within your jurisdiction.

If you need any additional information, or if you have any questions or concerns, please feel free to contact me at your earliest convenience.

Thank you for your consideration to this project.

Sincerely,

Aaron Toombs

Environmental Specialist

United Consulting

1625 North Post Road

Indianapolis, IN 46219-1995

(317) 895-2585

United logo

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

In Reply Refer To: November 01, 2019
Consultation Code: 03E12000-2020-SLI-0190
Event Code: 03E12000-2020-E-00846
Project Name: Des. No.:1592421, Grade Separation Project on US 31 over County Road 100S/ Norfolk Southern Railroad

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service if they determine their project “may affect” listed species or critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website http://ecos.fws.gov/ipac/ at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - http://www.fws.gov/midwest/endangered/section7/s7process/index.html. This website contains step-by-step instructions which will help you

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act *(*16 U.S.C. 703 *et seq*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

Project Summary

Consultation Code: 03E12000-2020-SLI-0190

Event Code: 03E12000-2020-E-00846

Project Name: Des. No.:1592421, Grade Separation Project on US 31 over County Road 100S/Norfolk Southern Railroad

Project Type: WASTEWATER FACILITY

Project Description: The preferred alternative would include construction of a single span twin structure carrying US 31 over County Road 100 South, the existing Norfolk Southern Railroad and an anticipated future track 15 feet to the north of the existing rail line. The project requires the acquisition of approximately 9.8 acres of permanent right-of-way. Proposed right-of-way widths along US 31 would be 150 feet from centerline. The project limits would be approximately 5,940 feet in length. The preferred method of traffic maintenance would be a temporary crossover shifting traffic from northbound to southbound lanes as the bridges are constructed.

The proposed structure will carry US 31 over CR 100 S, the existing Norfolk Southern Railroad, and a future track 15 feet north of the existing track. The proposed structures will be single span twin bridges with a 44’-6” Out-to-Out Coping Width and 41’-7” Clear Roadway. The bridge cross section consists of two twelve foot travel lanes, and varying-width shoulders with a minimum width of 5’-8 1/4” to the inside and 11’-8” to the outside. Type FT Bridge Railing is warranted along each coping.

The superstructure is composed of an 8” concrete deck on prestressed hybrid concrete BulbT beams. The bridges will be constructed with a 2% cross slope sloping outward from the median. The superstructure will be supported on semi-integral end bents behind Mechanically stabilized earth (MSE) Walls. The structure will be constructed with no skew.

The structure will provide a 23’-0” minimum vertical clearance over the railroad tracks and a 14’-6” minimum vertical clearance over CR 100 S. The proposed structure will consist of a 120’-0” span from centerline of bent to centerline of bent. This meets or exceeds the following clearances:

• 25’-0” from the centerline of the future track to the MSE Wall per IDM Figure 402-6O.
• 14’-0” Clear Zone plus 1’-0” for CR 100 S to the MSE Wall per IDM Figure 402-6B.
• 3’-0” minimum clearance between the pile sleeve and back face of MSE

Wall.

MSE walls will be constructed to retain the proposed embankments. The southeast wall (MSE Wall No. 1) will have a 90 degree return in order to avoid impacting the power poles at the SE corner of US 31 and CR 100 S. These poles are costly to relocate and the long lead time could adversely affect the project schedule. MSE Wall No. 2 is located in front of the south end bent.

The southwest wall (MSE Wall No. 3) will also have a 90 degree return that extends south approximately 763 feet in order to avoid relocations of three residential properties in the southwest corner of US 31 and CR 100 S. Truck height (Type FT) concrete railing will be constructed on moment slab for the length of the south walls. MSE Wall No. 4 is located in front of the north end bent, and flares away from the NFS Railroad tracks. An additional wall (MSE Wall No. 5) is also be constructed approximately 740 feet north of the proposed bridge to retain the roadway embankment allowing the residents in the NE quadrant to use an existing portion of northbound US 31 as a shared driveway.

The US 31 approach roadway consists of two twelve foot travel lanes, a four foot inside shoulder, and a ten foot outside shoulder. The roadway will be constructed with a 2% normal crown cross slope with an earthen median. In the areas where median barrier is used, the cross slope will be 2% outward away from the median. New horizontal alignments, Line PRNBL and Line PR-SBL, have been established for the centerline of the northbound and southbound lanes of US 31, respectively. The project will clear ____ acre of trees. The dominant species is red maple. A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.29237380911899N86.12725760568829W

Counties: Tipton, IN

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/1/office/31440.pdf	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Incidental take of the NLEB is not prohibited here. Federal agencies may consult using the 4(d) rule streamlined process. Transportation projects may consult using the programmatic process. See www.fws.gov/midwest/endangered/mammals/nleb/index.html Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
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http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

In Reply Refer To: December 10, 2019
Consultation Code: 03E12000-2020-I-0190
Event Code: 03E12000-2020-E-01752
Project Name: Des. No.:1592421, Grade Separation Project on US 31 over County Road 100S/ Norfolk Southern Railroad

Subject: Concurrence verification letter for the 'Des. No.:1592421, Grade Separation Project on US 31 over County Road 100S/Norfolk Southern Railroad' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request to verify that the **Des. No.:1592421, Grade Separation Project on US 31 over County Road 100S/Norfolk Southern Railroad** (Proposed Action) may rely on the concurrence provided in the February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, but is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*).

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed Action under the terms of the NLAA concurrence provided in the PBO. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances,

Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

For Proposed Actions that include bridge/structure removal, replacement, and/or maintenance activities: If your initial bridge/structure assessments failed to detect Indiana bats, but you later detect bats during construction, please submit the Post Assessment Discovery of Bats at Bridge/Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or Northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required. If the Proposed Action may affect any other federally-listed or proposed species, and/or any designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please contact this Service Office.

Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

Name

Des. No.:1592421, Grade Separation Project on US 31 over County Road 100S/Norfolk Southern Railroad

Description

Existing Conditions:

US 31 is functionally classified as a Rural Other Principal Arterial. The existing cross section consists of two – 12.0 foot lanes with a 4.0 foot inside shoulder and a 10.0 foot outside shoulder in each direction. The grass median varies from 52 feet to 86 feet within the project limits. The existing pavement consists of 5.5 inches of bituminous over 8.0 to 9.0 inches of concrete pavement on a stone subbase south of County Raod 100 South and 6.0 inches of bituminous over 8.0 to 9.0 inches of concrete pavement on a stone subbase north of County Road 100 South. The horizontal alignment includes slight horizontal curves north and south of County Road 100 South. The vertical profile is generally level with a maximum existing grade of 0.26%. There is no existing structure at this location. The existing intersection of US 31 and County Road 100 South is stop controlled along County Road 100 South. The at-grade crossing of US 31 and Norfolk Southern Railroad utilizes railroad crossing signals and crossing arms.

Preferred Alternative:

The preferred alternative would include construction of a single span twin structure carrying US 31 over County Road 100 South, the existing Norfolk Southern Railroad and an anticipated future track 15 feet to the north of the existing rail line. Proposed right-of-way widths along US 31 would be 150 feet from centerline. The project limits would be approximately 5,940 feet in length. The preferred method of traffic maintenance would be a temporary crossover shifting traffic from northbound to southbound lanes as the bridges are constructed.

The proposed structures will be single span twin bridges with a 44.5 foot Out-to-Out Coping Width and 41.58 foot Clear Roadway. The bridge cross section consists of two twelve foot travel lanes, and varying-width shoulders with a minimum width of 5’.67 feet to the inside and 11.67 feet to the outside. Type FT Bridge Railing is warranted along each coping.

The superstructure is composed of an 8 inch concrete deck on prestressed hybrid concrete Bulb-T-beams. The bridges will be constructed with a 2% cross slope sloping outward from the median. The superstructure will be supported on semi-integral end bents behind

Mechanically stabilized earth (MSE) Walls. The structure will be constructed with no skew.

MSE walls will be constructed to retain the proposed embankments. MSE walls No. 1 and 2 will flare at 45 degrees outside the limits of the end bents to reduce the overall wall area. MSE wall No. 3 is located approximately 700 feet north of the railroad and is necessary to protect the northeast shared drive.

The US 31 approach roadway consists of two twelve foot travel lanes, a four foot inside shoulder, and a ten foot outside shoulder. The roadway will be constructed with a 2% normal crown cross slope with an earthen median. In the areas where median barrier is used, the cross slope will be 2% outward away from the median. New horizontal alignments, Line PRNBL and Line PR-SBL, have been established for the centerline of the northbound and southbound lanes of US 31, respectively. The project will clear 0.54 acre of trees (11 trees) within 100 feet of the existing pavement. No tree clearing will occur in excess of 100 feet of the existing pavement. The dominant species is red maple. A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area.

The project could require the use of temporary lighting during construction. No permanent lighting will be installed as part of this project. The project will require 5 residential relocations (building demolition). A full inspection of the exterior of each of the buildings was conducted on November 14, 2019.

Determination Key Result

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

Qualification Interview

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   Yes

2. Is the project within the range of the Northern long-eared bat[1]?

   [1] See Northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?
   A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

   [1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

   No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/ rail surfaces[1]?

   [1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

   No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum[1]?

   [1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

   No

7. Is the project located **within** a karst area?

   No

8. Is there *any* suitable[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the national consultation FAQs.

   Yes

9. Will the project remove *any* suitable summer habitat[1] and/or remove/trim any existing trees **within** suitable summer habitat?

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

    No

11. Have presence/probable absence (P/A) summer surveys[1][2] been conducted[3][4] **within** the suitable habitat located within your project action area?

    [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

    [2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

    [3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

    [4] Negative presence/probable absence survey results obtained using the summer survey guidance are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

    No

12. Does the project include activities **within documented Indiana bat habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors?

    Yes

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors occur[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    B) During the inactive season

15. Does the project include activities **within documented NLEB habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

16. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

    Yes

17. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

    B) During the inactive season

18. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

    Yes

19. Will the tree removal alter *any* **documented** Indiana bat or NLEB roosts and/or alter any surrounding summer habitat **within** 0.25 mile of a documented roost?

    No

20. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

    No

21. Are *all* trees that are being removed clearly demarcated?

    Yes

22. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

    No

23. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

    No

24. Does the project include slash pile burning?

    No

25. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

    No

26. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

    Yes

27. Is there *any* suitable habitat[1] for Indiana bat or NLEB **within** 1,000 feet of the structure? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

    [1] See the Service's current summer survey guidance for our current definitions of suitable habitat.

    Yes

28. Has a structure assessment[1] been conducted **within** the last 24 months[2] to determine if bats are using the structure(s)?

[1] Structure assessment for occupied buildings means a cursory inspection for bat use. For abandoned buildings a more thorough evaluation is required (See User Guide Appendix D for bridge/abandoned structure assessment guidance).

[2] Assessments must be completed no more than 2 years prior to conducting any work on the structures, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that structure in subsequent years.

Yes

SUBMITTED DOCUMENTS

- *305 South US 31BridgeStructureAssessmentFormBuilding.pdf https://ecos.fws.gov/ipac/project/FW3JKJVZ4ZHM3LQQDHF562B4BI/projectDocuments/19180707*
- *1048 S US 31 BridgeStructureAssessmentFormBuilding.pdf https://ecos.fws.gov/ipac/project/FW3JKJVZ4ZHM3LQQDHF562B4BI/projectDocuments/19180708*
- *1114 South US 31 BridgeStructureAssessmentFormBuilding.pdf https://ecos.fws.gov/ipac/project/FW3JKJVZ4ZHM3LQQDHF562B4BI/projectDocuments/19180709*
- *1345 South US 31 BridgeStructureAssessmentFormBuilding.pdf https://ecos.fws.gov/ipac/project/FW3JKJVZ4ZHM3LQQDHF562B4BI/projectDocuments/19180710*
- *6037 West 100 South BridgeStructureAssessmentFormBuilding.pdf https://ecos.fws.gov/ipac/project/FW3JKJVZ4ZHM3LQQDHF562B4BI/projectDocuments/19180711*

29. Did the structure assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the structure (bats, guano, etc.)[1]?

[1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

No

30. Will the structure removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

No

31. Will the project involve the use of **temporary** lighting *during* the active season?

    Yes

32. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

    Yes

33. Will the project install new or replace existing **permanent** lighting?

    No

34. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    Yes

35. Will the activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

36. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

37. Are *all* project activities that are **not associated with** habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

    Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

    Yes

38. Will the project raise the road profile **above the tree canopy**?

    No

39. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the active season within undocumented habitat.

40. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) and/or increase noise levels above existing traffic/background levels consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the inactive season

41. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the Indiana bat's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

42. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

43. Is the structure removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the structure has been assessed using the criteria documented in the BA and no signs of bats were detected

44. **General AMM 1**
Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

Yes

45. **Tree Removal AMM 1**
Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal[1] in excess of what is required to implement the project safely?

Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

[1] The word "trees" as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS' current summer survey guidance for our latest definitions of suitable habitat.

Yes

46. **Tree Removal AMM 3**
Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

Yes

47. **Tree Removal AMM 4**
Can the project avoid cutting down/removal of *all* (1) **documented**[1] Indiana bat or NLEB roosts[2] (that are still suitable for roosting), (2) trees **within** 0.25 miles of roosts, and (3) documented foraging habitat any time of year?

[1] The word documented means habitat where bats have actually been captured and/or tracked.

[2] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

Yes

48. **Lighting AMM 1**
    Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

    Yes

Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

   Yes

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

   No

3. How many acres[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

   [1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0.54

4. Please describe the proposed structure work:

   The proposed structures will carry US 31 over CR 100 S, the existing Norfolk Southern Railroad, and a future track 15 feet north of the existing track. The proposed structures will be single span hybrid composite prestressed concrete bulb-tee beam twin bridges with a 44.5 foot out-to-Out Coping Width and 41.6 foot clear roadway. The bridge cross section consists of two12 foot travel lanes, and varying-width shoulders with a minimum width of 5.7 foot to the inside and 11.7 foot to the outside. F shaped truck height bridge railing is warranted along each coping.

5. Please state the timing of all proposed structure work:

   Spring 2021

6. Please enter the date of the structure assessment:

   11/14/19

Avoidance And Minimization Measures (AMMs)

This determination key result includes the committment to implement the following Avoidance and Minimization Measures (AMMs):

GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

LIGHTING AMM 1

Direct temporary lighting away from suitable habitat during the active season.

TREE REMOVAL AMM 1

Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

TREE REMOVAL AMM 2

Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and **outside of documented** roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.

TREE REMOVAL AMM 3

Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

TREE REMOVAL AMM 4

Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or
documented foraging habitat any time of year.

Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat

This key was last updated in IPaC on December 02, 2019. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request 1/30/20	4. Sheet 1 of 1
1. Name of Project **Des.1592421 Grade Separation Structure**	5. Federal Agency Involved **FHWA**	
2. Type of Project **Grade Separation Project**	6. County and State **Tipton County, Indiana**	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **1/30/20**	2. Person Completing Form **JRA**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐	4. Acres Irrigated	Average Farm Size **399 AC**
5. Major Crop(s) **Corn**	6. Farmable Land in Government Jurisdiction Acres: **166,232** % **100**	7. Amount of Farmland As Defined in FPPA Acres: **165,889** % **100**
8. Name Of Land Evaluation System Used **LESA**	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS **2/11/20**

PART III *(To be completed by Federal Agency)*	Maximum Points	Alternative Corridor For Segment : Corridor 1	Corridor 2	Corridor 3	Corridor 4
A. Total Acres To Be Converted Directly		11.6			
B. Total Acres To Be Converted Indirectly, Or To Receive Services					
C. Total Acres In Corridor		11.6	0.0	0.0	0.0
PART IV *(To be completed by NRCS) Land Evaluation Information*					
A. Total Acres Prime And Unique Farmland		11.6			
B. Total Acres Statewide And Local Important Farmland		0.0			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		0.0070			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		58.0			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*		92			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15	12			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	15			
4. Protection Provided By State And Local Government	20	0			
5. Size of Present Farm Unit Compared To Average	10	5			
6. Creation Of Nonfarmable Farmland	25	0			
7. Availablility Of Farm Support Services	5	3			
8. On-Farm Investments	20	10			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	0			
TOTAL CORRIDOR ASSESSMENT POINTS	160	55	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	92			
Total Corridor Assessment (From Part VI above or a local site assessment)	160	55	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	147	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
Corridor 1	**11.6**	**2/13/20**	YES ☐ NO ☑

5. Reason For Selection:

Signature of Person Completing this Part: | DATE 2/13/20

NOTE: Complete a form for each segment with more than one Alternate Corridor

Appendix D

Section 106

FEDERAL HIGHWAY ADMINISTRATION'S
SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties) AND
SECTION 106 FINDINGS AND DETERMINATIONS
AREA OF POTENTIAL EFFECT
ELIGIBILITY DETERMINATIONS
EFFECT FINDING
NEW BRIDGE/GRADE SEPARATION PROJECT ON US 31
JEFFERSON AND CICERO TOWNSHIPS, TIPTON COUNTY, INDIANA
DES NO.: 1592421

AREA OF POTENTIAL EFFECT (Pursuant to 36 CFR 800.4(a)(1))

The Area of Potential Effects (APE) extends approximately 2,000 feet from the project end points to W Division Rd to the north and to SR 28 to the south along US 31, approximately 1,400 feet on each side of US 31, and approximately 2,000 feet from the project end points on CR 100S. Please see Appendix B for a map of the APE.

ELIGIBILITY DETERMINATIONS (Pursuant to 36 CFR 800.4(c)(2))

The APE does not contain any properties either listed in or recommended eligible for listing in the National Register of Historic Places (NRHP).

EFFECT FINDING

INDOT, acting on FHWA's behalf, has determined the appropriate Section 106 finding is "No Historic Properties Affected." INDOT respectfully requests the Indiana State Historic Preservation Officer provide written concurrence with the Section 106 determination of effect.

SECTION 4(f) COMPLIANCE REQUIREMENTS (for historic properties)

This undertaking will not convert property from any Section 4(f) historic property to a transportation use; the INDOT, acting on behalf of the FHWA, has determined the appropriate Section 106 Finding is "No Historic Properties Affected"; therefore, no Section 4(f) evaluation is required.

Anuradha Kumar V.

Anuradha V. Kumar, for FHWA
Manager
INDOT Cultural Resources Office

08/12/2019

Approved Date

FEDERAL HIGHWAY ADMINISTRATION'S
DOCUMENTATION OF SECTION 106 FINDINGS OF
NO HISTORIC PROPERTIES AFFECTED
SUBMITTED TO THE STATE HISTORIC PRESERVATION OFFICER
PURSUANT TO 36 CFR 800.4(d)(1)
NEW BRIDGE/GRADE SEPARATION PROJECT ON US 31
JEFFERSON AND CICERO TOWNSHIPS, TIPTON COUNTY, INDIANA
DES NO.: 1592421
FEDERAL DES NO. PENDING

1. DESCRIPTION OF THE UNDERTAKING

The Indiana Department of Transportation is proposing to utilize federal funding for a new bridge and grade separation to carry US 31 over the Norfolk-Southern Railroad and CR 100S. The project is located in southwestern Tipton County in Jefferson and Cicero townships, about four (4) miles west of the City of Tipton, and it can be found on the *Kempton, Indiana* USGS Topographic Quadrangle maps in Township 21 North, Range 3 East, in Sections 1 and 12.

The proposed project will include construction of a grade separation structure carrying US 31 over CR 100S and the Norfolk Southern Railroad, as well as reconstruction of the US 31 approaches and reconstruction of CR 100S. This proposal is based on a single-span twin structure carrying US 31 over CR 100S, the existing rail line and a future track fifteen feet to the north of the existing rail line. Each structure will provide a 41'7" clear roadway carrying two (2) twelve-foot travel lanes, a 5'8" minimum inside shoulder and an 11'8" minimum outside shoulder. Type FT bridge railing is anticipated. The superstructure would be supported on semi-integral end bents set behind MSE walls running parallel to the railroad and CR 100S. The structure is anticipated to be constructed to a zero-degree skew.

The bridge approaches are anticipated to begin approximately 1800 feet south of the existing railroad and end approximately 4000 feet north of the existing railroad. Retaining walls are proposed at the bridge crossing to reduce the span length. The north wall will run parallel to the railroad and CR 100S and will retain the approach roadway embankment following the proposed 3:1 side slopes to the existing grade. The south wall will run parallel with the railroad and CR 100S. The east end of the wall will follow the 3:1 side slopes from the northbound approach. The west end of the wall will have a ninety degree return and extend approximately 800 feet to the south to avoid total takes of three residential properties. A concrete barrier rail will be constructed along the entire length of this wall. Pile sleeves are anticipated to be included in the median MSE fill to facilitate future expansion of US 31. A chain link fence will be constructed along the backside of the MSE walls to serve as a visual cue for INDOT maintenance workers.

CR 100S would be reconstructed from 200 feet west to 200 feet east of the US 31 alignment. The proposed roadway will consist of two (2) ten-foot travel lanes with two-foot shoulders. One existing drive will be reconstructed and a new common drive will be constructed along the south side of CR 100S west of US 31. A common drive off of CR 100S is proposed along the west side of the MSE wall to maintain access to these two properties and to provide access for the parcel to

the south with no current drive access. The retaining wall will include an enclosed storm sewer system to perpetuate drainage.

The typical section will be constructed as a four-lane divided highway with two (2) twelve-foot travel lanes, four-foot inside shoulders and ten-foot outside shoulders. The existing median widths vary from fifty-two feet to eighty-six feet. Due to the presence of poor soils north of the railroad, shifting the existing roadway alignment is necessary. The northbound lanes will shift west into the existing median south of the bridge and abut the southbound lanes over the bridge. North of the bridge, both NB and SB remain connected with a median barrier in the center. The entire roadway shifts further to the west to avoid a large peat deposit in the median. North of the poor soils, both alignments return to the existing configuration.

A retaining wall is anticipated in the northeast quadrant to eliminate relocation for two parcels. Drives in the northeast quadrant will be maintained on the existing northbound US 31 alignment. A field entrance on US 31 is being removed but the property owner will have access from CR 100S.

Acquisition of land for new permanent right-of-way, as well as temporary right-of-way associated with grading and driveway reconstruction, is anticipated throughout the project limits. A total of 192.245 acres of right-of-way will be purchased. Permanent right-of-way acquisition for construction will account for 12.187 acres of land with 180.058 acres of excess land being acquired for the project. Additionally, the project will require the acquisition of 0.122 acre of temporary right-of-way for drive construction and grading. During construction two-way traffic (one lane in each direction) will be maintained on US 31. County Road 100S will be closed within the project limits to traffic during construction. The project begins on US 31 approximately 1,850 feet south of CR 100S and it ends on US 31 approximately 4,140 feet north of CR 100S.

The project is anticipated to be constructed in two phases. Crossovers will be constructed at each end of the project to maintain one lane of traffic in each direction through the duration of construction. County Road 100S will be closed within the project limits to traffic during construction.

36 CFR 800.16(d) defines the Area of Potential Effects (APE) as the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.” The APE for above ground resources has been drawn to encompass adjacent properties on all sides of the undertaking and/or with a viewshed of it. Since this project calls for a grade separation of US 31, the APE was designed to compensate for the increased visual distance this project would have in the area. The APE extends approximately 2,000 feet from the project end points to W Division Rd to the north and to SR 28 to the south along US 31, approximately 1,400 feet on each side of US 31, and approximately 2,000 feet from the project end points on CR 100S. See Appendix B for a map of the APE and Appendix C for Project Plans.

2. EFFORTS TO IDENTIFY HISTORIC PROPERTIES

A) Historic Properties Report

Pursuant to 36 CFR 800.4(b), Candace Hudziak from H&H Associates, LLC (H&H) initiated identification efforts in October 2016 by reviewing the National Register of Historic Places (NRHP), the Indiana Historic Sites and Structures Inventory (IHSSI), the State Historic Architectural and Archaeological Research Database (SHAARD) and SHAARDGIS, the Indiana Historic Bridge Inventory, the Indiana Historical Bureau's Historical Markers Database, and the 2010 *Tipton County Interim Historic Sites and Structures Inventory* (IHSSI) for previously-identified properties. Primary and secondary documentary research included numerous published county and local histories, historical and current atlases and maps, and online resources. Additionally on October 24, 2016 Ms. Hudziak conducted a field survey by walking all the streets within the APE and taking photographs in an effort to identify and evaluate any historic resources present. A subsequent change in the project scope required H&H to conduct more field work on February 20, 2018 due to a larger APE. H&H then completed a Historic Properties Short Report (HPSR) (Hudziak, 4/25/2019) and provided recommendations concerning the historic significance of the properties within the APE. As a result of identification and evaluation efforts for this project, no properties within the project APE were recommended eligible for listing in the NRHP. Please refer to Appendix A: Project Site Photographs and Key Maps and Appendix D: Report Summaries.

B) Archaeological Survey

Archaeologists from ASC Group, Inc. conducted four phases of archaeological fieldwork between October 2016 and November 2018 due to modifications to the original project area. Their survey area encompassed approximately 92 acres, and included shovel probes, a pedestrian walkover survey and visual inspections. Artifacts recovered by the survey underwent analysis. The archaeologists also conducted a literature review at the Department of Historic Preservation and Archaeology (DHPA). The archaeologists submitted a Phase Ia Archaeological Records and Reconnaissance Survey report (Miller, et al., 2/19/2019) and provided recommendations that none of the archaeological sites identified are recommended NRHP eligible and that no further investigative work is recommended. Please refer to Appendix D: Report Summaries.

C) Consultation

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. In accordance with 36 CFR 800.2(c), individuals and groups with a demonstrated interest in the undertaking were invited to participate in efforts to identify historic properties potentially affected by the undertaking, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

On May 3, 2019 the following individuals and groups listed in the table below were sent an email on behalf of INDOT requesting them to act as a consulting party for the undertaking. They were also advised that the Early Coordination Letter, HPSR, and the Archaeology Report (Tribes only) were available for review at the INDOT's Section 106 Consultation and Outreach Portal Enterprise, known as IN SCOPE. The invitees were requested to respond within 30 days indicating whether the agency agreed or did not agree to participate as a consulting party. Also on May 3, 2019 the INDOT Cultural Resources Office emailed the Native American Tribes listed in the table

to invite them to be consulting parties, and to direct them to the documents available for review on IN SCOPE. It was noted in the email correspondence that if no response was provided, the individual or group would not be considered a consulting party and would not receive further information about the undertaking unless the scope changed.

Invited Section 106 Consulting Parties	Status
Phil Beer, Tipton County Engineer	No Response - Declined
Indiana Landmarks, Central Regional Office	Accepted on June 3, 2019
Tipton County Historian	No Response - Declined
Tipton County Historical Society	No Response - Declined
Tipton County Public Library-Indiana Room	No Response - Declined
Tipton Main Street	No Response - Declined
James Mullins, Tipton Co Commissioner	No Response - Declined
Dennis Henderson, Tipton Co Commissioner	No Response - Declined
Mark Manier, Tipton Co Commissioner	No Response - Declined
Eastern Shawnee Tribe of Oklahoma	No Response - Declined
Miami Tribe of Oklahoma	No Response - Declined
Peoria Tribe of Indians of Oklahoma	No Response - Declined
Pokagon Band of Potawatomi Indians	No Response - Declined
Forest County Potawatomi Community	Accepted on May 29, 2019

The Indiana Department of Natural Resources, Division of Archaeology and Historic Preservation (SHPO) is automatically considered a consulting party for federally funded transportation projects due to its mandatory or designated role as specified in 36 C.F.R. § 800.2. The SHPO was sent a hard copy of all materials on May 3, 2019.

In a letter dated May 28, 2019 the SHPO commented upon the submitted materials by stating they were not aware of any other parties who should be invited to participate in this Section 106 consultation. The SHPO concurred with the recommendations of the archaeological report and with those of the Historic Property Short Report.

In an email correspondence on May 29, 2019 Mr. Michael LaRonge of the Forest County Potawatomi Community agreed to be a consulting party for this project. Mr. LaRonge stated that after reviewing the archaeology report, he does not believe the proposed work will impact any historic properties.

In a letter dated June 3, 2019 Mr. Sam Burgess from Indiana Landmarks' Central Regional Office agreed to be a consulting party for this project, and he concurred with the findings of the Historic Property Short Report.

D) Continued Consultation

INDOT's Findings, made on behalf of FHWA, and supporting Section 800.11(d) documentation are hereby provided to the SHPO and consulting parties for a final 30-day consultation/comment period. Views of the public are concurrently being sought through publication of the findings in a

locally available widely circulated newspaper. This document will be revised as necessary if public comment warrants it after the expiration of the public comment period. Following the 30-day comment period(s), if there is no disagreement with the "No Historic Properties Affected" finding, the Section 106 process will be complete.

Consulting Party correspondence is presented in Appendix E.

3. BASIS FOR FINDING

INDOT determined that the HPSR was suitable for distribution to consulting parties on May 2, 2019. On May 28, 2019 the SHPO concurred with the recommendations of the Historic Property Short Report that no above-ground properties within the APE are eligible for NRHP listing. No consulting party expressed objection to the HPSR's recommendations regarding the APE and the identification of historic properties within the APE.

INDOT determined that the Phase 1a archaeological reconnaissance survey was suitable for distribution to consulting parties on May 2, 2019. On May 28, 2019 the SHPO concurred with the recommendations of the archaeological report that no sites within the APE are eligible for NRHP listing. No consulting party expressed objection to the recommendation that the project be allowed to proceed with no further archaeological investigation.

Because no historic properties were identified within the project's APE, a Finding of "No Historic Properties Affected" has been made for this undertaking.

APPENDICES

Appendix A: Project Site Photographs and Key Maps
Appendix B: Maps and APE
Appendix C: Project Site Plans
Appendix D: Report Summaries
Appendix E: Consulting Parties' Correspondence

Appendix A: Project Site Photographs and Key Maps

A.1: 6066 W Division Rd facing northwest
(IHSSI #159-309-15001, rated C)

A.2: 6087 W Division Rd facing southeast
(IHSSI #159-309-15002, rated C)

A.3: 6501 W Division Rd facing southwest
(IHSSI #159-309-15003, rated C)

A.4: 5871 W Division Rd facing southeast
(HH-01, rated C)

A.5: 5751 W Division Rd facing south
(HH-02, rated C)

A.6: 95 S US 31 facing southeast
(HH-03, rated C)

A.7: 125 S US 31 facing northeast
(HH-04, rated C)

A.8: 151 S US 31 facing southeast
(HH-05, rated C)

A.9: 274 S US 31 facing southwest
(HH-06, rated C)

A.10: 5962 W CR 50S facing north
(HH-07, rated C)

A.11: 609 S US 31 facing southeast
(HH-08, rated C)

A.12: 729 S US 31 facing southeast
(HH-09, rated C)

A.13: 787 S US 31 facing southeast
(HH-10, rated C)

A.14: View of project area facing northeast
from CR 100S west of US 31

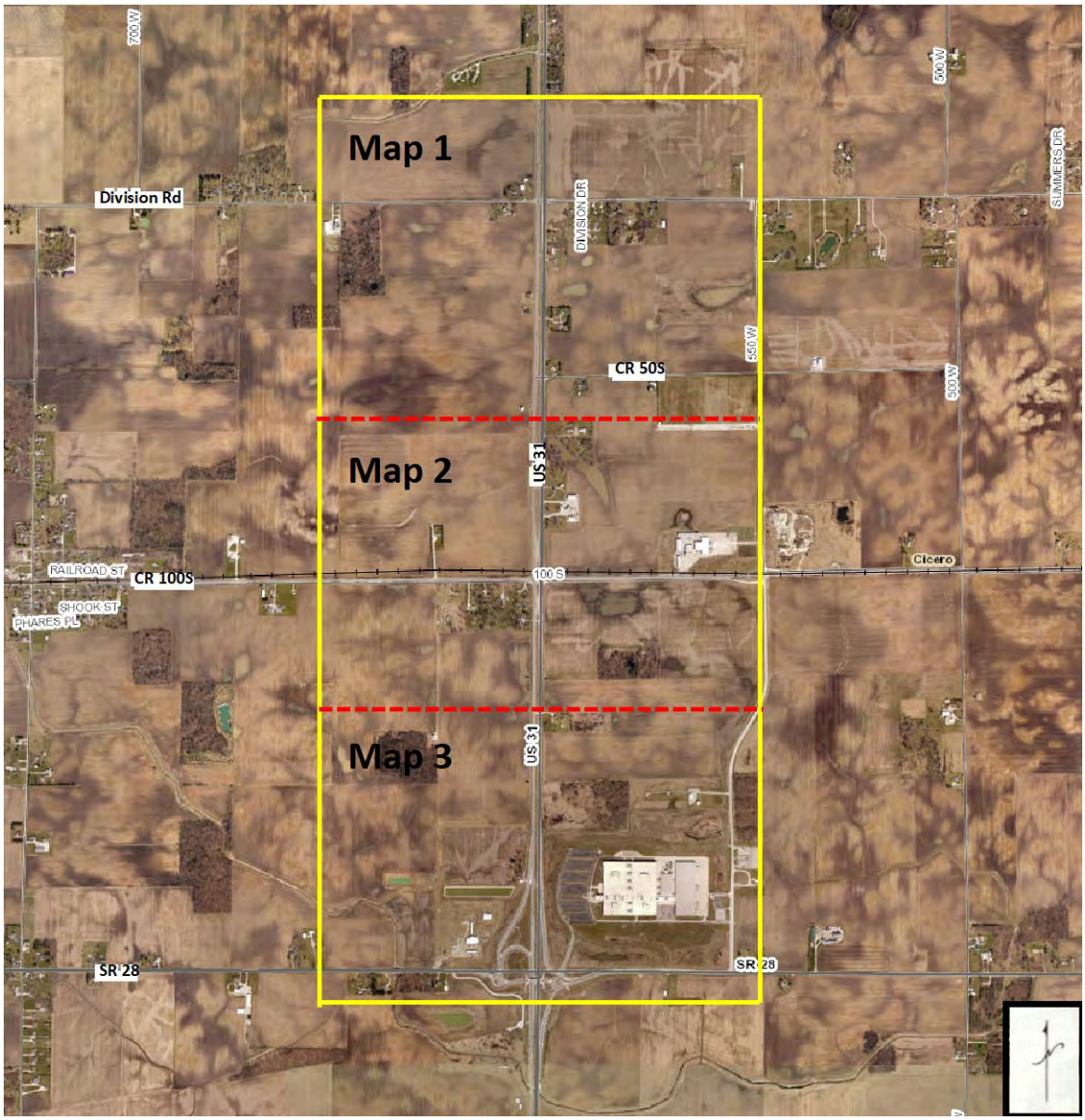
A.15: 1048 S US 31 facing west
(HH-11, rated C)

A.16: View of project area facing northwest
from CR 100S east of US 31

A.17: 6371 W CR 28 facing southeast
(HH-12, rated C)

A.18: 6263 W CR 28 facing southwest
(HH-13, rated C)

Key Maps



Overview key map
The following pages show close up views of Maps 1-3 identifying all photograph locations
Scale: 1 inch = 1350 feet

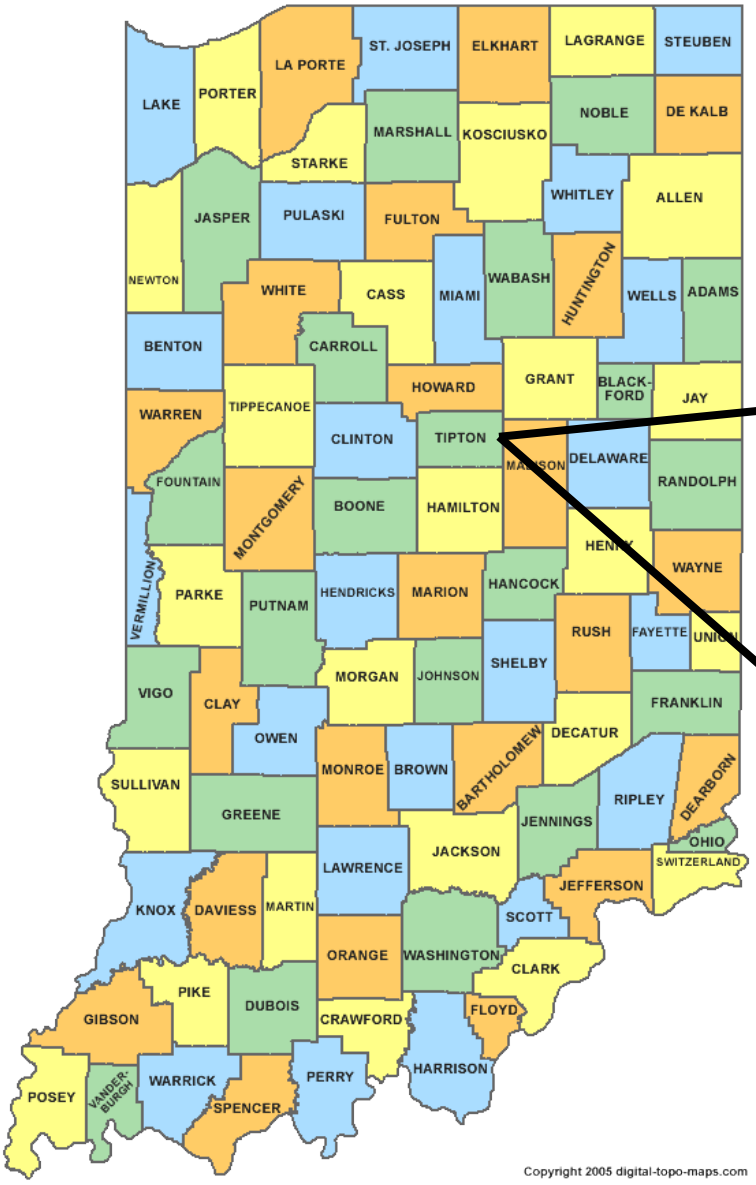
This and all following aerial maps are courtesy of Tipton County/Beacon GIS taken in 2016:
https://beacon.schneidercorp.com/Application.aspx?AppID=77&LayerID=702&PageTypeID=1&PageID=961

Map 1 with photographs 1-10 identified
(Scale: 1 inch = 500 feet)

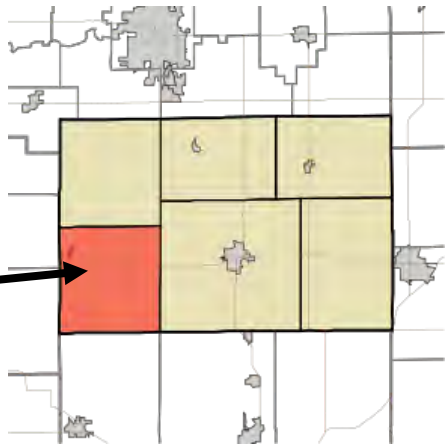
Map 2 with photographs 11-16 identified
(Scale: 1 inch = 500 feet)

Map 3 with photographs 17-18 identified
(Scale: 1 inch = 500 feet)

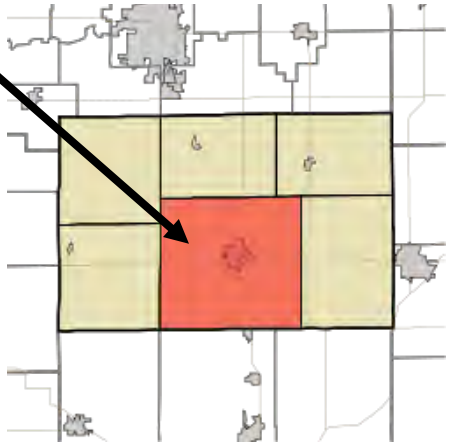
Appendix B: Maps and APE



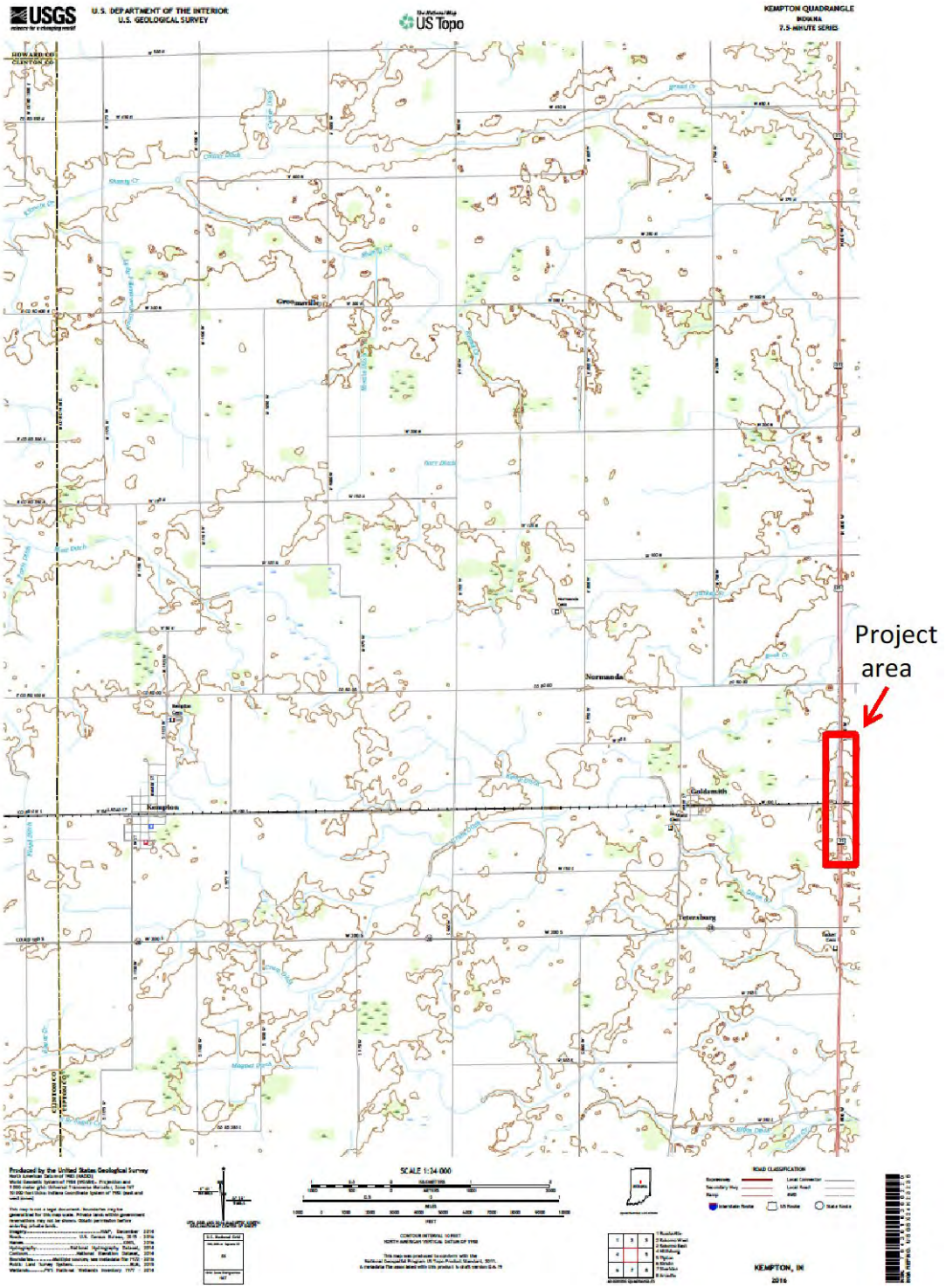
Tipton County, Indiana, identified



Jefferson Township highlighted



Cicero Township highlighted



2016 USGS topographical map of *Kempton, Indiana* (1:24,000 scale) with project area identified

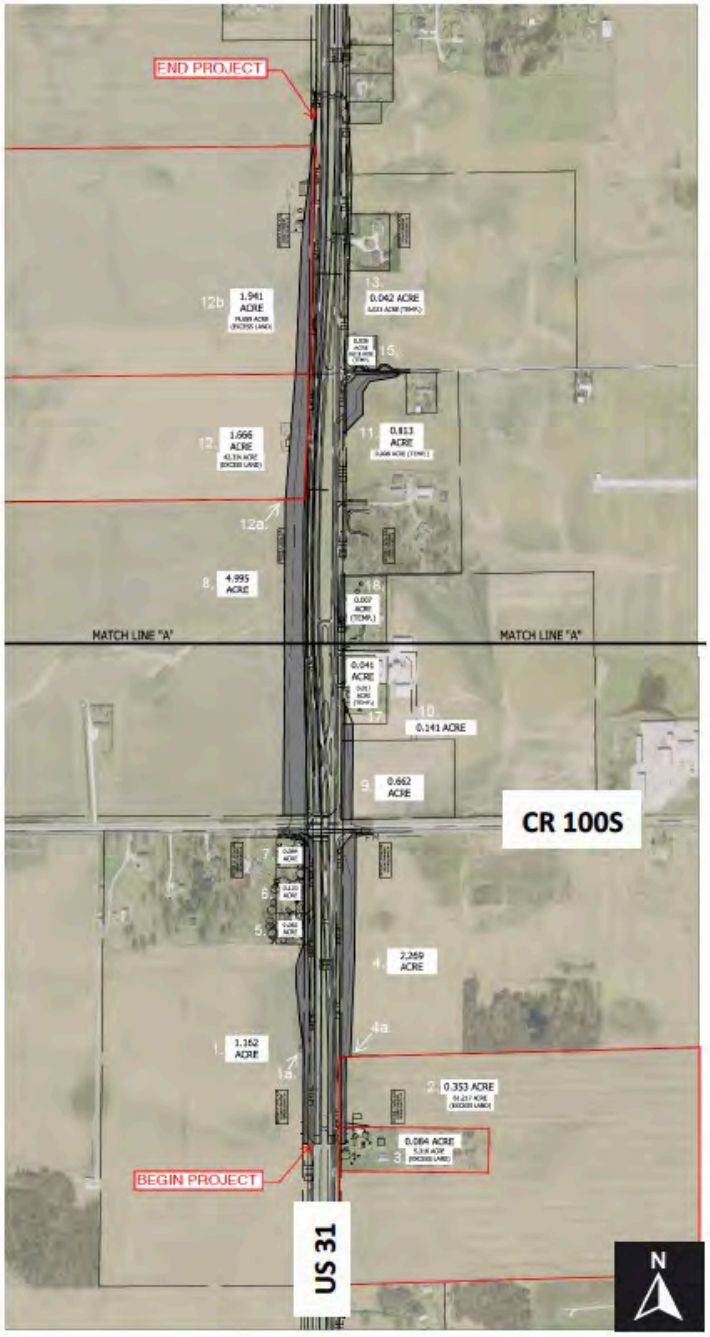
2018 aerial map with the proposed APE boundary
Refer to the following maps for close up views of the APE's north, middle, and south sections, with sites that earned a contributing rating or higher identified
(Scale: 1 inch = 1350 feet)
All aerial images courtesy of Tipton County GIS/Beacon:
https://beacon.schneidercorp.com/Application.aspx?AppID=77&LayerID=702&PageTypeID=1&PageID=961

Close up view of the northern end of the APE (map 1 of 3)
(Scale: 1 inch = 500 feet)

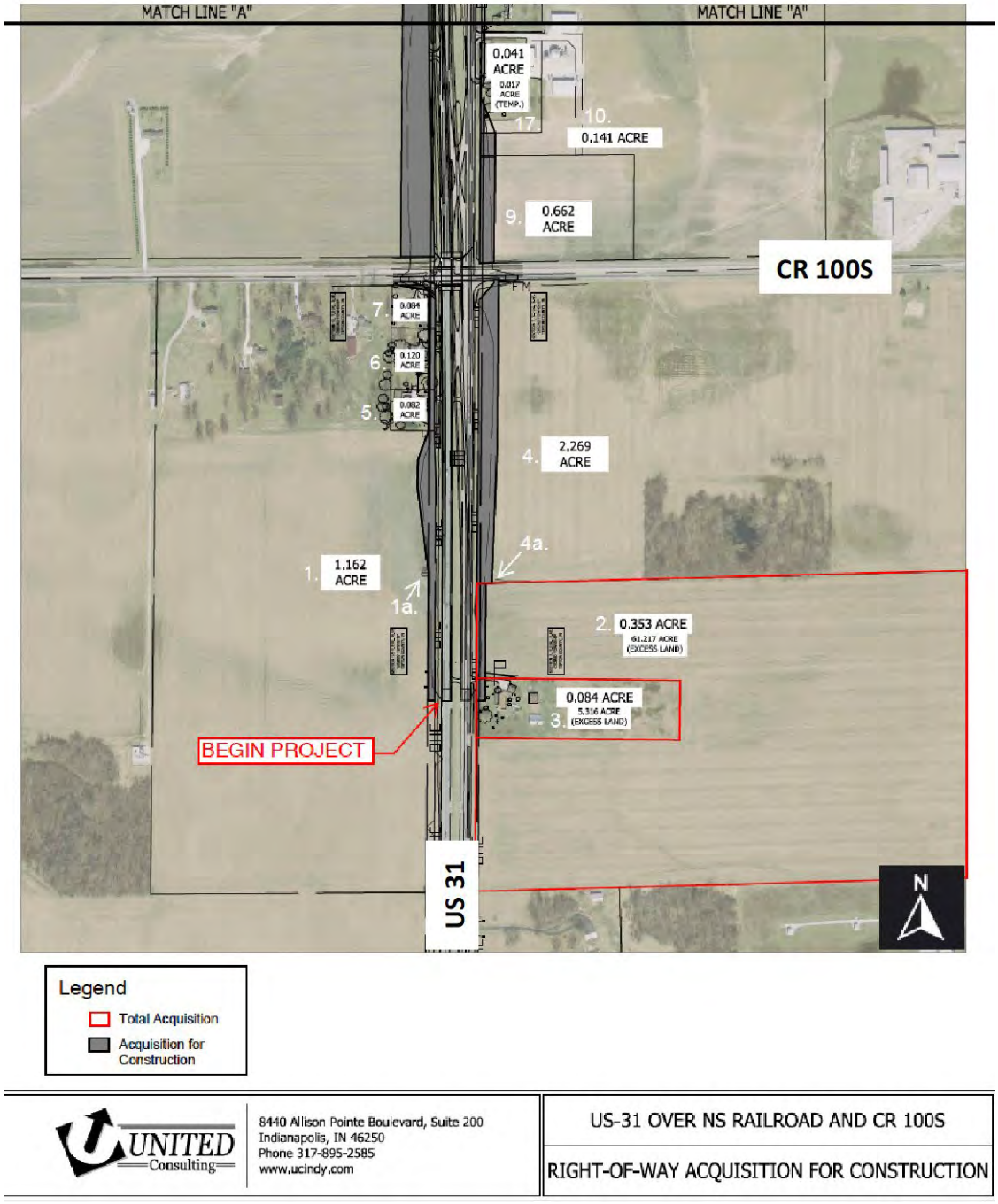
Close up view of the middle section of the APE (map 2 of 3)
(Scale: 1 inch = 500 feet)

Close up view of the south end of the APE (map 3 of 3)
(Scale: 1 inch = 500 feet)

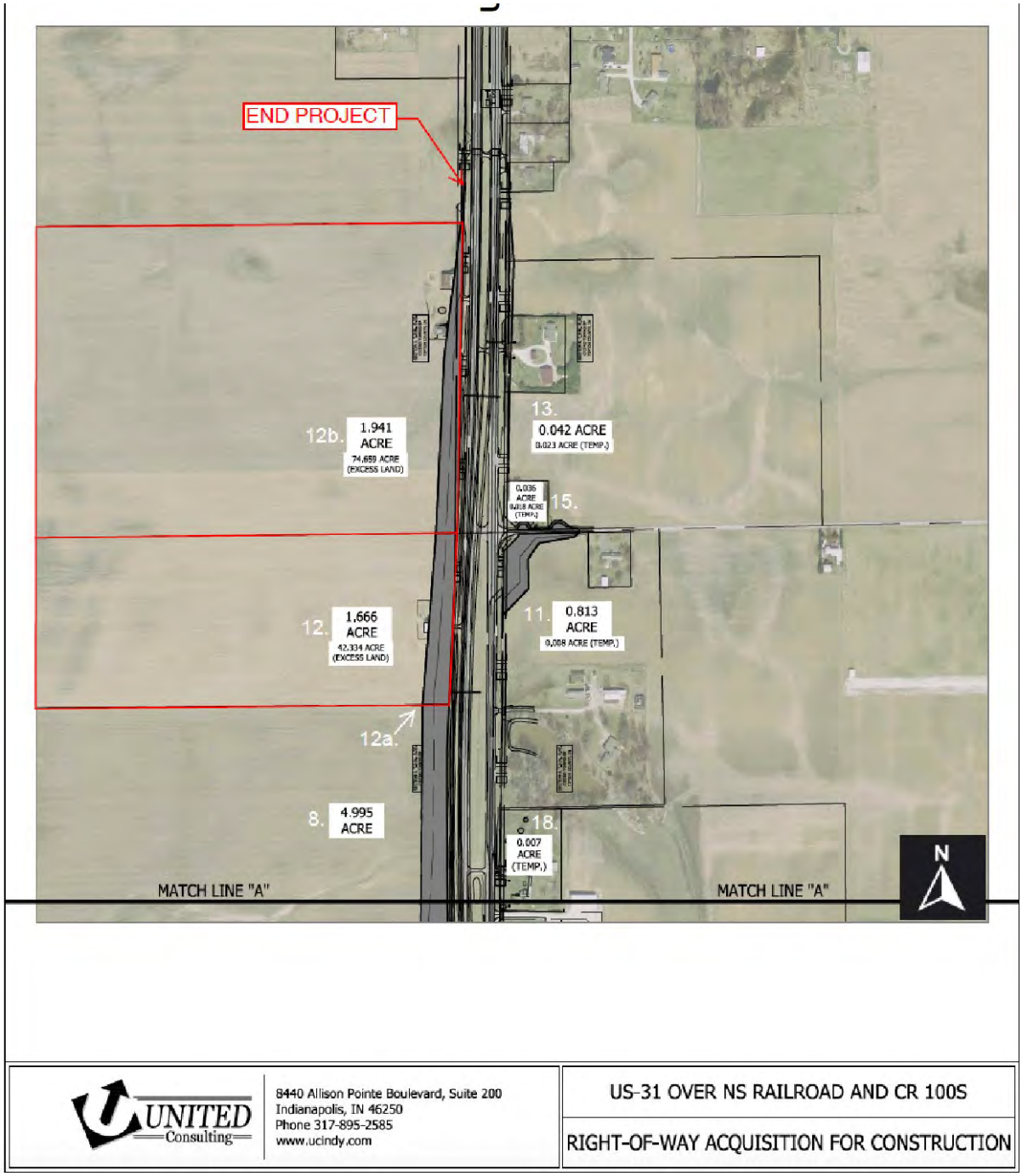
Appendix C: Project Plans



Aerial map depicting project limits; the following two maps show close up views
Image courtesy of United Consulting



Close up of the project limits depicting the southern half of the project area



Close up of the project limits depicting the northern half of the project area

HISTORIC PROPERTY SHORT REPORT FOR: NEW BRIDGE/GRADE SEPARATION PROJECT ON US 31 JEFFERSON AND CICERO TOWNSHIPS, TIPTON COUNTY, INDIANA

DES NO: 1592421

4/25/2019

PREPARED FOR UNITED CONSULTING

Candace Hudziak

H&H Associates, LLC
Principal Investigator: Candace Hudziak, M.A.
331 N East Street
Greenfield, IN 46140
317.443.4123
hh.past12@gmail.com

Abstract

New Bridge/Grade Separation Project on US 31 and CR 100S
Jefferson and Cicero Townships, Tipton County, Indiana

This report documents the identification and evaluation efforts for properties included in the Area of Potential Effects (APE) for the New Bridge/Grade Separation Project on US 31 and CR 100S in Tipton County, Indiana. Above-ground resources located within the project APE were identified and evaluated in accordance with Section 106, National Historic Preservation Act (NHPA) of 1966, as amended, and the regulations implementing Section 106 (36 CFR Part 800).

As a result of the NHPA, as amended, and CFR Part 800, federal agencies are required to take into account the impact of federal undertakings upon historic properties in the area of the undertaking. Historic properties include buildings, structures, sites, objects, and/or districts that are eligible for or listed on the National Register of Historic Places (NRHP). As this project is receiving funding from the Federal Highway Administration (FHWA), it is subject to a Section 106 review.

The APE contains no properties listed on the NRHP. The APE contains no other properties that are recommended eligible for listing on the NRHP.

Conclusion

The APE contains no properties listed in the National Register of Historic Places.

As a result of identification and evaluation efforts for this project, no further properties are recommended eligible for listing in the National Register.

Phase Ia Archaeological Records Check and Reconnaissance Survey for the Proposed US 31 New Bridge Grade Separation (Des. No. 1592421), Cicero and Jefferson Townships, Tipton County, Indiana

By

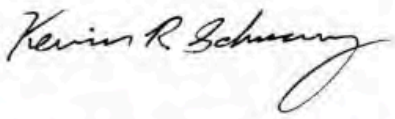
Damian Miller, MA; Sean P. Coughlin, MA; James L. Martin; Leah Konicki; and Chuck Mustain

Submitted By:
ASC Group, Inc.
9376 Castlegate Drive
Indianapolis, Indiana 46256
317.915.9300

Submitted To:
United Consulting
1625 North Post Road
Indianapolis, Indiana 46219
317.895.2585

Lead Agency: Indiana Department of Transportation

February 19, 2019



Kevin Schwarz, PhD, RPA, Principal Investigator

ASC GROUP, INC. — ARCHAEOLOGY — ARCHITECTURAL HISTORY — ENVIRONMENT
CULTURAL AND ENVIRONMENTAL CONSULTANTS

PROJECT AREA DESCRIPTION AND SUMMARY

Due to the evolving nature of this project, the survey area underwent a Phase Ia archaeological reconnaissance over four distinct periods of time. During the initial Phase Ia reconnaissance from October 31 to November 4, 2016, and November 11, 2016, James L. Martin served as the field supervisor, and Erin Donovan, Greg Janopoulos, and Damian Miller served as field technicians. During the second Phase Ia investigation on July 8, 2017, Sean Coughlin served as field supervisor, and Damian Miller and Joshua Myers served as field technicians. During the third Phase Ia reconnaissance from January 25 to January 26, 2018, Damian Miller served as field supervisor, and Erin Donovan served as a field technician. On the final Phase Ia reconnaissance from November 12 to November 15, 2018; November 21, 2018; and November 29, 2018, Damian Miller served as the field supervisor and Eric Aukeman and Erin Edwards served as field technicians. Both Sean Coughlin, MA, and Kevin Schwarz, PhD, RPA, served as Principal Investigators throughout this project. James L. Martin completed an archaeological background check prior to the initial Phase Ia archaeological reconnaissance survey, and Damian Miller completed an archaeological background check prior to the remaining Phase Ia archaeological reconnaissance surveys.

The project area is centered on US 31 and begins approximately 0.57 km (0.35 mi) north of SR 28 (the southern terminus) and ends approximately 0.56 km (0.35 mi) north of W Division Rd/CR W 00 S (the northern terminus). The project area was divided into twenty-three subareas based on topography. The field supervisors chose survey methods appropriate to maximize the detection of archaeological resources in each area (Figure 4, Sheets 1–5).

CONCLUSIONS AND RECOMMENDATIONS

ASC Group, Inc., under contract with United Consulting, has completed a Phase Ia Archaeological Records Check and Reconnaissance Survey report for the proposed US 31 New Bridge Grade Separation Project (Des. No. 1592421) in Cicero and Jefferson townships, Tipton County, Indiana. Three archaeological sites were identified during the survey: 12Ti0258, a historic scatter from the late nineteenth to early twentieth centuries; 12Ti0259, an isolated unknown prehistoric lithic; and 12Ti0260, a multicomponent late nineteenth century historic and Late Archaic prehistoric artifact scatter. Sites 12Ti0258, 12Ti0259, and 12Ti0260 do not possess the qualities of integrity and significance as defined by the NRHP criteria for evaluation (36 CFR 60.4 [a-d]). These sites are also not eligible for the IRHSS. No further work is recommended for sites 12Ti0258, 12Ti0259, and 12Ti0260.

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 234-5168

Eric Holcomb, Governor
Joe McGuinness, Commissioner

May 3, 2019

This letter was sent to the listed parties

Re: New Bridge/Grade Separation Project on US 31
Tipton County, Indiana
Des. No. 1592421

Dear Consulting Party,

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with a project involving the construction of a grade separation structure carrying US 31 over County Road 100S and Norfolk Southern Railroad (Des. No. 1592421). United Consulting is under contract with INDOT to advance the environmental documentation for the referenced project.

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

The proposed undertaking is located at the intersection of US 31 and CR 100S, approximately one mile north of SR 28 and four miles west of the City of Tipton in Tipton County, Indiana. The project lies on the border of Jefferson and Cicero townships, and can be found on the USGS *Kempton, Indiana* Topographic Quadrangle Map in Township 21 North, Range 3 East, in Sections 1 and 12.

The need for this project stems from the frequency of traffic disruptions and the number of individuals impacted daily by the train crossing. Approximately seven trains utilize the existing rail facilities each day crossing this segment of US 31. The train crossing stops traffic flow along US 31 compromising safety for the traveling public. The purpose of this project is to improve the flow of traffic on US 31 over the Norfolk Southern Railroad, reduce traffic disruptions, and enhance public safety for those traveling on US 31.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic and archaeological properties. In accordance with 36 CFR 800.2 (c), you are hereby requested to be a consulting party to participate in the Section 106 process. Entities that have been invited to participate in the Section 106 consultation process for this project are identified in the attached list. Per 36 CFR 800.3(f), we hereby request that the Indiana State Historic Preservation Officer (SHPO) notify this office if the SHPO staff is aware of any other parties that may be entitled to be consulting parties or should be contacted as potential consulting parties for the project. The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's

guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE contains no resources listed in the National Register of Historic Places (NRHP). A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, no above-ground resources are recommended as eligible for listing in the NRHP.

With regard to archaeological resources, an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards conducted a Phase 1a archeological survey of the project area. As a result of these efforts, three new archaeological sites were documented. The sites were not recommended to be eligible to the NRHP and so no additional archaeological investigation is anticipated at this time.

The Historic Property Report and Archaeology Report (Tribes only) are available for review in IN SCOPE at http://erms.indot.in.gov/Section106Documents/ (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If you prefer a hard copy of this material, please respond to this email with your request within seven (7) days.

Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party, or if you do not respond, you will not be included on the list of consulting parties for this project. If we do not receive your response in the time allotted, the project will proceed consistent with the proposed design and you will not receive further information about the project unless the design changes. For questions concerning specific project details, you may contact Devin Stettler of United Consulting by telephone (317-895-2585) or by email (Devin.Stettler@ucindy.com). All future responses regarding the proposed project should be forwarded to United Consulting at the following address:

Devin Stettler, Manager
Environmental Services
United Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, Indiana 46250
Devin.Stettler@ucindy.com.

Tribal contacts may contact Shaun Miller at smiller@indot.in.gov or 317-233-6795 or Michelle Allen at FHWA at michelle.allen@dot.gov or 317-226-7344.

Sincerely,

Anuradha V. Kumar, Manager
Cultural Resources Office
Environmental Services

Enclosure:
USGS Topographic Maps of Project Location

Distribution List:
State Historic Preservation Office (SHPO)
Phil Beer, Tipton County Road Engineer
Indiana Landmarks Central Regional Office
Tipton County Historian
Tipton County Historical Society
James Mullins, Tipton County Commissioner
Dennis Henderson, Tipton County Commissioner
Mark Manier, Tipton County Commissioner
Tipton County Public Library-Indiana Room
Tipton Main Street
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians Oklahoma
Pokagon Band of Potawatomi Indians
Forest County Potawatomi Community

In addition to the SHPO, this consultation request is being sent to the following agencies/parties:

Phil Beer
Tipton County Road Engineer
405 Market Rd
Tipton, IN 46072
pbeer@usiconsultants.com

Indiana Landmarks
Central Regional Office
1201 Central Avenue
Indianapolis, IN 46202-3204
sburgess@indianalandmarks.org

Tipton County Historian
Position currently vacant

Tipton County Historical Society
Jill Curnutt-Howerton, Director
323 W South St
Tipton, IN 46072-2068
tchs@tds.net

Tipton County Commissioners
101 E Jefferson St
Tipton, IN 46072

- James Mullins, PhD.

Tipton County Commissioner
jmullins@tiptoncounty.in.gov

- Dennis Henderson

Tipton County Commissioner
dhenderson@tiptoncounty.in.gov

- Mark Manier

Tipton County Commissioner
mmanier@tiptoncounty.in.gov

Tipton County Public Library-Indiana Room
Beau Cunnyngham, Asst Dir
127 E Madison St
Tipton, IN 46072
tipton@tiptonpl.org

Tipton Main Street
114 South Main Street
Tipton, IN 46072
tiptonmainstreet@gmail.com

Eastern Shawnee Tribe of Oklahoma

Miami Tribe of Oklahoma

Peoria Tribe of Indians Oklahoma

Pokagon Band of Potawatomi Indians

Forest County Potawatomi Community

FHWA Project: Des. No. 1592421; New Bridge/Grade Separation Project on US 31 Tipton County, Indiana

Current Projects/100-US 31 supplemental work (UC) ×

Candace Hudziak <hh.past12@gmail.com> Fri, May 3, 12:49 PM (7 days ago)

to pbeer, central, tchs, jmullins, dhenderson, mmanier, tipton, tiptonmainstreet, CSlider, Susan, Kelyn, Devin

Des. No.: 1592421
Project Description: New Bridge/Grade Separation Project on US 31
Location: US 31 and CR 100S, Jefferson and Cicero Townships, Tipton County, IN

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the US 31 New Bridge/Grade Separation Project, Des. No. 1592421.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. The following agencies/individuals are being invited to become consulting parties:

Indiana State Historic Preservation Office (SHPO)
Phil Beer, Tipton County Engineer
Indiana Landmarks, Central Regional Office
Tipton County Historian
Tipton County Historical Society
Tipton County Public Library-Indiana Room
Tipton Main Street
James Mullins, Tipton County Commissioner
Dennis Henderson, Tipton County Commissioner
Mark Manier, Tipton County Commissioner
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians Oklahoma
Pokagon Band of Potawatomi Indians
Forest County Potawatomi Community

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

Please review the letter, HPR and archaeology report (tribes only)located in IN SCOPE at http://erms.indot.in.gov/Section106Documents/(the Des. No. is the most efficient search term, once in IN SCOPE), and respond with your comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

from: **Alexander, Kelyn** <KAlexander3@indot.in.gov>

to: "dhunter@miamination.com" <dhunter@miamination.com>,
"lpappenfort@peoriatribe.com" <lpappenfort@peoriatribe.com>,
"Matthew.Bussler@pokagonband-nsn.gov" <Matthew.Bussler@pokagonband-nsn.gov>,
"michael.laronge@fcpotawatomi-nsn.gov" <michael.laronge@fcpotawatomi-nsn.gov>,
"thpo@estoo.net" <thpo@estoo.net>

cc: "michelle.allen@dot.gov" <michelle.allen@dot.gov>,
"Miller, Shaun (INDOT)" <smiller@indot.in.gov>,
"Moffatt, Charles D" <CMoffatt@indot.in.gov>,
"Branigin, Susan" <SBranigin@indot.in.gov>,
"Kumar, Anuradha" <akumar@indot.in.gov>,
Candace Hudziak <hh.past12@gmail.com>,
"Loveall, Michelle" <MLOVEALL@indot.in.gov>

date: May 3, 2019, 1:03 PM

subject: FHWA Project: Des. No. 1592421; New Bridge/Grade Separation Project on US 31 Tipton County, Indiana

Des. No.: 1592421
Project Description: New Bridge/Grade Separation Project on US 31
Location: US 31 and CR 100S, Jefferson and Cicero Townships, Tipton County, IN

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the US 31 New Bridge/Grade Separation Project, Des. No. 1592421.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. The following agencies/individuals are being invited to become consulting parties:

Indiana State Historic Preservation Office (SHPO)
Phil Beer, Tipton County Engineer
Indiana Landmarks, Central Regional Office
Tipton County Historian
Tipton County Historical Society
Tipton County Public Library-Indiana Room
Tipton Main Street
James Mullins, Tipton County Commissioner
Dennis Henderson, Tipton County Commissioner
Mark Manier, Tipton County Commissioner
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians Oklahoma
Pokagon Band of Potawatomi Indians
Forest County Potawatomi Community

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

Please review the letter, HPR and archaeology report (tribes only) located in IN SCOPE at http://erms.indot.in.gov/Section106Documents/(the Des. No. is the most efficient search term, once in IN SCOPE), and respond with your comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be

considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Kelyn Alexander
Historian
Cultural Resources Office
Environmental Services
100 N. Senate Ave., Room N642
Indianapolis, IN 46204
Office: (317) 234-4147
Email: kalexander3@indot.in.gov

DNR Indiana Department of Natural Resources

Eric Holcomb, Governor
Cameron F. Clark, Director

Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov · www.IN.gov/dnr/historic

May 28, 2019

Devin Stettler, Manager
Environmental Services
United Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, Indiana 46250

Federal Agency: Indiana Department of Transportation ("INDOT"),
on behalf of Federal Highway Administration, Indiana Division ("FHWA")

Re: Early coordination letter and historic property short report (Hudziak, 4/25/2019) for the proposed US 31 New Bridge Grade Separation (Des. No. 1592421; DHPA No. 23544)

Dear Mr. Stettler:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), implementing regulations at 36 C.F.R. Part 800, the "Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana," the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO" or "INDNR-DHPA") has reviewed H&H Associates, LLC's review request submittal form dated May 3, 2019, which enclosed INDOT's early coordination letter and the historic property short report ("HPSR", Hudziak, 04/25/2019), all of which we received on May 6, 2019 for the aforementioned project in Cicero and Jefferson townships, Tipton County, Indiana.

We are not aware of any parties who should be invited to participate in the Section 106 consultation on this project, beyond those whom INDOT already has invited.

The proposed area of potential effects ("APE") appears to be of appropriate size for an undertaking of this kind.

We agree with the HPSR that there are no above-ground properties within the APE that are listed in or eligible for inclusion in the National Register of Historic Places.

As previously indicated, in terms of archaeological resources, based upon the submitted information and the documentation available to the staff of the Indiana SHPO, we have not identified any currently known archaeological resources listed in or eligible for inclusion in the National Register of Historic Places ("NRHP") within the proposed project area. We concur with the opinions of the archaeologist, as expressed in the archaeological report, that archaeological sites 12-Ti-0258, 12-Ti-0259, and 12-Ti-0260 (all of which were identified during the archaeological investigations), do not appear eligible for inclusion in the NRHP, and that no further archaeological investigations appear necessary at this proposed project area.

We note that the archaeological site survey record forms for archaeological sites 12-Ti-0258, 12-Ti-0259, and 12-Ti-0260 have been submitted to the Indiana DHPA SHAARD system database. These will be reviewed.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to INDNR-DHPA within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-

27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

At this time, it might be appropriate for United Consulting to ask INDOT for a finding of effect for this undertaking.

The archaeological reviewer for this project on the Indiana SHPO staff is Wade Tharp, and the structures reviewer is Danielle Kauffmann. However, if you have questions about our comments or about the review process, please contact initially the INDOT Cultural Resources Office staff members assigned to this project.

In all future correspondence regarding the proposed US 31 New Bridge Grade Separation in Cicero and Jefferson townships, Tipton County, Indiana (Des. No. 1592421), please refer to DHPA No. 23544.

Very truly yours,

Beth K. McCord
Deputy State Historic Preservation Officer

BKM:DMK:WTT:dmk

emc: Robert Dirks, FHWA
Anuradha Kumar, INDOT
Shaun Miller, INDOT
Susan Branigin, INDOT
Shirley Clark, INDOT
Kelyn Alexander, INDOT
Devin Stettler, United Consulting
Candace Hudziak, H&H Associates, LLC
Danielle Kauffmann, INDNR-DHPA
Wade Tharp, INDNR-DHPA

From: Michael LaRonge [mailto:Michael.LaRonge@fcpotawatomi-nsn.gov]
Sent: Wednesday, May 29, 2019 5:38 PM
To: Alexander, Kelyn <KAlexander3@indot.IN.gov>
Subject: RE: FHWA Project: Des. No. 1592421; New Bridge/Grade Separation Project on US 31 Tipton County, Indiana

---

Re: FHWA INDOT Des No. 1592421, USH 31 Bridge/Grade Separation Project, Tipton County, Indiana.

Dear Ms. Alexander,

Pursuant to consultation under Section 106 of the National Historic Preservation Act (1966 as amended) the Forest County Potawatomi as a Federally Recognized Native American Tribe reserves the right to comment on Federal undertakings, as defined under the act. Thank you for your participation in the process.

Thank you for providing additional information regarding this project. Based on information provided in the Phase I archaeological report the project it does not appear that the proposed work will impact any historic properties. Therefore, the Tribal Historic Preservation office, on behalf of the Tribe, is pleased to offer a finding of no historic properties affected, with two conditions. First should the SHPO finding differ the Tribe reserves the right to reconsider based on new information. Second, in the event that human remains or archaeological materials are exposed as a result of project activities then work must halt and the Tribe must be included in any further discussion regarding treatment and disposition of the find prior to its removal.

Your interest in protecting cultural and historic properties is appreciated. If you have any questions or concerns, please contact me at the email address or phone number listed below.

Respectfully,

Michael LaRonge
Tribal Historic Preservation Officer
Natural Resources Department
Forest County Potawatomi Community
5320 Wensaut Lane
P.O. Box 340
Crandon, Wisconsin 54520
Phone: 715-478-7354
Fax: 715-478-7225
Email: Michael.LaRonge@FCPotawatomi-nsn.gov

INDIANA LANDMARKS
Central Regional Office
1201 Central Avenue, Indianapolis, IN 46202
317 639 4534 / 800 450 4534 / www.indianalandmarks.org

June 3, 2019

Devin Stettler, Manager
Environmental Services
United Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, Indiana 46250
Devin.Stettler@ucindy.com.

Re: New Bridge/Grade Separation Project on US 31 Tipton County, Indiana
Des. No. 1592421

Mr. Stettler:

Thank you for the opportunity to comment on the project identified as Des. No. 1592421. Indiana Landmarks agrees to serve as a consulting party for the undertaking.

We concur with the selected boundaries for the project's Area of Potential Effects (APE). Based on the findings presented in the Historic Properties Report, we also concur with the conclusion that there are no properties listed in or eligible for listing in the National Register of Historic Places within the APE>

Sincerely,

Sam Burgess
Community Preservation Specialist

Indiana Department
of Natural Resources

Eric Holcomb, Governor
Cameron F. Clark, Director

Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov · www.IN.gov/dnr/historic

HISTORIC PRESERVATION AND ARCHAEOLOGY

September 13, 2019

Devin Stettler, Manager
Environmental Services
United Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, Indiana 46250

Federal Agency: Indiana Department of Transportation ("INDOT"),
on behalf of Federal Highway Administration, Indiana Division ("FHWA")

Re: INDOT's finding of "no historic properties affected," on behalf of the FHWA, for the proposed US 31 New Bridge Grade Separation (Des. No. 1592421; DHPA No. 23544)

Dear Mr. Stettler:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), implementing regulations at 36 C.F.R. Part 800, the "Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana," the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO" or "INDNR-DHPA") has reviewed your submission which included INDOT's August 12, 2019, finding, which we received August 16, 2019, for the aforementioned project in Cicero and Jefferson townships, Tipton County, Indiana.

We concur with INDOT's August 12, 2019, Section 106 finding, on behalf of FHWA, of "No Historic Properties Affected," for this federal undertaking.

We note that the archaeological site survey record forms for archaeological sites 12-Ti-0258, 12-Ti-0259, and 12-Ti-0260 have been submitted to the Indiana DHPA SHAARD system database. These have been approved.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to INDNR-DHPA within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

The archaeological reviewer for this project on the Indiana SHPO staff is Wade Tharp, and the structures reviewer is Danielle Kauffmann. However, if you have questions about our comments or about the review process, please contact initially the INDOT Cultural Resources Office staff members assigned to this project.

In any future correspondence regarding the proposed US 31 New Bridge Grade Separation in Cicero and Jefferson townships, Tipton County, Indiana (Des. No. 1592421), please refer to DHPA No. 23544.

Very truly yours,

Beth K. McCord
Deputy State Historic Preservation Officer

BKM:DMK:WTT:wtt

emc: Robert Dirks, FHWA
Anuradha Kumar, INDOT
Shaun Miller, INDOT
Susan Branigin, INDOT
Shirley Clark, INDOT
Kelyn Alexander, INDOT
Devin Stettler, United Consulting
Candace Hudziak, H&H Associates, LLC
Sam Burgess, Indiana Landmarks, Central Regional Office
Michael LaRonge, Forest County Potawatomi Community
Danielle Kauffmann, INDNR-DHPA
Wade Tharp, INDNR-DHPA

LEGAL NOTICE

Public Notice
Des. No. 1592421

The Indiana Department of Transportation (INDOT) is planning to undertake the construction of a grade separation structure carrying US 31 over County Road 100S and Norfolk Southern Railroad, funded in part by the Federal Highway Administration (FHWA). The proposed undertaking is located at the intersection of US 31 and CR 100S, approximately one mile north of SR 28 and four miles west of the City of Tipton in Tipton County, Indiana. The project lies on the border of Jefferson and Cicero townships.

Under the preferred alternative, the proposed project would involve construction of a grade separation structure, as well as reconstruction of the US 31 approaches and reconstruction of CR 100S. During construction two-way traffic (one lane in each direction) will be maintained on US 31. County Road 100S will be closed within the project limits to traffic during construction. The project begins on US 31 approximately 1,850 feet south of CR 100S and it ends on US 31 approximately 4,140 feet north of CR 100S. Acquisition of land for new permanent right of way, as well as temporary right of way associated with grading and driveway reconstruction, is anticipated throughout the project limits. An approximate five acres of permanent and 0.1 acre of temporary right of way will be acquired for the project.

The proposed action does not impact properties listed in or eligible for the National Register of Historic Places. INDOT, on behalf of the FHWA, has issued a "No Historic Properties Affected" finding for the project due to the fact that no historic properties are present within the Area of Potential Effects (APE). In accordance with the National Historic Preservation Act, the views of the public are being sought regarding the effect of the proposed project on the historic elements as per 36 CFR 800.2(d), 800.3(e) and 800.6(a)(4). Pursuant to 36 CFR 800.4(d)(1), the documentation specified in 36 CFR 800.11(d) is available for inspection at United Consulting, located at 8440 Allison Pointe Blvd, Ste 200, Indianapolis, Indiana 46250. Additionally, this documentation can be viewed electronically by accessing INDOT's Section 106 document posting website IN SCOPE: http://erms.indot.in.gov/Section106Documents. This documentation serves as the basis for the "No Historic Properties Affected" finding. The views of the public on this effect finding are being sought. Please reply with any comments to Devin Stettler, United Consulting, 8440 Allison Pointe Blvd, Ste 200, Indianapolis, IN 46250, or by telephone (317-895-2585) or by email (Devin.Stettler@ucindy.com), no later than September 20, 2019.

In accordance with the "Americans with Disabilities Act", if you have a disability for which INDOT needs to provide accessibility to the document(s) such as interpreters or readers, please contact Rickie Clark: 317-232-6601 or rclark@indot.in.gov.

PUBLISH: August 16, 2019
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hspaxlp

Board of Accounts — General Form No. 99P (Rev. 2009)

...isulting
.....
(Governmental Unit)
Tipton ..... County, Indiana

To Tipton Co. Tribune ..... Dr.
PO Box 248
Tipton, IN 46072

PUBLISHER'S CLAIM

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August 16, 2019
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David Keller

August 19, 2019
Date .....

Publisher
Title .....

Appendix E

Red Flag and Hazardous Materials

UNITED Consulting

ENGINEERING
ENVIRONMENTAL
INSPECTION
LAND SURVEYING
LAND ACQUISITION
PLANNING
WATER & WASTEWATER
SINCE 1965

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John E. Harstad, PE
Asad A. Khan, PE
Joshua D. Gonya, PE
Brian S. Haefliger, PE

1625 N. Post Road, Indianapolis, IN 46219 (317) 895-2585 www.ucindy.com

Date: June 1, 2018

To: Hazardous Materials Unit
Environmental Services
Indiana Department of Transportation
100 North Senate Avenue, Room N642
Indianapolis, IN 46204

From: Michael S. Oliphant, AICP
United Consulting
1625 North Post Road
Indianapolis, Indiana 46219
mikeo@ucindy.com

Re: RED FLAG INVESTIGATION
US 31 New Bridge/Grade Separation Project
US 31 over CR 100 South and Norfolk Southern Railroad
Indiana Department of Transportation
Tipton County, Indiana
Des. No.: 1592421

NARRATIVE

The Indiana Department of Transportation (INDOT) proposes a new bridge and grade separation to carry US 31 over Norfolk Southern Railroad and CR 100 South (Des. No.: 1592421). The project is located in Sections 1, 6, 7, and 12, Township 21 North, Range 3 and 4 East, Jefferson and Cicero Townships, in Tipton County. The crossing is located along US 31, approximately 0.98 mi north of SR 28. The proposed scope of work is intended to address the existing traffic congestion and disruptions caused by the Norfolk Southern rail facility, which sees a minimum of seven trains a day. It is anticipated that excavation will be required, with a maximum excavation depth of 3 feet. It is anticipated that the acquisition of new permanent right-of-way will be required for completion of this project. No relocations have been anticipated as a result of this project. It is expected that construction will be completed under live traffic. The proposed maintenance of traffic plan consists of utilizing lane closures and shifts as needed throughout the project duration. Any resultant delays will be temporary.

SUMMARY

Infrastructure
Indicate the number of items of concern found within 0.5 mile, including an explanation why each item within the 0.5 mile search radius will/will not impact the project. If there are no items, please indicate N/A:

Religious Facilities	**N/A**	Recreational Facilities	**N/A**
Airports	**N/A**	Pipelines	**N/A**
Cemeteries	**N/A**	Railroads	**1**
Hospitals	**N/A**	Trails	**N/A**
Schools	**N/A**	Managed Lands	**N/A**

Explanation:

Railroads – One (1) railroad is located within the 0.5 mile search radius. The railroad, Norfolk Southern, crosses within the project area and will be impacted by this project. Coordination with INDOT Utilities and Railroads should occur.

Water Resources
Indicate the number of items of concern found within 0.5 mile, including an explanation why each item within the 0.5 mile search radius will/will not impact the project. If there are no items, please indicate N/A:

NWI - Points	**1**	NWI - Wetlands	**15**
Karst Springs	**N/A**	IDEM 303d Listed Lakes	**N/A**
Canal Structures – Historic	**N/A**	Lakes	**3***
NWI - Lines	**N/A**	Floodplain - DFIRM	**1**
IDEM 303d Listed Rivers and Streams (Impaired)	**N/A**	Cave Entrance Density	**N/A**
Rivers and Streams	**N/A**	Sinkhole Areas	**N/A**
Canal Routes - Historic	**N/A**	Sinking-Stream Basins	**N/A**
Urbanized Area Boundary (UAB)	**N/A**		

*Items may not appear on GIS map layers.

Explanation:

NWI-Points – One (1) NWI-Point is located within the 0.5 mile search radius. The NWI-Point is located approximately 0.16 mile west of the northern project limits. No impact is expected.

NWI-Wetlands – Fifteen (15) NWI-wetlands are located within 0.5 mile search radius. One NWI-wetland, a freshwater pond, is located adjacent to the project area, bordering the limits of construction to the east approximately 0.31 mile north of the Norfolk Southern Railroad. A Waters of the U.S. Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

Lakes – Three (3*) lakes are located within the 0.5 mile search radius. The nearest lake, a private freshwater pond not mapped within ArcGIS, is located adjacent to the project area, approximately 0.31 mile north of the Norfolk Southern Railroad. A Waters of the U.S. Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

Floodplain - DFIRM – One (1) floodplain is located within the 0.5 mile search radius. The floodplain, associated with Dixon Creek, is located approximately 0.38 mile southwest of the project area. No impact is expected.

Mining/Mineral Exploration
Indicate the number of items of concern found within 0.5 mile, including an explanation why each item within the 0.5 mile search radius will/will not impact the project. If there are no items, please indicate N/A:

Petroleum Wells	**N/A**	Petroleum Fields	**1**
Mines – Surface	**N/A**	Mines – Underground	**N/A**

Explanation:

Petroleum Fields – One (1) petroleum field is located within the 0.5 mile search radius. The petroleum field, Trenton Field, is located within the project area. No impact is expected.

Hazmat Concerns
Indicate the number of items of concern found within 0.5 mile, including an explanation why each item within the 0.5 mile search radius will/will not impact the project. If there are no items, please indicate N/A:

Brownfield Sites	**N/A**	Restricted Waste Sites	**N/A**
Corrective Action Sites (RCRA)	**N/A**	Septage Waste Sites	**N/A**
Confined Feeding Operations	**N/A**	Solid Waste Landfills	**N/A**
Construction Demolition Waste	**N/A**	State Cleanup Sites	**N/A**
Industrial Waste Sites (RCRA Generators)	**N/A**	Tire Waste Sites	**N/A**
Leaking Underground Storage Tanks (LUSTs)	**N/A**	Waste Transfer Stations	**N/A**
Manufactured Gas Plant Sites	**N/A**	RCRA Waste Treatment, Storage, and Disposal Sites (TSDs)	**N/A**
NPDES Facilities	**N/A**	Underground Storage Tanks	**N/A**
NPDES Pipe Locations	**N/A**	Voluntary Remediation Program	**N/A**
Open Dump Sites	**N/A**	Superfund	**N/A**
Institutional Control Sites	**N/A**		

Explanation:

No hazmat concern sites are located within the 0.5 mile search radius.

Ecological Information

The Tipton County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is attached. The ETR species have been highlighted. Coordination with IDNR and USFWS will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The range-wide programmatic consultation for the Indiana Bat and Northern Long-Eared Bat will be completed according to "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

Rusty Patched Bumble Bee:

An inquiry using the USFWS Information for Planning and Consultation (IPaC) website did not indicate the presence of the federally endangered species, the Rusty Patched Bumble Bee, in or within 0.5 mile of the project area. No impact is expected.

RECOMMENDATIONS

INFRASTRUCTURE:

One (1) railroad, Norfolk Southern, is located within the project area. Coordination with INDOT Utilities and Railroads should occur.

WATER RESOURCES: The presence of following water resources will require the preparation of a Waters of the US Report and coordination with INDOT ES Ecology and Waterway Permitting:

One (1) wetland/lake, a freshwater pond, is located adjacent to the project area.

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: N/A

ECOLOGICAL INFORMATION: Coordination with IDNR and USFWS will occur. The Range-Wide Programmatic Consultation for the Indiana Bat and Northern Long-Eared Bat will be completed according to "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

INDOT Environmental Services concurrence: _____ (Signature)

Prepared by:

Michael S. Oliphant, AICP
Environmental Specialist
United Consulting

Checked by:

Devin L. Stettler, MPI, AICP
Manager, Environmental Services
United Consulting

Graphics:

A map for each report section with a 0.50 mile search radius buffer around all project area(s) showing all items identified as possible items of concern is attached. If there is not a section map included, please change the YES to N/A:

GENERAL SITE MAP SHOWING PROJECT AREA: YES

INFRASTRUCTURE: YES

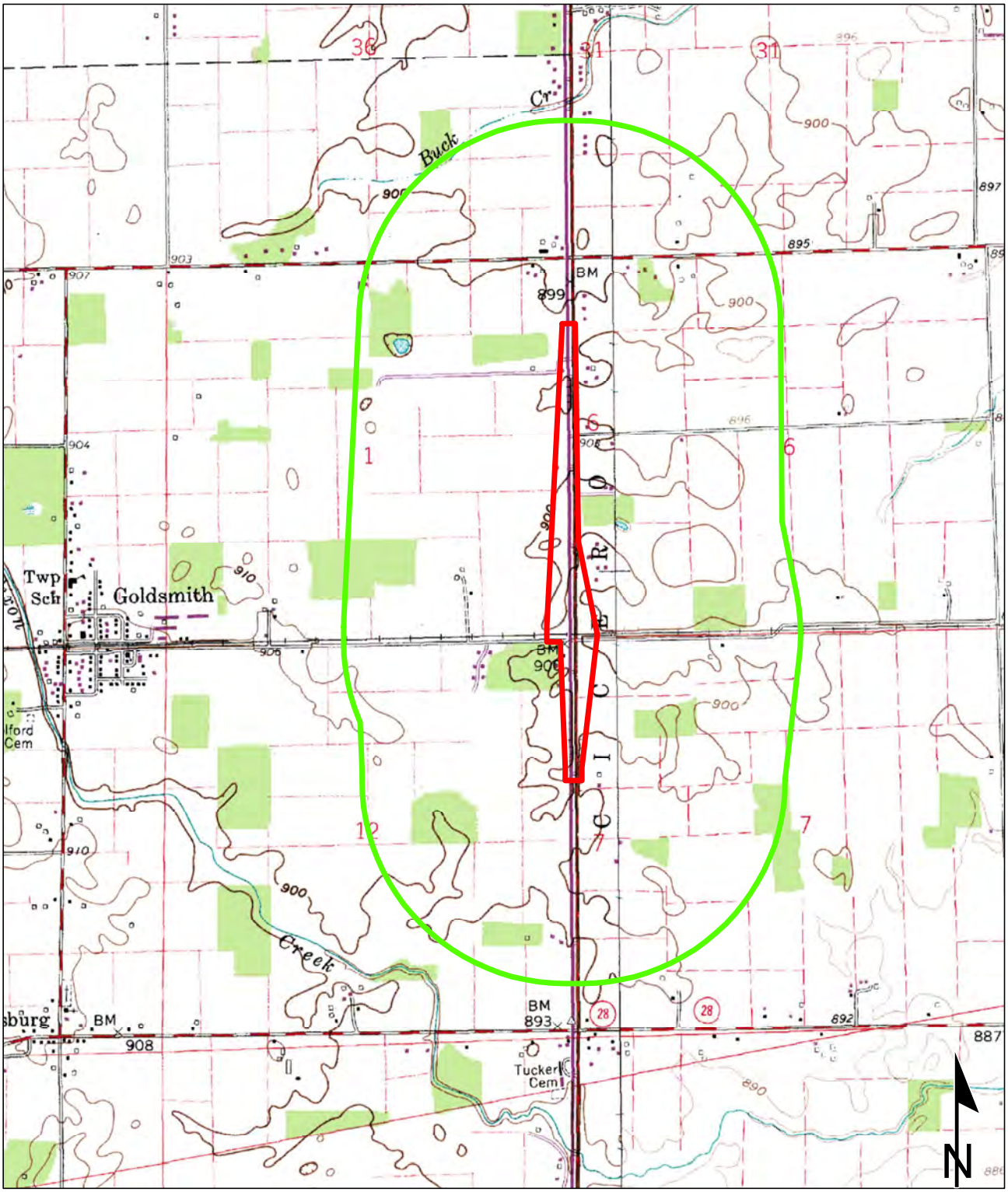
WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: YES

HAZMAT CONCERNS: N/A

URBANIZED AREA BOUNDARY: N/A

Red Flag Investigation - Project Location Map
US 31 New Bridge/Grade Separation Project
Des. No.: 1592421
Tipton County, Indiana



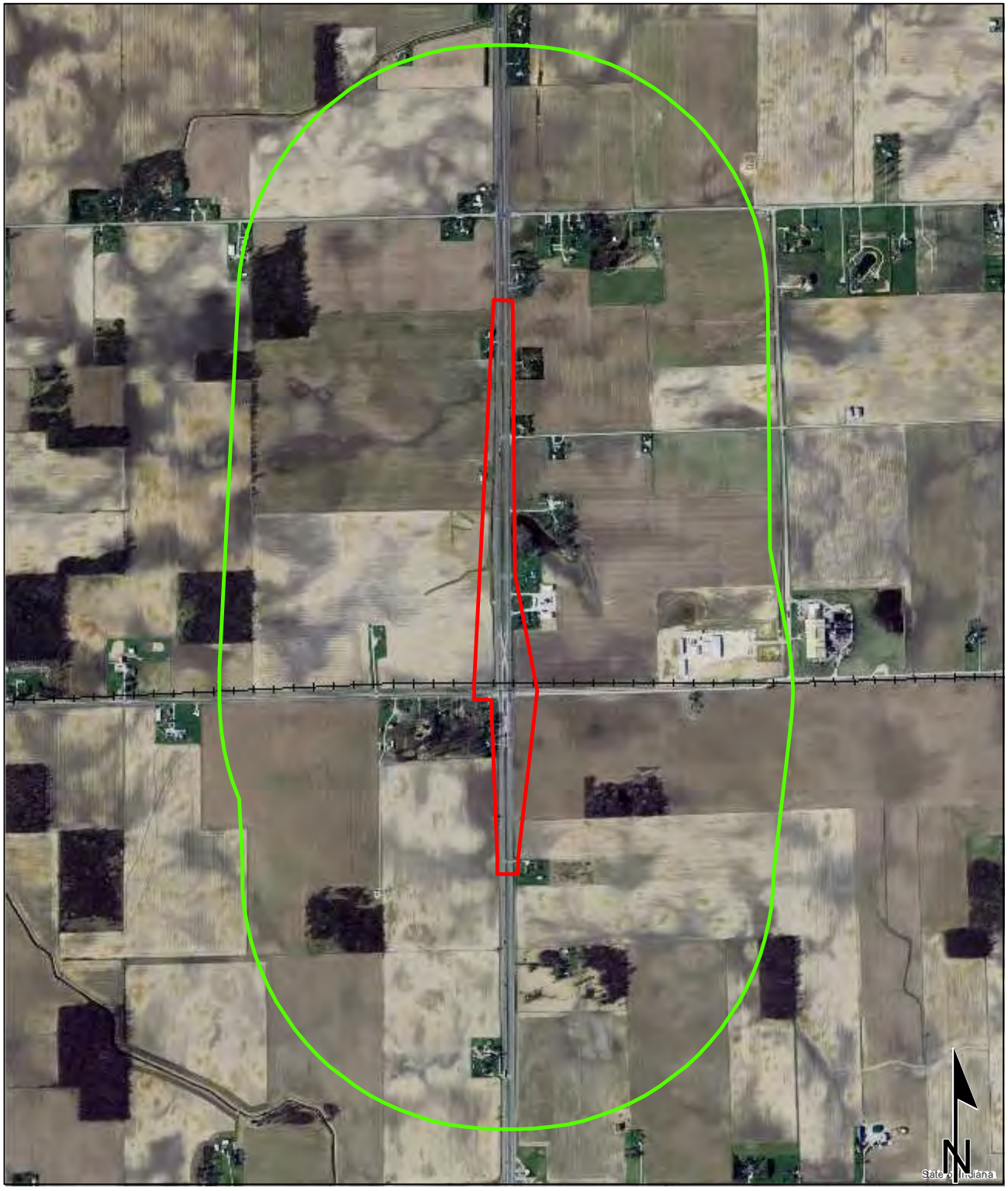
0.3 0.15 0 0.3 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

KEMPTON, IN - QUADRANGLE
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
US 31 New Bridge/Grade Separation Project
Des. No.: 1592421
Tipton County, Indiana



UNITED Consulting

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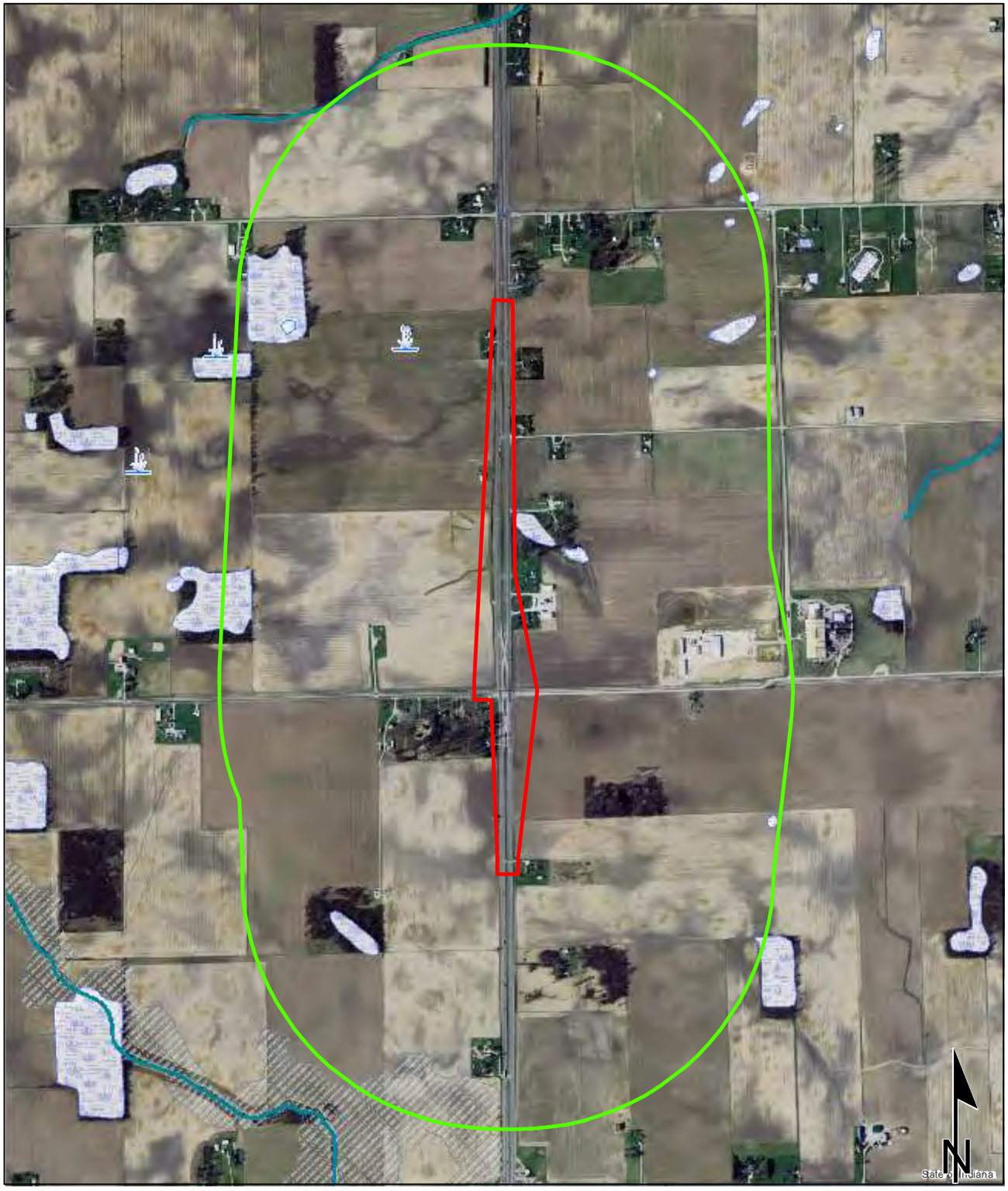
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum**: NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

- Religious Facility
- Religious Facility Indiana Map
- Airport
- Cemeteries
- Hospital
- School
- Recreation Facility
- Pipeline
- Railroad
- Trails
- Managed Lands
- County Boundary
- Project Area
- Half Mile Radius
- Interstate
- State Route
- US Route
- Local Road



UNITED Consulting

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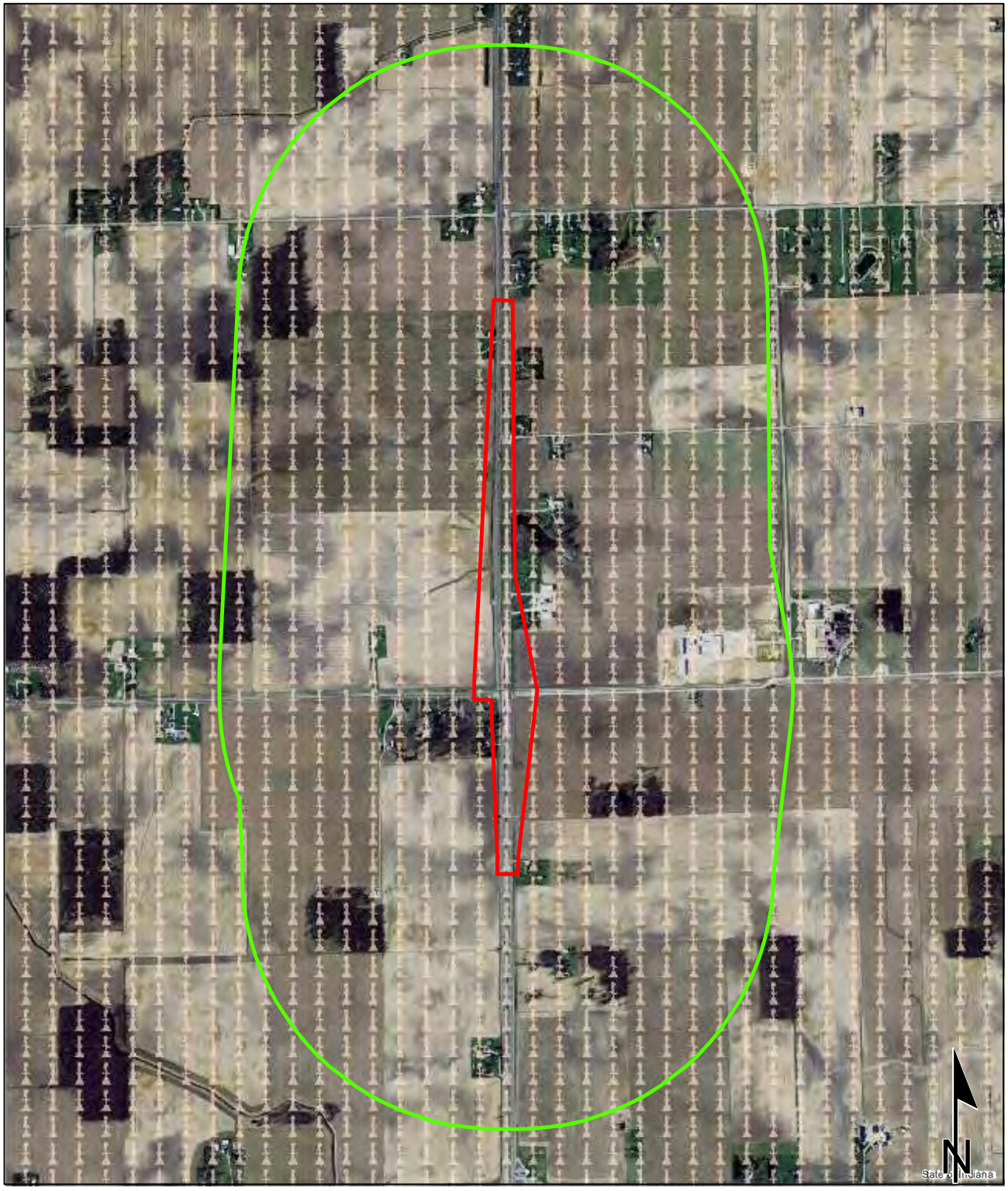
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

NWI - Point
Karst Spring
Canal Structure - Historic
NWI- Line
Stream - Impaired
NPS NRI listed
River
Canal Route - Historic
Wetlands
Lake - Impaired
Lake
Floodplain - DFIRM
Cave Entrance Density
Sinkhole Area
Sinking-Stream Basin
County Boundary
Project Area
Half Mile Radius
Interstate
State Route
US Route
Local Road

Red Flag Investigation - Mining/Mineral Exploration
US 31 New Bridge/Grade Separation Project
Des. No.: 1592421
Tipton County, Indiana



UNITED Consulting

0.15 0.075 0 0.15 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum**: NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

- Petroleum Well
- Mine - Surface
- Mine - Underground
- Petroleum Field
- County Boundary
- Project Area
- Half Mile Radius
- Interstate
- State Route
- US Route
- Local Road

Indiana County Endangered, Threatened and Rare Species List

County: Tipton

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Lampsilis fasciola	Wavyrayed Lampmussel		SSC	G5	S3
Ptychobranchus fasciolaris	Kidneyshell		SSC	G4G5	S2
Villosa lienosa	Little Spectaclecase		SSC	G5	S3
Bird					
Laterallus jamaicensis	Black Rail		SE	G3G4	SHB
Vascular Plant					
Carex atherodes	Awned Sedge		SE	G5	S1
Panicum leibergii	Leiberg's Witchgrass		ST	G4	S2

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting

State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list

GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank

SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked.

Appendix F

Ecological and Water Resources

WATERS OF THE U.S. DETERMINATION ADDENDUM

US 31 New Bridge / Grade Separation Project over County Road 100 South and Norfolk Southern Railroad
Tipton County, Indiana
DES. No.: 1592421

Prepared for:

Indiana Department of Transportation

Report Completion Date: August 16, 2019

INDOT EWPO Approval Date: 10/8/2019

Prepared By:

United Consulting

8440 Alison Pointe Boulevard, Suite 200
Indianapolis, Indiana 462
Phone: (317) 895-2585

WATERS OF THE U.S. DETERMINATION ADDENDUM
US 31 in Tipton County, Indiana
New Bridge/Grade Separation Project over County Road 100 South and Norfolk Southern Railroad
DES. No.: 1592421

Prepared by Michael S. Oliphant, United Consulting
Contact Information: mike.oliphant@ucindy.com (317) 895-2585
INDOT Greenfield District
Completed Date: August 16, 2019

Date of Waters Field Investigation:
May 16, 2017, October 12, 2017, and June 19, 2019

Location:
Sections 1, 6, 7, and 12, Township 21 North, Ranges 3 and 4 East
Tipton City, Indiana – United States Geological Survey (USGS) Topographic Quadrangle (Exhibit 4)
Jefferson and Cicero Townships, Tipton County, Indiana
Reference Post: 149 + 0.190
Latitude: 40.289437 Longitude: -86.127049

Project Description:
The proposed project, Des. No.: 1592421, is located in the southwest quadrant of Tipton County, along US 31 approximately 0.98 mile north of SR 28, four miles west of the City of Tipton, Indiana. The proposed project will include construction of a single-span twin structure, carrying US 31 over County Road 100 South, the Norfolk Southern Railroad, and an anticipated future track to be located approximately 15 feet north of the existing rail line. Additionally, this project will include reconstruction of the roadway approaches and installation of a muck trestle bridge north of the Norfolk Southern Railroad to support the northbound lanes over unstable soils. The project investigation area includes all areas that have the potential to be impacted, based upon the provided design scenario. This area was evaluated for the presence of wetlands and Waters of the United States (U.S.).

This report serves as an addendum to the previously approved Waters Report for Des. No.: 1592421. A change to the project footprint warranted additional investigation and an addendum to the initial report. No aquatic features were identified within the expanded investigation area. The dominant vegetation present in the newly investigated area was manicured tall fescue (*Festuca arundinacea*, FACU).

Soils:
According to the Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSUGO) Database for Tipton County, Indiana, the project investigation area does contain soil areas with nationally listed hydric soils. A copy of the NRCS soil survey map has been provided as Exhibit 10.

Soil Name	Map Abbreviation	Hydric Range
Del Red, sandy substratum-Crosby silt loams	DeA	No Hydric (0%)
Palms muck, undrained	Pc	Hydric (100%)
Patton silty clay loam	Pn	Hydric (66% to 99%)
Tuscola, till substratum-Strawn complex	TuB2	Not Hydric (0%)

National Wetland Inventory (NWI) Information:
There are four (4) wetlands or linear water features identified in or near the project area. A copy of the NWI map has been provided as Exhibit 5.

Wetland/Water Feature Type	Location
PUBGx	Adjacent to, east of, investigation area
PEM1C	Located 0.10 mile east of investigation area
PEM1A	Located 0.16 mile west of investigation area
PFO1A	Located 0.27 mile southwest of investigation area

12 Digit HUC:
051202010604 (Buck Creek-Cicero Creek) / 051202010603 (Dixon Creek-Cicero Creek)

Attached Documents:

- Maps (Project Location, Aerial, LiDAR, Topographic, NWI & FIRM, Wetland Connectivity, Data Point Locations, NRCS Soils) (Exhibits 1-10)
- Photo Orientation Map (Exhibit 11) and Site Photographs
- Wetland Determination Data Forms
- Preliminary Jurisdictional Determination Form

Field Reconnaissance:
The wetland determination field visits were conducted on May 16, 2017, October 12, 2017, and June 19, 2019 by Michael S. Oliphant of United Consulting. The site was investigated for the presence of hydrophytic vegetation, hydric soils, and wetland hydrology to determine if the project posed impacts to wetlands and other Waters of the U.S. Prior to field reconnaissance, a desktop review of aerial topography maps, USGS topography maps, and the National Wetlands Inventory online mapper was conducted to determine the likelihood of wetland areas within the proposed project area. Photographs of the roadway and surrounding landscape were collected, and ordinary high water mark (OHWM) measurements were collected where present.

As a result of the desktop review and field reconnaissance, three (3) wetlands were identified within the project investigation area. The identified wetlands (Wetland A, Wetland B, and Wetland C) were field verified features located adjacent to US 31. The upland areas consisted of US 31 right-of-way including roadway embankments, grassed median, and the fringe of several agricultural fields. Data points were collected from areas where potential hydrophytes were identified. A total of six (6) data points were collected. The characteristics of each data point was then recorded on the USACE Wetland Determination Data Forms, and their locations have been provided in Exhibits 8 and 9.

Stream Features:
No streams were observed within the project study limits during the field reconnaissance.

Wetlands:
Three likely jurisdictional wetlands were identified within the investigation area during the field reconnaissance. A description of each wetland within the investigation area has been provided below:

Wetland A (0.01 acre) – PEM1B:

Wetland A has been identified as a jurisdictional Palustrine, Emergent, Persistent, Seasonally Saturated (PEM1B) wetland located in the southeast quadrant of the investigation area, east of US 31 and south of Norfolk Southern Railroad. One wetland data point and one upland data point were taken from this wetland area. Wetland A contained hydrophytic vegetation, hydric soils, and indicators of wetland hydrology. Wetland A was of poor quality due to low species diversity and soil disturbance. The north and south boundaries for this wetland were determined by the absence of hydrophytic vegetation. This wetland is believed to be a jurisdictional resource due to its connection with Dixon Creek through a series of roadside ditches. Characteristics of the data points collected near Wetland A have been described below:

Data Point A-1 (DP A-1) – Wetland A:

DP A-1 was collected to the east of the US 31 northbound lanes, south of Norfolk Southern Railroad. The dominant vegetation present was common spike-rush (*Eleocharis palustris,* OBL) within the herb stratum (See Photograph #43). The dominance test was met with 100% and the prevalence test revealed an index of 1.00, indicating that hydrophytic vegetation was present. DP A-1 was sampled to a depth of 18 inches, with a loamy-clayey soil exhibiting a depleted 10YR 3/1 (100%) matrix to a depth of 6 inches, 10YR 4/1 (70%) with 10YR 4/4 (30%) distinct redox concentrations to a depth of 14 inches, and 10YR 3/1 (95%) with 10YR 3/4 (5%) distinct redox concentrations to a depth of 18 inches. These soil characteristics satisfied the criteria of a hydric soil. Three primary wetland hydrology indicators, Surface Water (A1), High Water Table (A2), and Saturation (A3), and two secondary wetland hydrology indicators Drainage Patterns (B10) and FAC-neutral test (D5) were observed. Drainage patterns consisted of low vegetation bent over in the direction of flow (northward). These indicators confirmed the presence of wetland hydrology. Due to the presence of hydrophytic vegetation, hydric soils, and wetland hydrology, the area of DP A-1 qualified as a jurisdictional wetland.

Data Point A-2 (DP A-2) – Wetland A Upland:

DP A-2 was collected to the east of the US 31 northbound lanes, south of Norfolk Southern Railroad. The dominant vegetation present was tall fescue (*Festuca arundinacea*, FACU) within the herb stratum (See Photograph #44). The dominance test was not met (0%) and the prevalence test revealed an index of 4.00. DP A-2 was sampled to a depth of 16 inches, with a loamy/clayey soil exhibiting a 10YR 3/2 (100%) matrix to a depth of 8 inches, and 10YR 4/4 (100%) to a depth of 16 inches. A restrictive gravel layer encountered at a depth of 16 inches prevented further soil characterization. No primary or secondary wetland hydrology indicators were observed. Due to the lack of hydrophytic vegetation, hydric soils, and indicators of wetland hydrology, DP A-2 does not qualify as a jurisdictional wetland.

Wetland B (0.33 acre) – PEM1B:

Wetland B has been identified as a jurisdictional Palustrine, Emergent, Persistent, Seasonally Saturated (PEM1B) wetland located in the northwest quadrant of the investigation area, west of US 31 and north of the Norfolk Southern Railroad. One wetland data point and one upland data point were taken from this wetland area. Wetland B contained hydrophytic vegetation, hydric soils, and indicators of wetland hydrology. Wetland B was of poor quality due to low species diversity and soil disturbance. The north and south boundaries for this wetland were determined by the absence of hydrophytic vegetation. This wetland is believed to be a jurisdictional resource due to its connection with Buck Creek through a series

of roadside ditches. Characteristics of the data points collected near Wetland B have been described below:

Data Point B-1 (DP B-1) – Wetland B:
DP B-1 was collected to the west of the US 31 southbound lanes, north of Norfolk Southern Railroad. The dominant vegetation present was narrowleaf cattail (*Typha angustifolia*, OBL) within the herb stratum (See Photograph #47) . The dominance test was met with 100% and the prevalence test revealed an index of 1.00, indicating that hydrophytic vegetation was present. DP B-1 was sampled to a depth of 18 inches, with a mucky loamy/clay soil exhibiting a depleted 10YR 3/1 (100%) matrix to a depth of 8 inches, and 10YR 4/2 (80%) with 10YR 4/1 (20%) faint redox concentrations to a depth of 18 inches. These characteristics satisfied the criteria of a hydric soil. Three primary wetland hydrology indicators, Surface Water (A1), High Water Table (A2), and Saturation (A3), and two secondary wetland hydrology indicators Drainage Patterns (B10) and FAC-neutral test (D5) were observed. Drainage patterns consisted of low vegetation bent over in the direction of flow (southward). These indicators confirmed the presence of wetland hydrology. Due to the presence of hydrophytic vegetation, hydric soils, and wetland hydrology, the area of DP B-1 qualified as a jurisdictional wetland.

Data Point B-2 (DP B-2) – Wetland B Upland:
DP B-2 was collected to the west of the US 31 southbound lanes north of Norfolk Southern Railroad. The dominant vegetation present was tall fescue (*Festuca arundinacea*) and red fescue (*Festuca rubra*) within the herb stratum (See Photograph #48). The dominance test was not met (0%) and the prevalence test revealed an index of 4.00. DPt B-2 was sampled to a depth of 18 inches, with a loamy/clayey soil exhibiting a 10YR 3/4 (100%) matrix. No primary or secondary wetland hydrology indicators were observed. Due to the lack of hydrophytic vegetation, hydric soils, and indicators of wetland hydrology, DP B-2 does not qualify as a jurisdictional wetland.

Wetland C (0.04 acre) – PEM1C:
Wetland C has been identified as a jurisdictional Palustrine, Emergent, Persistent, Seasonally Flooded (PEM1C) wetland located in the northeast quadrant of the investigation area, east of US 31 and north of the Norfolk Southern Railroad. One Wetland data point and one upland data point were taken from this wetland area. Wetland C contained hydrophytic vegetation, hydric soils and indicators of wetland hydrology. Wetland C was of poor quality due to low species diversity and soil disturbance. The north and south boundaries for this wetland were determined by the absence of hydrophytic vegetation. This wetland is believed to be a jurisdictional resource due to its connection with Buck Creek through a series of roadside ditches. Characteristics of the data points collected near Wetland C are described below:

Data Point C-1 (DP C-1) – Wetland C:
DP C-1 was collected to the east of the US 31 northbound lanes, north of Norfolk Southern Railroad. The dominant vegetation present was sandbar willow (*Salix interior*) in the sapling/shrub stratum, and Philadelphia fleabane (*Erigeron philadelphicus*) in the herb stratum (See Photographs #16 & #45). The dominance test was met with 100% and the prevalence test revealed an index of 2.12, indicating that hydrophytic vegetation was present. DP C-1 was sampled to a depth of 18 inches, with a mucky loamy/clay soil exhibiting a depleted 10YR 3/2 (100%) matrix to a depth of 3 inches, 10YR 4/2 (90%) with 10YR 4/6 (10%) to a depth of 12 inches, and 10YR 4/1 (90%) with 10YR 4/6 (10%) to a depth of 18 inches. These soil characteristics satisfied the criteria of a hydric soil. One primary wetland hydrology indicator, Saturation (A3), and three

secondary wetland hydrology indicators, Drainage Patterns (B10), Saturation Visible on Aerial Imagery (C9) and FAC-neutral test (D5) were observed. Drainage patterns consisted of low vegetation bent over in the direction of flow (eastward). These indicators confirm the presence of wetland hydrology. Due to the presence of hydrophytic vegetation, hydric soils, and wetland hydrology, the area of DP C-1 qualified as a jurisdictional wetland.

Data Point C-2 (DP –C-2) – Wetland C Upland:

DP C-2 was collected to the east of the US 31 northbound lanes, north of Norfolk Southern Railroad. The dominant vegetation present was sandbar willow (*Salix interior*) in the sampling/shrub stratum, and tall fescue (*Schedonorus arundinaceus*) and yellow foxtail (*Setaria pumila*) in the herb stratum (See Photograph #46). The dominance test was met (66.7%) and the prevalence test revealed an index of 3.00. DP C-2 was sampled to a depth of 18 inches, with a loamy/clayey soil exhibiting a 10YR 3/3 (100%) to a depth of 13 inches, and 10YR 4/4 (90%) with 10YR 3/3 (10%) to a depth of 18 inches. No primary or secondary wetland hydrology indicators were observed. Due to the lack of hydric soils and indicators of wetland hydrology, DP C-2 does not qualify as a jurisdictional wetland.

Data Point Summary Table

Data Point	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Within a Wetland
A-1	Yes	Yes	Yes	Yes
A-2	No	No	No	No
B-1	Yes	Yes	Yes	Yes
B-2	No	No	No	No
C-1	Yes	Yes	Yes	Yes
C-2	Yes	No	No	No

Wetland Summary Table

Wetland	Photo Number	Lat/Long	Cowardin Class	Est. Amount in Review Area (Acres/ Linear Feet)	Quality	Likely Water of the U.S.?
Wetland A	3,4,5,6,7,43	40.287385, -86.126797	PEM1B	0.01 acre (395 linear feet)	Poor	Yes
Wetland B	25,26,27,47	40.293091, -86.127422	PEM1B	0.33 acre (1,060 linear feet)	Poor	Yes
Wetland C	15,16,17,45,50	40.293828, -86.126729	PEM1C	0.04 acre (175 linear feet)	Poor	Yes

Open Water Features:

One perennial freshwater pond was identified near the investigation area, beyond existing and proposed right-of-way limits and outside of the proposed limits of construction for this project. This freshwater pond is located east of US 31 and Wetland C, and is listed as a Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated (PUBGx) wetland.

Other Features:
Four likely non-jurisdictional roadside ditches (RSD) were identified within the investigation area during the field reconnaissance.

RSD 1 is located east of US 31, south of the Norfolk Southern Railroad, in the southeast quadrant of the investigation area (See Photographs #1 & #2). This RSD is a vegetated swale conveying storm water drainage from US 31, flowing north to Wetland A. This RSD feature is approximately 1,834 linear feet within the investigation area. No ordinary high water mark (OHWM) was observed within RSD 1. This feature is not likely jurisdictional.

RSD 2 is located east of US 31, north of the Norfolk Southern Railroad, in the northeast quadrant of the investigation area (See Photographs #14, #15, #17, #18, & #21). This RSD is a vegetated swale conveying storm water drainage from US 31, flowing south to Wetland C. This RSD feature is approximately 2,450 linear feet within the investigation area. No OHWM was observed within RSD 2. This feature is not likely jurisdictional.

RSD 3 is located west of US 31, north of the Norfolk Southern Railroad, in the northwest quadrant of the investigation area (See Photographs #23, #24, #28, & #29). This RSD is a vegetated swale conveying storm water drainage from US 31, flowing south to Wetland B. This RSD feature is approximately 3,803 linear feet within the investigation area. No OHWM was observed within RSD 3. This feature is not likely jurisdictional.

RSD 4 is located west of US 31, south of the Norfolk Southern Railroad, in the southwest quadrant of the investigation area (See Photographs #35, #36, #37, & #38). This RSD is a vegetated swage conveying storm water drainage from US 31, flowing north alongside the roadway. This RSD feature is approximately 1,764 linear feet within the investigation area. No OHWM was observed within RSD 4. This feature is not likely jurisdictional.

The roadway median along US 31 is mowed, maintained, and did not contain any hydrophytic vegetation or potentially jurisdictional features. No other drainage features, including jurisdictional roadside ditches, were observed within the investigation area.

Conclusion:
Field observations revealed the presence of three wetlands, Wetland A (PEM1B), Wetland B (PEM1B), and Wetland C (PEM1C) within the investigation area. All three of these aquatic features contained hydrophytic vegetation, hydric soils, and indicators of wetland hydrology. Wetland A was located south of Norfolk Southern Railroad, east of the US 31 northbound lanes, and was approximately 0.01 acre in size. Wetland B was located north of Norfolk Southern Railroad, west of the US 31 southbound lanes, and was approximately 0.33 acre in size. Wetland C was located north of Norfolk Southern Railroad, east of the US 31 northbound lanes, and was approximately 0.04 acre in size. These aquatic resources are likely jurisdictional Waters of the U.S. Every effort should be taken to avoid and minimize impacts to these wetlands. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the U.S. Army Corps of Engineers. This report is our best judgement based on the guidelines set forth by the Corps.

Acknowledgement:
This waters determination has been prepared based on the best available information interpreted in the light of the investigator's training, experience, and professional judgement in conformance with the *1987 U.S. Army Corps of Engineers* (USACE) *Wetland Delineation Manual (Technical Report Y-87-1)*, the *2010 U.S. Army Corps of Engineers Midwestern Regional Supplement*, the USACE *Jurisdictional Determination Form Instructional Guidebook*, and other appropriate agency guidelines.

Michael S. Oliphant

Environmental Specialist
United Consulting

Maps and Photographs included in Appendix B

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Grade Separation | City/County: Tipton County | Sampling Date: 5-16-2017

Applicant/Owner: Indiana Department of Transportation | State: IN | Sampling Point: A-1

Investigator(s): Michael S. Oliphant | Section, Township, Range: Section 12, Township 21 North, Range 3 East

Landform (hillside, terrace, etc.): Roadside Ditch | Local relief (concave, convex, none): Concave

Slope (%): 1 | Lat: 40.287385 | Long: -86.126797 | Datum: NAD83

Soil Map Unit Name: Patton silty clay loam | NWI classification: N/A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes x	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Eleocharis palustris*	90	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		90 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 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.

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: A-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					Loamy/Clayey	
6-14	10YR 4/1	70	10YR 4/4	30	C			Distinct redox concentrations
14-18	10YR 3/1	95	10YR 3/4	5	C			Distinct redox concentrations

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** x **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 2
Water Table Present?	Yes x	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Grade Separation City/County: Tipton County Sampling Date: 5-16-17

Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: A-2

Investigator(s): Michael S. Oliphant Section, Township, Range: Section 12, Township 21 North, Range 3 East

Landform (hillside, terrace, etc.): Roadway embankment Local relief (concave, convex, none): Convex

Slope (%): 1 Lat: 40.287443 Long: -86.126814 Datum: NAD83

Soil Map Unit Name: Patton silty clay loam NWI classification: N/A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Festuca arundinacea*	80	Yes	FACU
2. *Trifolium repens*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	85 =Total Cover		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals:	85 (A)		340 (B)

Prevalence Index = B/A = 4.00

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.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

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

SOIL

Sampling Point: A-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-8	10YR 3/2	100					Loamy/Clayey	Soil disturbed by construction
8-16	10YR 4/4	100						

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 16

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): ___
Water Table Present?	Yes ___	No x	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No x	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Grade Separation | City/County: Tipton County | Sampling Date: 5-16-17

Applicant/Owner: Indiana Department of Transportation | State: IN | Sampling Point: B-1

Investigator(s): Michael S. Oliphant | Section, Township, Range: Section 1, Township 21 North, Range 3 East

Landform (hillside, terrace, etc.): Depression | Local relief (concave, convex, none): Concave

Slope (%): 1 | Lat: 40.293091 | Long: -86.127422 | Datum: NAD83

Soil Map Unit Name: Patton silty clay loam | NWI classification: N/A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Typha angustifolia*	90	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		90 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 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.

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: B-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-8	10YR 3/1	100					Mucky Loam/Clay	
8-18	10YR 4/2	80	10YR 4/1	20	C			Faint redox concentrations

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- X 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 1
Water Table Present?	Yes x	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Grade Separation City/County: Tipton County Sampling Date: 5-16-17

Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: B-2

Investigator(s): Michael S. Oliphant Section, Township, Range: Section 1, Township 21 North, Range 3 East

Landform (hillside, terrace, etc.): Roadway embankment Local relief (concave, convex, none): Convex

Slope (%): 1 Lat: 40.293139 Long: -86.127376 Datum: NAD83

Soil Map Unit Name: Patton silty clay loam NWI classification: N/A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Festuca arundinacea*	60	Yes	FACU
2. *Festuca rubra*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 =Total Cover		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	80 (A)		320 (B)

Prevalence Index = B/A = 4.00

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.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

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

SOIL

Sampling Point: B-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-18	10YR 3/4	100					Loamy/Clayey	

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:

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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Grade Seperation | City/County: Tipton County | Sampling Date: 10/12/17

Applicant/Owner: Indiana Department of Transportation | State: IN | Sampling Point: C-1

Investigator(s): Michael S. Oliphant | Section, Township, Range: Section 1, Township 21 North, Range 3 East

Landform (hillside, terrace, etc.): Depression | Local relief (concave, convex, none): Concave

Slope (%): 1 | Lat: 40.293828 | Long: -86.126729 | Datum: NAD83

Soil Map Unit Name: Palms muck, undrained | NWI classification: PUGBx

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Salix interior*	30	Yes	FACW
2.			
3.			
4.			
5.			
	30 =Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Erigeron philadelphicus*	50	Yes	FACW
2. *Ipomoea pandurata*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	55 =Total Cover		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	85 (A)		180 (B)

Prevalence Index = B/A = 2.12

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 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.

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: C-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					Mucky Loam/Clay	
3-12	10YR 4/2	90	10YR 4/6	10				
12-18	10YR 4/1	90	10YR 4/6	10	C	M		Faint Redox Concentrations

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- x Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- x Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): ___
Water Table Present?	Yes ___	No x	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Grade Seperation Project | City/County: Tipton County | Sampling Date: 10/12/17

Applicant/Owner: Indiana Department of Transportation | State: IN | Sampling Point: C-2

Investigator(s): Michael S. Oliphant | Section, Township, Range: Section 1, Township 21 North, Range 3 East

Landform (hillside, terrace, etc.): Embankment | Local relief (concave, convex, none): Convex

Slope (%): 1 | Lat: 40.293805 | Long: -86.126773 | Datum: NAD83

Soil Map Unit Name: Palms muck, undrained | NWI classification: PUBGx

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Salix interior*	30	Yes	FACW
2.			
3.			
4.			
5.			
	30 =Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Schedonorus arundinaceus*	30	Yes	FACU
2. *Setaria pumila*	30	Yes	FAC
3. *Plantago major*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70 =Total Cover		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	40	x 3 =	120
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	100 (A)		300 (B)
Prevalence Index = B/A =			3.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 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.

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: C-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 3/3	100					Loamy/Clayey	
13-18	10YR 4/4	90	10YR 3/3	10	C	M		

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ 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** X

Remarks:

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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): ___
Water Table Present?	Yes ___	No x	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No x	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 8/16/2019

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Michael S. Oliphant
United Consulting
8440 Allison Pointe Boulevard, Suite 200
Indianapolis, Indiana 46250
(317)-895-2585

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The proposed project, Des. No.: 1592421, is located in the southwest quadrant of Tipton County, along US 31 approximately 0.98 mile north of SR 28, four miles west of the City of Tipton, Indiana. The proposed project will include construction of a single-span twin structure, carrying US 31 over County Road 100 South, the Norfolk Southern Railroad, and an anticipated future track to be located approximately 15 feet north of the existing rail line. Additionally, this project will include reconstruction of the roadway approaches and installation of a muck trestle bridge north of the Norfolk Southern Railroad to support the northbound lanes over unstable soils. The project investigation area includes all areas that have the potential to be impacted, based upon the provided design scenario.

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Indiana County/parish/borough: Tipton City: N/A

Center coordinates of site (lat/long in degree decimal format):

Lat.: 40.289437 °N Long.: -86.127049 °W

Universal Transverse Mercator: 16T 574192 4460247 UTM

Name of nearest waterbody: Buck Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Wetland A	40.287385	-86.126797	0.01 acre (395 linear feet)	Wetland	Section 404
Wetland B	40.293091	-86.127422	0.33 acre (1,060 linear feet)	Wetland	Section 404
Wetland C	40.293828	-86.126729	0.04 acre (175 linear feet)	Wetland	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- ☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: General location map, aerial photograph, USGS topographic map, picture key map, NRCS soils map, NWI map, FEMA map
- ☐ Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report. Rationale:_____.
- ☐ Data sheets prepared by the Corps:_____.
- ☐ Corps navigable waters' study:_____.
- ☐ U.S. Geological Survey Hydrologic Atlas:_____.
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000, Tipton City, IN
- ☒ Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey
- ☒ National wetlands inventory map(s). Cite name: http://www.fws.gov/wetlands/
- ☐ State/local wetland inventory map(s):_____.
- ☒ FEMA/FIRM maps: FEMA 18097C0169F, Effective 4/19/16
- ☐ 100-year Floodplain Elevation is:_____.(National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): Indiana Aerial Photograph, 2013 & 2018
  or ☒ Other (Name & Date): United Consulting, 5/16/17, 10/12/17, & 6/19/19.
- ☐ Previous determination(s). File no. and date of response letter:_____.
- ☐ Other information (please specify):_____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

	8/16/2019
Signature and date of Regulatory staff member completing PJD	Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Appendix G

Environmental Justice

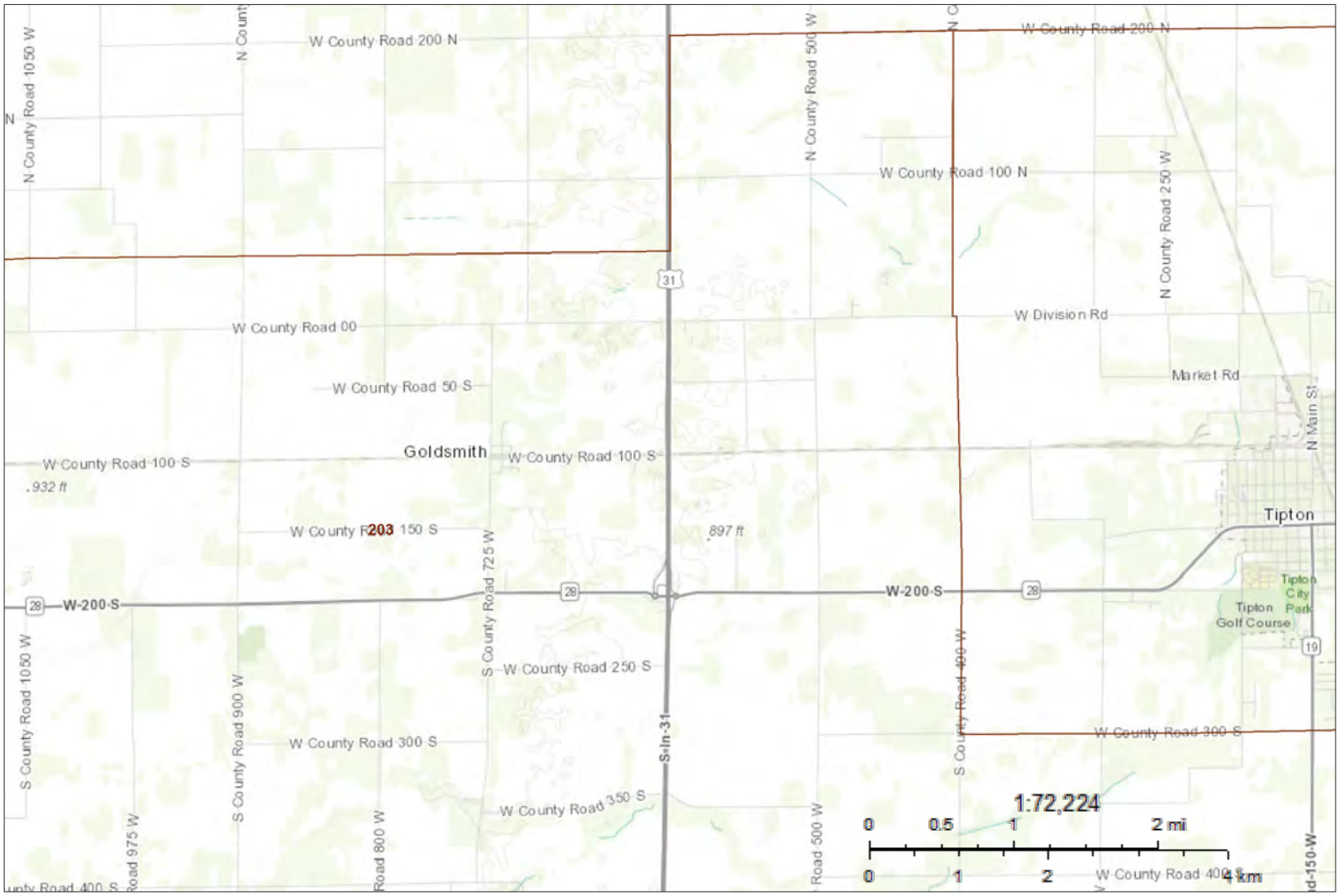
Des. No.: 1592421: US 31 New Bridge/Grade Separation over County Road 100 South and Norfolk Southern Railroad

Environmental Justice Data Analysis

Comparison of Tipton County to Census Tract 203

		COC	AC1
		Tipton County	Census Tract 203
	LOW-INCOME POPULATION EJ ANALYSIS		
	Population for whom poverty status is determined: Total	15031	2622
	Population for whom poverty status is determined: Income in 2017 below poverty level	1414	279
	Percent Low-Income	**9.4%**	**10.6%**
	125 Percent of COC	**11.8%**	**AC < 125% COC**
	Population of EJ Concern		**No**
	MINORITY POPULATION EJ ANALYSIS		
	Total population: Total	15290	2623
	Total population: Not Hispanic or Latino	14892	2620
	Total population: Not Hispanic or Latino; White alone	14578	2539
	Total population: Not Hispanic or Latino; Black or African American alone	29	0
	Total population: Not Hispanic or Latino; American Indian and Alaska Native alone	0	0
	Total population: Not Hispanic or Latino; Asian alone	0	0
	Total population: Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	56	0
	Total population: Not Hispanic or Latino; Some other race alone	0	0
	Total population: Not Hispanic or Latino; Two or more races	229	81
	Total population: Two races including Some other race	0	0
	Total population: Two races excluding Some other race	229	81
	Total population: Hispanic or Latino	398	3
	Total population: Hispanic or Latino; White alone	123	3
	Total population: Hispanic or Latino; Black or African American alone	0	0
	Total population: Hispanic or Latino; American Indian and Alaska Native alone	3	0
	Total population: Hispanic or Latino; Asian alone	0	0
	Total population: Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	0	0
	Total population: Hispanic or Latino; Some other race alone	195	0
	Total population: Hispanic or Latino; Two or more races	77	0
	Total population: Two races including Some other race	77	0
	Total population: Two races excluding Some other race	0	0
	Number Non-white/minority	**712**	**84**
	Percent Non-white/minority	**4.7%**	**3.2%**
	125 Percent of COC	**5.8%**	**AC < 125% COC**
	Population of EJ Concern		**No**

Source: 2017 US Census Bureau



Legend

Your Selections	Selection Results	Boundaries
No Legend	No Legend	No Legend

B03002

HISPANIC OR LATINO ORIGIN BY RACE

Universe: Total population
2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

	Tipton County, Indiana		Census Tract 203, Tipton County, Indiana	
	Estimate	Margin of Error	Estimate	Margin of Error
Total:	15,290	*****	2,623	+/-260
Not Hispanic or Latino:	14,892	*****	2,620	+/-259
White alone	14,578	+/-18	2,539	+/-256
Black or African American alone	29	+/-27	0	+/-11
American Indian and Alaska Native alone	0	+/-18	0	+/-11
Asian alone	0	+/-18	0	+/-11
Native Hawaiian and Other Pacific Islander alone	56	+/-82	0	+/-11
Some other race alone	0	+/-18	0	+/-11
Two or more races:	229	+/-80	81	+/-75
Two races including Some other race	0	+/-18	0	+/-11
Two races excluding Some other race, and three or more races	229	+/-80	81	+/-75
Hispanic or Latino:	398	*****	3	+/-4
White alone	123	+/-105	3	+/-4
Black or African American alone	0	+/-18	0	+/-11
American Indian and Alaska Native alone	3	+/-4	0	+/-11
Asian alone	0	+/-18	0	+/-11
Native Hawaiian and Other Pacific Islander alone	0	+/-18	0	+/-11
Some other race alone	195	+/-138	0	+/-11
Two or more races:	77	+/-80	0	+/-11
Two races including Some other race	77	+/-80	0	+/-11
Two races excluding Some other race, and three or more races	0	+/-18	0	+/-11

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

	Tipton County, Indiana		Census Tract 203, Tipton County, Indiana	
	Estimate	Margin of Error	Estimate	Margin of Error
Total:	15,031	+/-113	2,622	+/-260
Income in the past 12 months below poverty level:	1,414	+/-394	279	+/-183
Male:	562	+/-202	122	+/-81
Under 5 years	19	+/-16	17	+/-16
5 years	29	+/-33	0	+/-11
6 to 11 years	81	+/-95	1	+/-2
12 to 14 years	104	+/-53	3	+/-5
15 years	34	+/-32	21	+/-29
16 and 17 years	27	+/-29	0	+/-11
18 to 24 years	61	+/-51	38	+/-45
25 to 34 years	44	+/-43	11	+/-14
35 to 44 years	21	+/-21	2	+/-4
45 to 54 years	27	+/-25	3	+/-4
55 to 64 years	47	+/-36	17	+/-21
65 to 74 years	27	+/-24	9	+/-12
75 years and over	41	+/-39	0	+/-11
Female:	852	+/-237	157	+/-113
Under 5 years	35	+/-38	33	+/-37
5 years	0	+/-18	0	+/-11
6 to 11 years	116	+/-96	33	+/-37
12 to 14 years	6	+/-11	0	+/-11
15 years	13	+/-19	0	+/-11
16 and 17 years	133	+/-68	0	+/-11
18 to 24 years	36	+/-26	8	+/-10
25 to 34 years	117	+/-75	22	+/-20
35 to 44 years	182	+/-89	34	+/-36
45 to 54 years	110	+/-81	12	+/-18
55 to 64 years	17	+/-18	1	+/-3
65 to 74 years	31	+/-23	0	+/-11
75 years and over	56	+/-36	14	+/-17
Income in the past 12 months at or above poverty level:	13,617	+/-422	2,343	+/-287
Male:	6,907	+/-239	1,172	+/-154
Under 5 years	344	+/-16	36	+/-33
5 years	62	+/-52	0	+/-11
6 to 11 years	410	+/-128	50	+/-34
12 to 14 years	185	+/-80	32	+/-29
15 years	73	+/-37	12	+/-13
16 and 17 years	208	+/-50	42	+/-41
18 to 24 years	615	+/-65	115	+/-56
25 to 34 years	764	+/-57	83	+/-40
35 to 44 years	843	+/-50	171	+/-71
45 to 54 years	1,129	+/-60	177	+/-66
55 to 64 years	1,100	+/-56	190	+/-51
65 to 74 years	782	+/-24	165	+/-48
75 years and over	392	+/-49	99	+/-38
Female:	6,710	+/-265	1,171	+/-187
Under 5 years	324	+/-26	70	+/-81
5 years	69	+/-64	0	+/-11
6 to 11 years	438	+/-96	66	+/-36
12 to 14 years	271	+/-79	36	+/-27
15 years	53	+/-37	14	+/-17
16 and 17 years	135	+/-74	9	+/-17
18 to 24 years	485	+/-26	70	+/-42
25 to 34 years	581	+/-75	92	+/-53
35 to 44 years	737	+/-99	113	+/-51
45 to 54 years	1,012	+/-83	197	+/-68
55 to 64 years	1,131	+/-54	264	+/-57
65 to 74 years	854	+/-35	163	+/-52
75 years and over	620	+/-74	77	+/-45

013-2017 American Community Survey 5-Year Estimates

Appendix H

Noise Impact Analysis

Noise Analysis for the US 31 New Bridge/Grade Separation Project (Des. No. 1592421) in Tipton County, Indiana: Addendum

By

Michael A. Stafford, PhD, Air/Noise Specialist

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Lead Agency: Indiana Department of Transportation

May 5, 2020

The project map has been updated to reflect the overall noise analysis study area from the previous version approved by INDOT. This update to did not change any of the results of the noise analysis.

ASC GROUP, INC. ARCHAEOLOGY ARCHITECTURAL HISTORY ENVIRONMENT
CULTURAL AND ENVIRONMENTAL CONSULTANTS

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

In September 2017, ASC Group, Inc., under contract with United Consulting, Inc., completed a noise assessment for the planned US 31 New Bridge/Grade Separation project in Tipton County, Indiana. In April 2018, the scope of the highway project was amended to add additional roadway north of the original project and to modify the proposed road alignment. These changes were analyzed and documented in an addendum to the September 2017 report; however, the addendum was never finalized due to additional project design changes. This addendum to the September 2017 report documents additional noise analyses done for the modified scope. This additional analysis was completed to satisfy requirements of the Indiana Department of Transportation (INDOT) Traffic Noise Policy (INDOT 2017), which is INDOT's implementation of the Federal Highway Administration (FHWA) regulations found in Title 23 of the Code of Federal Regulations (CFR) Part 772 as modified on July 13, 2010. The analysis conforms to procedures specified in both the INDOT Traffic Noise Policy and in FHWA guidance (FHWA 2011).

This addendum is organized with a project description section following this introduction that describes the project and evaluates project type under FHWA regulations. The next section identifies land uses in terms of FHWA activity classifications and noise abatement criteria (NAC). Within the identified land-use areas, individual receptors are identified for analysis. Noise impact criteria are also discussed in this section. The subsequent section evaluates existing and future noise levels, including descriptions of the modeling approach and input data, field measurements, and model validation/calibration. Modeling results are presented in this section for Existing, No-Build, and Build scenarios. Noise abatement measures and construction noise issues are discussed in the next section, followed by a final section that summarizes the noise analysis and its conclusions. Tables (1–4) and figures (1–10) are located at the end of the text. Input and output files from computer modeling runs are available in electronic format.

In February 2019, the design was finalized with small changes in the proposed alignment. As shown in Figures 6 through 10, the traffic lanes in the final design are either the same distance or farther from receptors than was modeled in April 2018. No changes in traffic volumes or vehicle mix is expected.

Where traffic lanes are shifted farther away from a receptor, modeled noise levels would be lower than previously modeled. Where there is no shift, noise levels would be identical. The

final design does not shift the nearest traffic lanes closer to any receptor. Table 2 shows the results from the April 2018 modeling with added comments on the changes due to the current design. Changes in noise levels would likely be reduced by a few tenths of a dBA. Therefore, the overall conclusions from the April 2018 modeling about impacts and abatement as documented in this addendum are considered still valid.

PROJECT DESCRIPTION AND TYPE

The original project proposed to alter the vertical alignment of US 31 by building a bridge over railroad tracks and County Road (CR) W100S. The project location is shown on Figure 1. The modified scope adds construction work on US 31 for 1,500 feet north of the original project and shifts the NB lanes westward near the proposed bridge. A new road is added along the east side of US 31 to provide access to residents north of CR W100S and south of CR W50S, thereby eliminating driveways entering directly onto US 31. Figures 2 through 5 show the noise study area for the revised project.

LAND USES AND RECEPTORS

Aerial photos were used to classify land uses added to the noise study area according to the FHWA land use categories in Table 1 of the original report (repeated here for convenience). The additional study area contains same two land uses as the rest of the noise study area: Category B (residential) and Category F (agricultural).

Receptor locations from the original analysis were not changed for this addendum. Receptors 13 through 19 were added to the modeling analysis to represent residences in the added area north of the original project. Receptors for the entire project are shown on Figure 6 (receptors 1 through 6), Figure 7 (receptors 7 through 11), Figure 8 (receptor 12), Figure 9 (receptors 13 through 17), and Figure 10 (receptors 16 through 19). They are labeled with the identification number used in the modeling files and in the results tables presented later in this report.

EXISTING AND FUTURE NOISE LEVELS

This section describes the modeling approach used to compute existing and future noise levels, input data used in the modeling, and field measurements used in model validation.

SCENARIOS

Three scenarios were evaluated: Existing (current conditions), No-Build (future conditions if the project is not constructed), and Build (future conditions if the project is constructed). FHWA regulations use results of the Existing and Build scenarios to determine if impacts will occur. The No-Build scenario was analyzed to provide additional information for National Environmental Policy Act (NEPA) documents. Existing and No-Build scenarios include the existing highway configuration and traffic data for the years 2017 and 2043, respectively. The Build scenario includes the proposed new bridge and traffic data for 2043. Receptors were the same for all three scenarios.

MODELING

Each scenario was modeled using the current version of the FHWA's Traffic Noise Model (TNM) version 2.5 (Anderson et al. 1998; Lau et al. 2004). Input data requirements for TNM include detailed information about roadway alignments, elevations, and traffic volumes. In addition, other elements that may affect noise transmission between the roadways and the receptors can be specified as necessary. These other elements include topography, existing barriers, buildings, trees, and ground surfaces. TNM input data elements are described below.

Roads

The main source of highway noise in the study area is US 31. CR W100S, CR W50S, and proposed access roads were included with no traffic to set terrain levels in the model. Traffic volumes are much lower than US 31 on these roads and their effect on noise levels is minimal.

For US 31, one TNM roadway was defined for each travel lane. Traffic volumes were assigned to each travel lane as appropriate for the scenario being modeled. Details of the traffic volumes assigned are given in the traffic section below.

Roadway elevations for proposed alignments used in modeling were obtained from the design drawings provided by United Consulting. Elevations for existing roads were obtained from the Google earth computer program and the Zonums website

(http://www.zonums.com/gmaps/maptool.php).

Traffic Data

The additional analysis done for this addendum was done using the same traffic volumes as the original analysis. Table 2 and Table 3 from the original report are included in this addendum for convenience.

Topography

Three terrain lines were added to the project to represent terrain between US 31 and one residence in the added area of the project. The location and elevations of the terrain line were obtained from the Zonums website.

Other TNM Data Elements

Other data elements that may be defined in TNM include building rows, tree zones, ground zones, and existing barriers. None of these elements were needed for this project.

MEASUREMENTS AND MODEL CALIBRATION/VALIDATION

Measurements were taken as part of the original analysis and the model was validated using those measurements. Because the added analysis area and receptors were very similar to those already modeled in terms of noise sources, terrain, and land use, no new measurements were considered necessary.

MODELING RESULTS AND IMPACT IDENTIFICATION

Predicted noise levels are shown in Table 4 for all three scenarios. A noise impact is predicted due to the NAC being approached or exceeded at ten residential receptors (5, 9–16, and 18). Maximum Build scenario noise levels at these locations are predicted to range from 66 to 71 dBA.

As noted above, the design for this project changed after the modeling analysis had been completed. Modeling was not redone because the design changes were determined to have little, if any, effect on noise levels compared with the design modeled. Table 4 includes comments on the expected effects of the design change on noise levels at each receptor.

NOISE ABATEMENT ALTERNATIVES

Several noise abatement measures were considered for the impacted receptors in the original analysis. Those considerations are still considered valid and are not repeated in this addendum. For the additional impacted receptors, traffic management measures, noise insulation, alteration of alignment, and acquisition of real property are not feasible or reasonable for the same reasons as in the receptors in the original analysis. Reducing the speed limit or employing other traffic control measures would impede traffic flow which is counter to the project goal of improving traffic flow. Noise insulation is not applicable to residences. Minor modifications to alignment beyond those proposed in the project would impose additional expense with little or no

reduction in noise levels, and major road shifts would incur major additional expense. Creation of noise buffer zones is not suitable due to limitations on INDOT's ability to acquire property for mitigation or to mitigate sites off of state rights-of-way (ROW). The most common form of abatement is the construction of noise barriers.

To be considered for construction, a noise barrier must be considered both feasible and reasonable as defined in INDOT (2017). For impacted receptors 13 through 16 and 18, noise barriers would not be feasible or reasonable because driveways access directly onto US 31, which would limit the noise reduction that a barrier could achieve, create sight distance issues, and because the receptors are spaced far enough apart that the cost per benefited receptor would not be reasonable. Therefore, no barrier is recommended for these additional receptors.

UNDEVELOPED AREAS

Much of the land surrounding the proposed roads is farmland. As such it is classified as Category F, not as undeveloped Category G land. Because no Category G land was identified in the noise study area, no noise modeling was done in undeveloped areas. However, based on modeling results for the receptors that were modeled, 66 dBA (the "impact" level for residential and other noise-sensitive areas, such as schools and churches) is expected to be exceeded to a distance of about 175 feet from the nearest edge of pavement for US 31. Near the proposed overpass, that distance may be expanded to about 190 feet.

These distances are based on modeling for the previous design. Lane locations may be slightly different in the final design, which would change the location of the 66 dBA limits, but the distance from the lane to the 66 dBA limit should stay the same.

CONSTRUCTION NOISE

All developed land uses and activities adjacent to the proposed project will be affected by the noise generated during construction activities, primarily by heavy machinery. Heavy machinery (such as front-end loaders, bulldozers, graders, dump trucks, pavers, etc.) will produce noise at levels ranging from 70 to nearly 100 dBA at a distance of 50 ft. However, it is difficult to accurately predict levels of construction noise at a particular receptor or group of receptors as the machinery is constantly moving in unpredictable patterns.

Daily construction normally occurs during daylight hours when occasional loud noises are more tolerable. No one location is expected to be exposed to construction noise of long duration;

therefore, extended disruption of normal activities is not anticipated. However, provisions will be included in the plans and specifications requiring the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and maintenance of muffler systems. Equipment will be operated in compliance with all applicable local ordinances and regulations pertaining to construction noise.

Due to the temporary nature of construction noise, no construction noise barriers are proposed for this project.

PUBLIC INVOLVEMENT

As described in the INDOT Public Involvement Manual (INDOT 2012), a public hearing may be held for this project. Factors determining whether or not a public hearing is held include the type of project, the type of NEPA document required, the amount of permanent ROW required, the amount of adverse impact the project would have on nearby property or the environment, and several other issues. A public hearing is a meeting held at a convenient time and place at which the public can learn about the proposed project and make comments which will be included in a transcript of the meeting.

Because no barrier is proposed for this project, no survey of benefited residents is planned.

SUMMARY AND CONCLUSIONS

Based on the studies thus far accomplished for the proposed new bridge on US 31, the State of Indiana has not identified any locations where noise abatement is likely. Noise abatement measures that were studied at these locations were based upon preliminary design costs and design criteria. Noise abatement has not been found to be feasible or reasonable based on the distance between receptors, the need to preserve driveway access to US 31, and the high cost per benefited receptor of barrier designs. A re-evaluation of the noise analysis will occur during final design. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes.

The viewpoints of the benefited residents and property owners are a major consideration in determining the reasonableness of highway traffic noise abatement measures for proposed highway construction projects. These viewpoints are determined and addressed during the

environmental phase of project development. The will and desires of the public are an important factor in dealing with the overall problems of highway traffic noise. INDOT will incorporate highway traffic noise consideration in on-going activities for public involvement in the highway program and will reexamine the residents' and property owners' views on the desirability and acceptability of abatement during project development.

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FIGURES

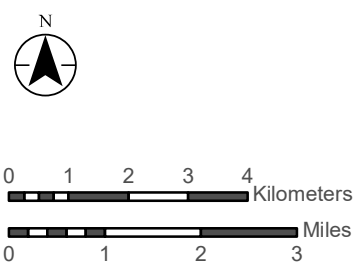

Figure 1

Portion of the ESRI World Street Map showing the vicinity of the project area.

Base: ESRI World Street Map

Created by JVT; last saved: 3/7/2019 2:25:16 PM

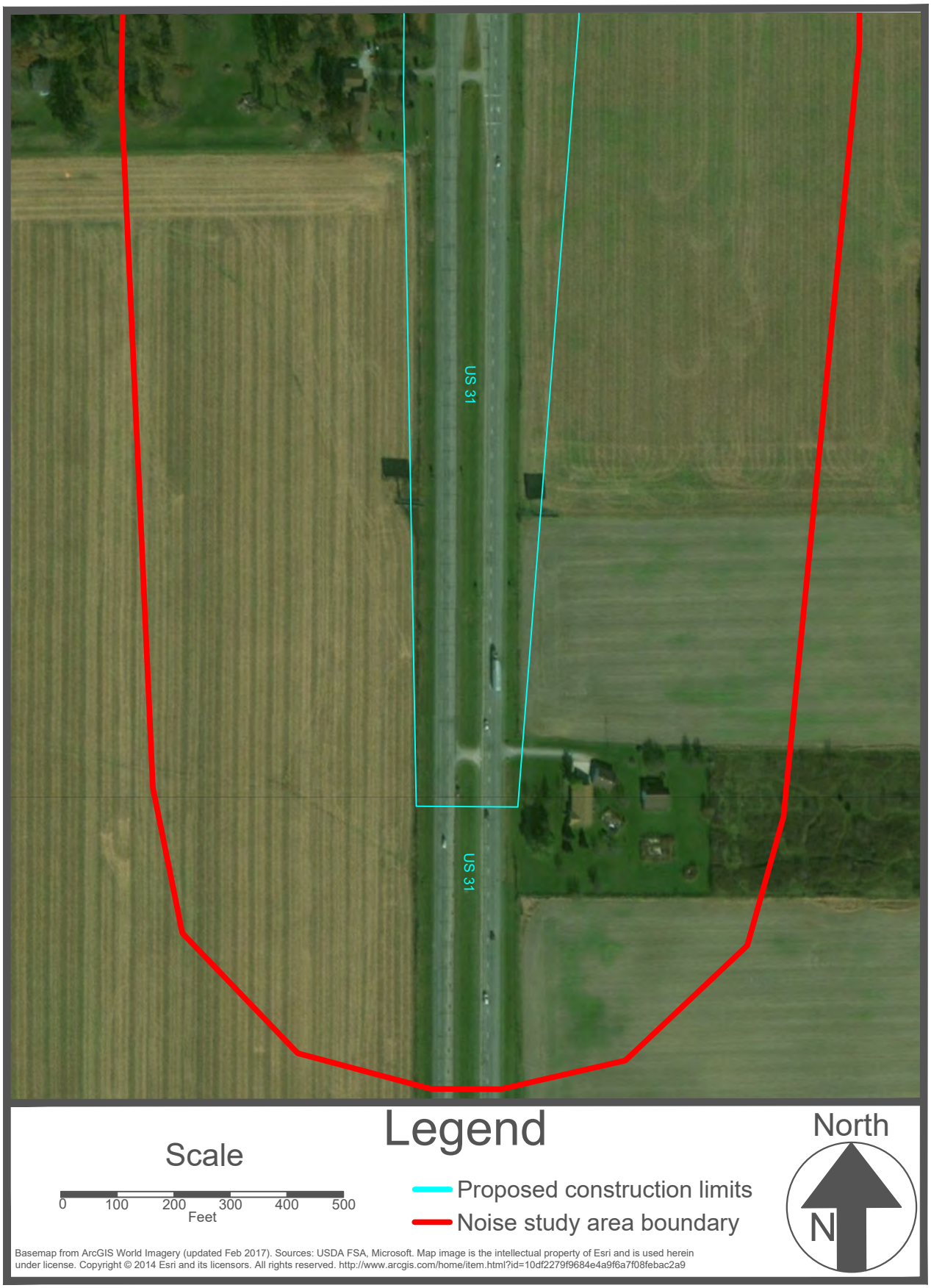

Figure 2. Noise Study Area (South End of Project).

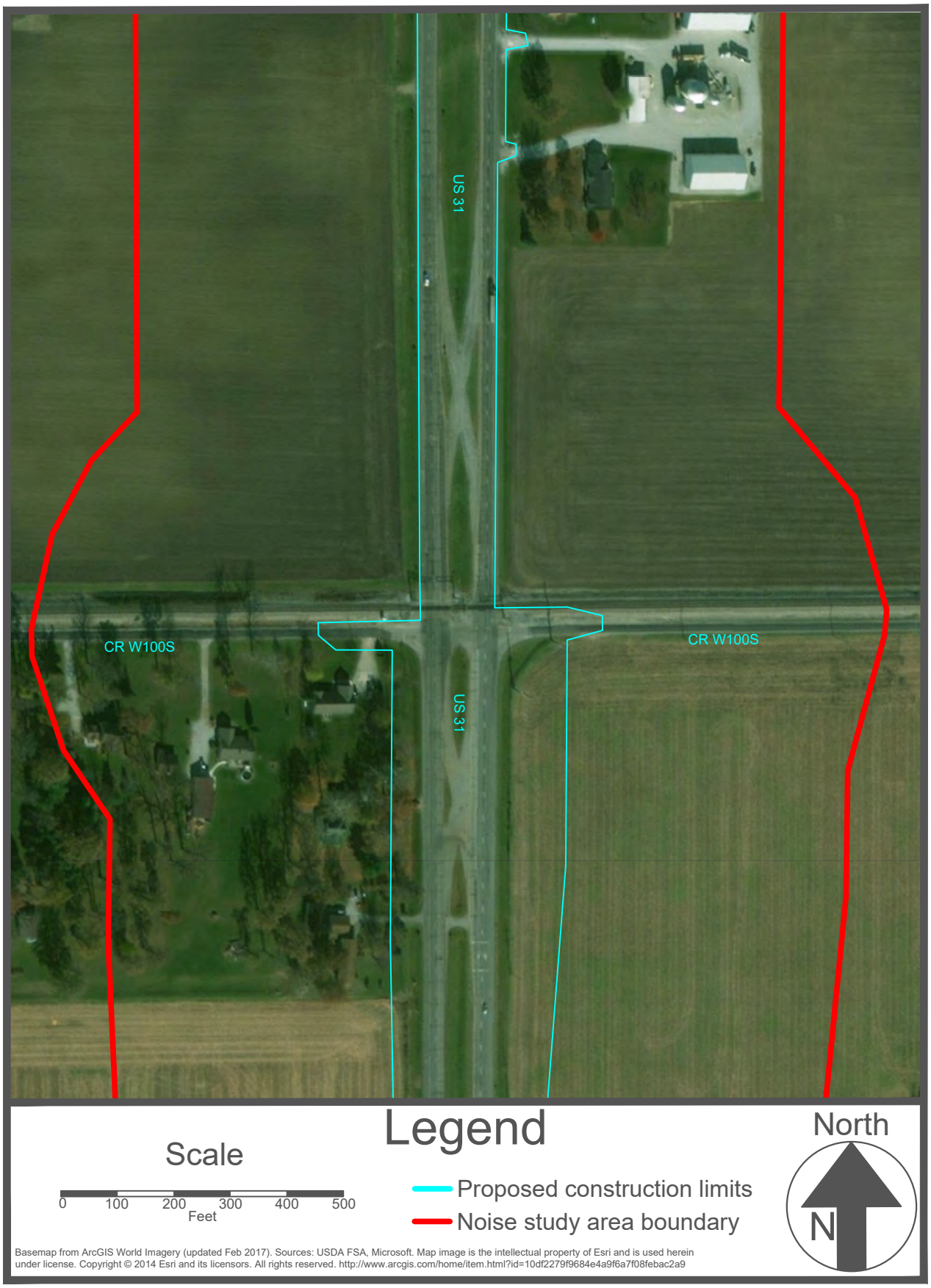

Figure 3. Noise Study Area (Near CR W100S).

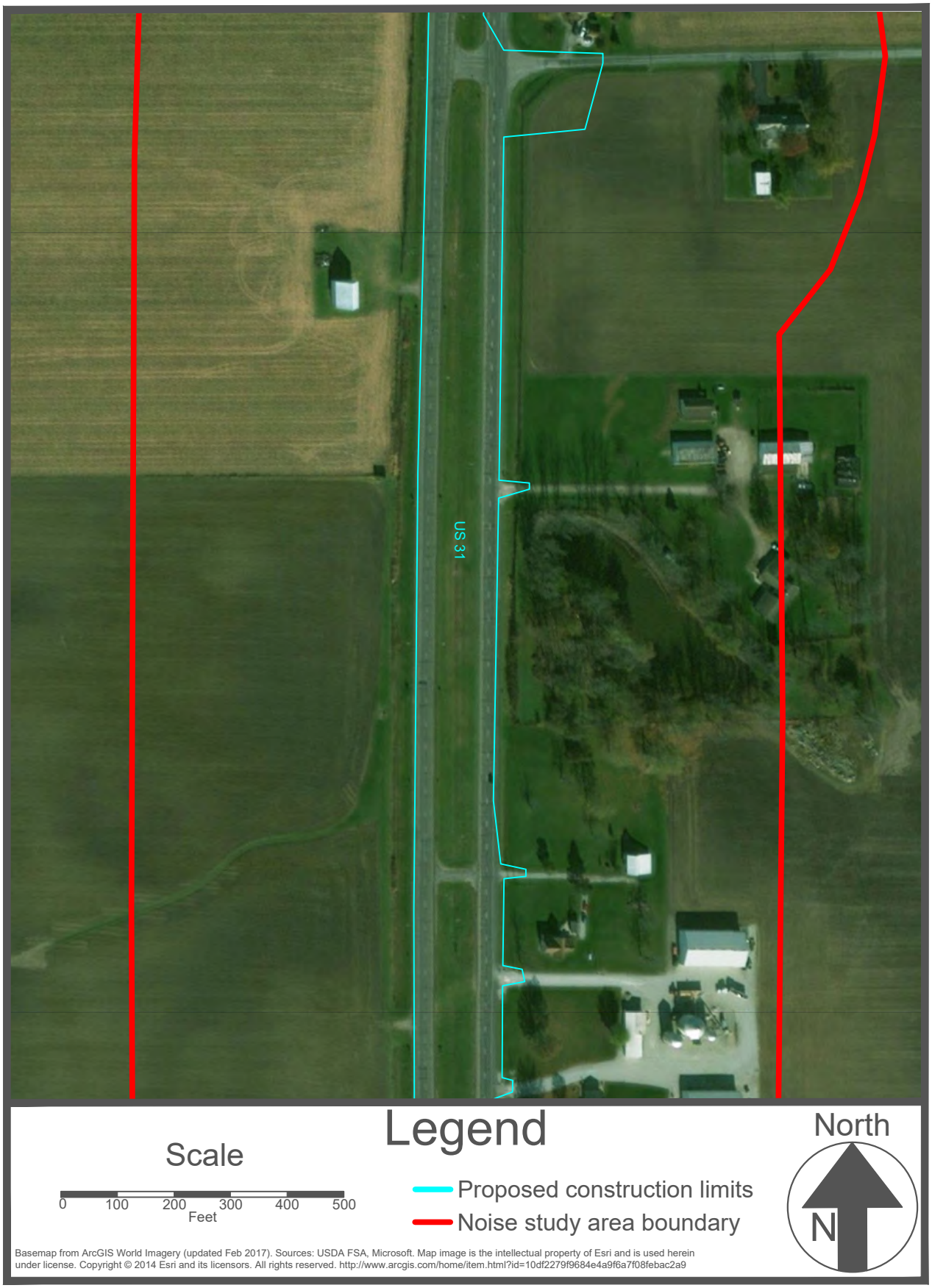

Figure 4. Noise Study Area (North of CR W100S).

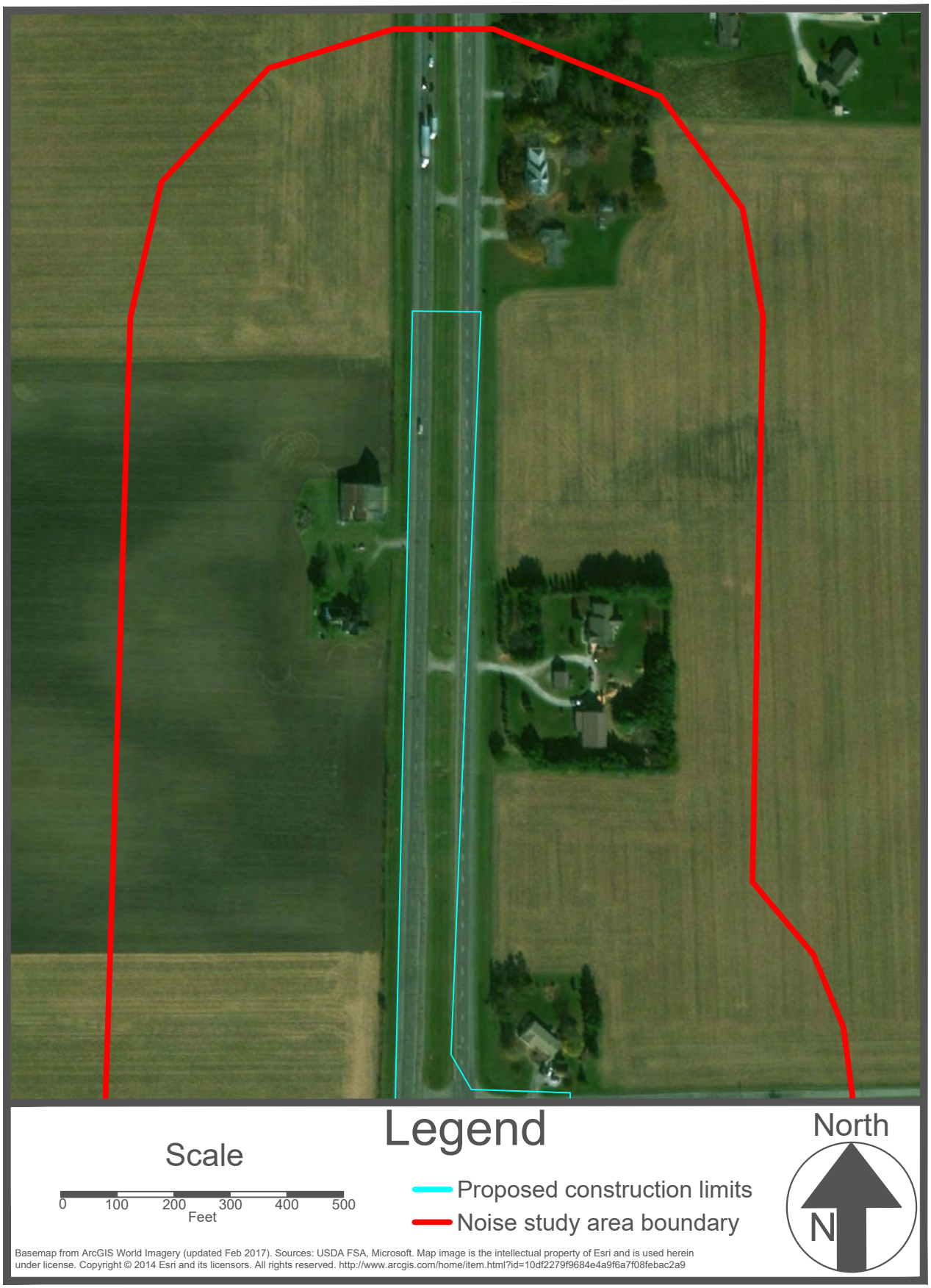

Figure 5. Noise Study Area (North End of Project).

Figure 6. Receptors 1-6.

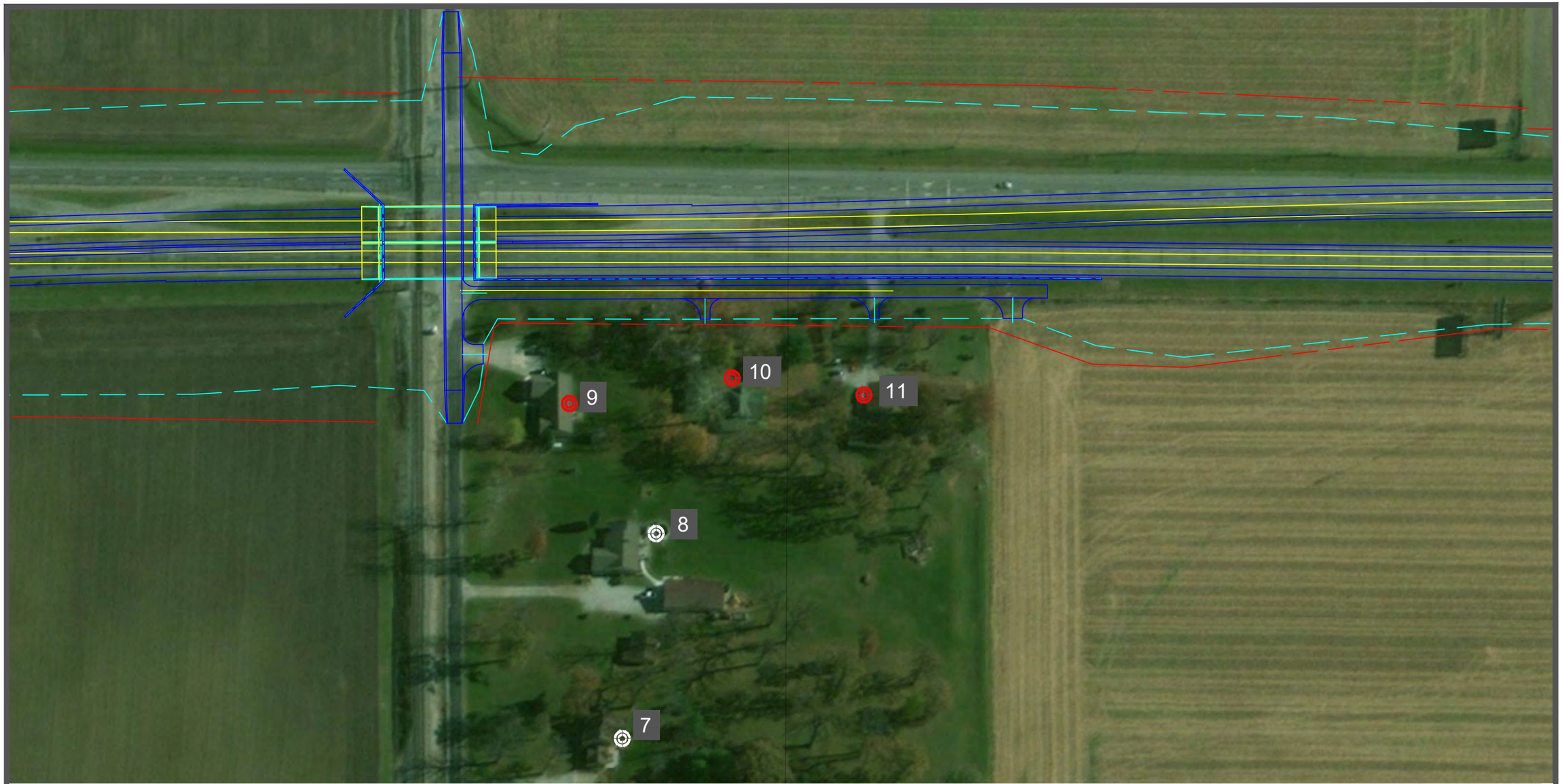

Figure 7. Receptors 7-11.

Figure 8. Receptor 12.

Figure 9. Receptors 13-17.

Basemap from ArcGIS World Imagery (updated Feb 2017). Sources: USDA FSA, Microsoft. Map image is the intellectual property of Esri and is used herein under license. Copyright © 2014 Esri and its licensors. All rights reserved.
http://www.arcgis.com/home/item.html?id=10df2279f9684e4a9f6a7f08febac2a9

Figure 10. Receptors 16-19.

TABLES

Table 1. Noise Abatement Criteria.

Activity Category	L_{eq}(h) dBA	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Residential
C	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A–D or F.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	Undeveloped lands that are not permitted

Table 2. Traffic Volume Estimates.

Road Segment	TD[b]	Existing-2017[a]		Build/No-Build-2043[a]	
		AADT[c]	DHV[d]	AADT[c]	DHV[d]
US 31: NB	0.13	13,685	1,095	15,995	1,280
US 31: SB	0.13	13,855	1,108	16,195	1,296

a Existing, No-Build, and Build estimates were provided by INDOT (Katter 2017).
b TD = Fraction of vehicles in the design hour that are commercial trucks.
c AADT = Annual Average Daily Traffic volume (vehicles per day).
d DHV = Design Hourly Volume (vehicles per hour).

Table 3. Traffic Volumes for TNM Modeling.

Road	Existing 2017					Build/No-Build 2043				
	Cars	Med. Trucks	Heavy Trucks	Buses	Motor-cycles	Cars	Med. Trucks	Heavy Trucks	Buses	Motor-cycles
US 31: NB	476	9	61	2	1	702	13	90	2	1
US 31: SB	481	9	63	1	1	710	13	92	2	2

NOTE: Traffic volumes for the different vehicle types were calculated from the values in **Error! Reference source not found.** using FHWA vehicle classification traffic counts taken on 4/1-3/2015 obtained from the INDOT web site http://indot.ms2soft.com/tcds/tsearch.asp?loc=Indot&mod=. For each of the TNM vehicle categories tabulated here, corresponding FHWA vehicle counts were summed for the entire count period and divided by the total vehicles counted to obtain fractions. These fractions were multiplied by the DHV values in **Error! Reference source not found.** and then combined as follows to obtain the tabulated results. The volume of cars includes both cars (FHWA Class 2) and pickup trucks (FHWA Class 3). Motorcycles corresponds to FHWA Class 1 and buses to Class 4. Med. Trucks are 2-axle, six tire trucks (FHWA Class 5) and heavy trucks include all vehicles with 3 or more axles (FHWA Classes 6-13).

Table 4. Noise Modeling Results.

Receptor	Description	Activity Category	Impact Criterion	Modeled Sound Levels (dBA)			Final Design Change and Expected Changes in Modeled Noise Levels for the Build Scenario
				Existing	No-Build	Build	
1	Residence	B	66.0	59.7	61.4	62.8	Nearest traffic lanes are shifted 20–40 feet farther from receptor. Predicted noise level should be slightly lower.
2	Residence	B	66.0	58.1	59.8	61.5	
3	Residence	B	66.0	57.4	59.1	60.9	
4	Residence	B	66.0	58.6	60.3	61.9	
5	Residence	B	66.0	67.0	69.1	66.6	
6	Residence	B	66.0	65.0	67.0	64.8	
7	Residence	B	66.0	55.7	57.4	60.2	No change in distance to nearest traffic lanes. Predicted noise levels should be the same.
8	Residence	B	66.0	59.9	61.6	64.2	
9	Residence	B	66.0	64.4	66.2	66.7	
10	Residence	B	66.0	65.6	67.3	67.8	
11	Residence	B	66.0	65.4	67.1	68.2	
12	Residence	B	66.0	64.3	65.9	66.0	
13	Residence	B	66.0	69.9	71.5	70.6	
14	Residence	B	66.0	69.9	71.5	71.3	
15	Residence	B	66.0	69.0	70.6	70.4	
16	Residence	B	66.0	69.4	71.0	71.0	
17	Residence	B	66.0	63.8	65.4	65.0	Nearest traffic lanes are shifted 10–30 feet farther from receptor. Predicted noise level should be slightly lower.
18	Residence	B	66.0	70.3	71.9	70.4	
19	Residence	B	66.0	58.5	60.1	61.3	

Notes:

Yellow Predicted noise level approaches or exceeds NAC.

Mike Oliphant

From: Bales, Ronald <rbales@indot.IN.gov>
Sent: Monday, September 18, 2017 2:18 PM
To: Harry Nikides; Shi, Runfa
Cc: Mike Stafford; Leigh Montano; Devin Stettler; Harrington, Susan
Subject: Des. No. 1592421, US 31 Grade Separation 1592421, Tipton County, Indiana (Noise Report)

A traffic noise analysis report was completed by ASC Group in September 2017 to evaluate potential traffic noise impacts for proposed US 31 Grade Separation Project in Tipton County, Indiana. Traffic noise was evaluated at all receptors within 500 feet of edge of pavement within the study area. Traffic noise levels were evaluated for the existing (2017) and projected (2043) traffic volumes for the build alternative.

This report evaluated potential noise impacts of the proposed improvements for the US 31 project in compliance with the Federal Highway Administration's (FHWA) Procedures for Abatement of Highway Traffic Noise and Construction Noise as presented in the Code of Federal Regulations, Title 23 Part 772 (23 CFR 772) and the Indiana Department of Transportation (INDOT) *Traffic Noise Analysis Procedure* (2017).

Existing (2017) peak hour noise levels range from 55.6 to 66.9 dBA. Predicted design year (2043) noise levels would approach or exceed the Noise Abatement Criteria (NAC) at five receptors, resulting in the need to evaluate noise abatement. Noise abatement was analyzed, however no noise barriers met both the feasibility and reasonableness criterion established by the INDOT *Traffic Noise Analysis Procedure* (2017).

Based on the studies thus far accomplished, the State of Indiana has not identified any locations where noise abatement is likely. A re-evaluation of the noise analysis will occur during final design. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes.

This email will serve as INDOT's approval of the traffic noise analysis report for the US 31 Grade Separation Project (DES 1592421).

Ron Bales
Environmental Policy Manager
100 North Senate Ave., Room 642
Indianapolis, IN 46204
Office: (317) 234-4916
Email: rbales@indot.in.gov

Mike Oliphant

From: Devin Stettler
Sent: Thursday, May 2, 2019 11:15 AM
To: Aaron Toombs; Mike Oliphant; Mike Campbell
Subject: FW: US 31 Grade Separation Project DES1592421-Noise Report Addendum-revisions

Guys,

FYI…..

Thanks,

Devin

From: Bales, Ronald <rbales@indot.IN.gov>
Sent: Thursday, May 2, 2019 10:57 AM
To: Harry Nikides <hNikides@ascgroup.net>
Cc: Devin Stettler <Devin.Stettler@ucindy.com>; Mike Stafford <mstafford@ascgroup.net>; Loveall, Michelle <MLOVEALL@indot.IN.gov>; Miller, Brandon <BraMiller1@indot.IN.gov>
Subject: RE: US 31 Grade Separation Project DES1592421-Noise Report Addendum-revisions

An addendum to the September 2017 traffic noise analysis report was completed by ASC Group in May 2019 to evaluate potential traffic noise impacts for the proposed US 31 Grade Separation Project in Tipton County, Indiana. Traffic noise was evaluated at all receptors within 500 feet of edge of pavement within the study area. Traffic noise levels were evaluated for the existing (2017) and projected (2043) traffic volumes for the build alternative.

This report evaluated potential noise impacts of the proposed improvements for the US 31 project in compliance with the Federal Highway Administration's (FHWA) Procedures for Abatement of Highway Traffic Noise and Construction Noise as presented in the Code of Federal Regulations, Title 23 Part 772 (23 CFR 772) and the Indiana Department of Transportation (INDOT) *Traffic Noise Analysis Procedure* (2017).

Existing (2017) peak hour noise levels range from 55.7 to 70.3 dBA. Predicted design year (2043) noise levels would approach or exceed the Noise Abatement Criteria (NAC) at ten receptors, resulting in the need to evaluate noise abatement. Noise abatement was analyzed, however no noise barriers met both the feasibility and reasonableness criterion established by the INDOT *Traffic Noise Analysis Procedure* (2017).

Based on the studies thus far accomplished, the State of Indiana has not identified any locations where noise abatement is likely. A re-evaluation of the noise analysis will occur during final design. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes.

This email will serve as INDOT's approval of this addendum to the traffic noise analysis report for the US 31 Grade Separation Project (DES 1592421).

Ron Bales
Environmental Policy Manager
100 North Senate Ave., Room 642
Indianapolis, IN 46204
Office: (317) 234-4916
Email: rbales@indot.in.gov

From: Harry Nikides [mailto:hNikides@ascgroup.net]
Sent: Thursday, May 02, 2019 10:00 AM
To: Bales, Ronald <rbales@indot.IN.gov>
Cc: 'Devin Stettler' <Devin.Stettler@ucindy.com>; Mike Stafford <mstafford@ascgroup.net>
Subject: US 31 Grade Separation Project DES1592421-Noise Report Addendum-revisions

Ron,

On behalf of our client, United Consulting, we have completed the requested revisions.

Please find attached the revised Noise Report Addendum for the US 31 Grade Separation Project DES 1592421.

If you have any questions or need anything else please feel free to contact me.

Thank you,

Harry S. Nikides
Indiana Regional Manager

ASC Group, Inc.
9376 Castlegate Drive
Indianapolis IN 46256
317-915-9300 x100 (office)
317-965-7313 (cell)

Facebook | **LinkedIn** | **Web**

Appendix I

Additional Information

INDIANA DEPARTMENT OF TRANSPORTATION

Project Overview | Funding History | Amendment History

Des Number	1592421	***Amendment***	20-01 INDOT	***Exempt Category***		***Est Total Project Cost***	$
Lead Agency	INDOT	***Contact (ERC)***				***County***	Tipto
Project Type	New Bridge, Other	***Letting Date***		***Functional Classification***		***Bike/Ped Component(s)***	
Region	Greenfield Non-MPO	***Contract #***	B-39052			***Route***	US 3

Title .97 miles N of SR 28 over the N/S Railroad

Limits From to of Distance (mile) 0.778 Milepost begins at ends at

Description .97 miles N of SR 28 over the N/S Railroad

Phase	Fund Source	Prior SFY	SFY2020	SFY2021	SFY2022	SFY2023	SFY2024	Future SFY	To
RW	FEDERAL - HISTORICAL	-	$1,840,000	-	-	-	-	-	$1,840
RW	State Match	-	$460,000	-	-	-	-	-	$460
	Total Right of Way	-	$2,300,000	-	-	-	-	-	$2,300
	Total Programmed	**-**	**$2,300,000**	**-**	**-**	**-**	**-**	**-**	**$2,300,**

Comment on this Project

Contact Information:
Michael McNeil
STIP Director
Indiana Department of Transportation
100 North Senate Ave, IGCN 955
Indianapolis, IN 46204
317-232-0223
mmcneil@indot.in.gov

Tipton County
LWCF Listing

objectid	State	County	Grant ID	El	Type	Grant Element Title	Grant Spon	Fiscal Year	Amount
51295	Indiana	TIPTON	23		D	TIPTON SWIMMING POOL	TIPTON PAI	1968	98580
78918	Indiana	TIPTON	249		D	KEMPTON PARK	KEMPTON	1976	3150

US 31 over County Road 100 South and Norfolk Southern Railroad
Des. No.: 1592421
Tipton County, Indiana

875 437.5 0 875 1,750 2,625 3,500
Feet

UNITED Consulting

Aerial Photograph

Indiana Department of Transportation
Office of Environmental Services
100 North Senate Avenue, Room 642N
Indianapolis, Indiana 46204

N W E S

Appendix J

Public Involvement

UNITED
Consulting

ENGINEERING
ENVIRONMENTAL
INSPECTION
LAND SURVEYING
LAND ACQUISITION
PLANNING
WATER & WASTEWATER
SINCE 1965

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Adam C. Post, PE
Michael S. Oliphant, AICP
E. Rachelle Pemberton, PE
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Jim R. Lesh, PE
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Jennifer L. Hart, PE
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Kelton S. Cunningham, PE
Jonathan M. Korff, PE
Braun S. Rodgers, PE
Greg J. [illegible], PE

1625 N. Post Road, Indianapolis, IN 46219 (317) 895-2585 www.ucindy.com

October 17, 2016

Notice of Entry for Survey or Investigation

Dear Property Owner:

United Consulting is part of a project team retained by the Indiana Department of Transportation (INDOT) to perform preliminary engineering for the proposed US 31 Grade Separation Project. Our information indicates that you own property near the proposed project. Representatives of INDOT will be conducting environmental surveys of the project area in the near future. It may be necessary for them to enter onto your property to complete this work. This is permitted under Indiana Code § 8-23-7-26. Anyone performing this type of work has been instructed to identify him or herself to you, if you are available, before they enter your property. If you no longer own this property or if it is currently occupied by someone else, please let us know the name of the new owner or occupant so that we can contact them about the survey or investigation.

The survey work may include the identification and mapping of wetlands, archaeological investigations (which may involve the survey, testing, or excavation of identified archaeological sites), and various other environmental studies. The information we obtain from such studies is necessary for the proper planning and design of this project.

It is our sincere desire to cause you as little inconvenience as possible during this survey. If any problems do occur, please contact the field crew or contact Michael Oliphant, United Consulting at 317- 895-2585 or mikeo@ucindy.com. We thank you in advance for your cooperation.

Sincerely,
UNITED CONSULTING

Michael S. Oliphant, ACIP
Environmental Specialist

c: File: 16-217