

I-65 at SR 267 Interchange Modification

Des. No. 1400071 (Interchange)

Des. No. 1702143 (SR 267 New Bridge over I-65)

Des. No. 1702144 (SR 267 Rehab of Existing Bridge over I-65)

I-65 at Boone CR550S New Interchange

Des. No. 1702147 (New Interchange)

Des. No. 1702146 (CR550S New Bridge over I-65)

NB I-65 Exit Ramp Modification at Whitestown Parkway

Des. No. 1801826

SB I-65 Exit Ramp Modification at I-865

Des. No. 1801825

ENVIRONMENTAL ASSESSMENT

Prepared for:

**Federal Highway Administration and
Indiana Department of Transportation**

Prepared by:

Corradino LLC

February 27, 2019

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County Boone Route I-65 at SR 267 and at CR550S Des. No. 1400071, 1702143, 1702144, 1702146,
1702147, 1801826, 1801825

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**FHWA-Indiana Environmental Document
CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM
GENERAL PROJECT INFORMATION**

Road No./County:	I-65/Boone County
Designation Number:	1400071, 1702143, 1702144, 1702146, 1702147, 1801826, 1801825
Project Description/Termini:	The project consists of: 1) Modification of the existing Interstate 65 (I-65) interchange at State Road 267 (SR 267), 2) New I-65 interchange at Boone County Road 550 South (CR550S), 3) Modification to northbound I-65 exit ramp to Whitestown Parkway, and 4) Modification to southbound I65 exit ramp to Interstate 865 (I-865). See Appendix A for location mapping and project boundaries.

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):

<input type="checkbox"/>	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)
<input type="checkbox"/>	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)
<input type="checkbox"/>	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
<input checked="" type="checkbox"/>	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.

Release for Public Involvement

Ronald E. Bl... 3-13-19 Michelle Allen 3-14-19
 ESD Signature Date FHWA Signature Date

Certification of Public Involvement

Office of Public Involvement Date

 INDOT ES/District Env. Reviewer Signature: Meghan... Date: 3/13/19
 Name and Organization of CE/EA Preparer: Dave Cleveland, Corradino, LLC

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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.**

Does the project have a historic bridge processed under the Historic Bridges PA*?	Yes	No
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If No, then:		
Opportunity for a Public Hearing Required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**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 Survey Letter - Notice of Survey Letters (Appendix L1) were mailed on May 10, 2017 to property owners located near the project area describing the proposed project and notifying them that project personnel may be entering their property to gather data for environmental analysis.

Section 106 Consulting – The “No Adverse Effect” finding and 800.11(e) documentation (Appendix F) were made available for Consulting Parties’ review via the IN SCOPE portal on January 10, 2019. Public notice of “No Adverse Effect” finding and 800.11(e) documentation availability was advertised in the *Indianapolis Star* on January 16, 2019, with a 30-day comment period closure date of February 18, 2019 (Appendix F). The “No Adverse Effect” finding and 800.11(e) documentation was made available for public review at HNTB Indiana, Inc.’s office at 111 Monument Circle, Suite 1200, Indianapolis, IN 46204. No comments were received. The “No Adverse Effect” finding and 800.11(e) documentation was submitted to the State Historic Preservation Officer (SHPO) on February 15, 2019. The SHPO concurred with the “No Adverse Effect” finding in a response letter dated February 20, 2019.

Community Advisory Committee (CAC) – A CAC meeting was held on April 17, 2018, (Appendix L2) in the Whitestown Public Hall. CAC representatives included impacted property owners, emergency services providers, school corporations, transportation officials, local elected officials, and major employers. The alternatives analysis and the preferred alternative for the I-65 interchanges at SR 267 and CR550S were presented. The discussion included the need to include pedestrian and non-motorized facilities into the project, the proposed construction time period, and potential maintenance of traffic strategies. CAC members communicated that the area is experiencing high growth and the proposed improvements are needed. Based on the discussions with the group, a second CAC meeting was not determined to be necessary at this time.

Public Information Meeting – A Public Information Meeting was held on May 22, 2018, (Appendix L3) in the Whitestown Public Hall. The alternatives analysis and the preferred alternative for the I-65 interchanges at SR 267 and CR550S were presented. While the meeting announcement included notice of the proposed minor ramp improvements at the northbound I-65 exit ramp to Whitestown Parkway and the southbound I-65 exit to I-865, these improvements were not the focus of the meeting. Approximately 39 people attended. Four (4) written comments were received. Comments focused on traffic patterns and routes, project cost, and the potential future extension of the unaffiliated, local public agency-initiated Ronald Reagan Parkway.

Public Hearing – The proposed project is being processed as an Environmental Assessment (EA). Per the current *Indiana Department of Transportation (INDOT) Public Involvement Manual* the project is required to hold a public hearing. Upon release of the EA for public involvement, a legal advertisement will be placed in a local publication notifying the public of the public hearing and availability of the EA for review. The public will be provided a 30-day comment period. Following the public hearing, if determined appropriate, a request for a Finding of No Significant Impact (FONSI) will be submitted to the Federal Highway Administration (FHWA). All comments received during this period will be addressed and attached to the FONSI request. If any comments require a change to the EA, an Additional Information document may be prepared and approved by FHWA

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prior to the submission of the FONSI request to FHWA. The preparation of the FONSI by FHWA will indicate the NEPA process for this project has been completed. Once the NEPA process is completed, a public notice announcing the availability of the FONSI will be advertised in local publications of general circulation.

Public Controversy on Environmental Grounds

Yes No

Will the project involve substantial controversy concerning community and/or natural resource impacts?

Remarks:

Discussions during the public involvement process were primarily focused on non-motorized access across interchange bridges, traffic patterns, construction schedules, maintenance of traffic strategies during construction, and project costs. Kitchen table meetings were held with all potentially impacted property owners willing to meeting with project staff and focused primarily on anticipated impacts and a general discussion of the project development process. Based on the public involvement done so far, further follow up was determined to not be needed prior to the EA being released for public involvement. There was no opposition to the selected preferred alternative. The project is not anticipated to cause public controversy.

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

Sponsor of the Project: INDOT and Town of Whitestown INDOT District: Crawfordsville

Local Name of the Facility: I-65 at SR 267 interchange modification, I-65 at CR550S new interchange, ramp modification for the northbound I-65 exit ramp to Whitestown Parkway, and ramp modification for the southbound I-65 exit ramp to I-865

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

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

Figure 1 | Location Map



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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)

The purpose of the project is to improve traffic operations along the I-65 corridor, from I-865 to SR 267 near Whitestown, IN, and to provide improved connectivity between I-65 and the rapidly-developing area along the CR550S corridor. See Appendix A for location mapping.

The improvements must address the following project needs:

- Reduce existing traffic congestion along the I-65 corridor near Whitestown, IN;
- Enhance safety by reducing crash rates, via a more efficient transportation system at the existing I-65 interchange with SR 267 (Exit 133) and via a reduction in future traffic growth at the existing I-65 interchange with Whitestown Parkway; and
- Provide direct access between I-65 and the rapidly developing area near CR550S to serve existing and planned land uses, as well as general growth patterns along the I-65 corridor.

Detailed growth forecasting, travel demand modeling, traffic capacity analysis, and safety analysis were prepared for the project during the development of the Interstate Access Document (IAD), contained in Appendix G. This analysis was used for project needs assessment and alternatives analysis. FHWA issued a Determination of Engineering and Operational Acceptability for the IAD on December 21, 2017, and will review the IAD for final approval once the National Environmental Policy Act (NEPA) process is complete.

Reduce Existing Traffic Congestion Along I-65 Corridor

Table 1 summarizes the capacity analysis results for the signalized intersections that comprise the I-65 interchanges with SR 267 and Whitestown Parkway, as well as the first signalized intersection to the east and west of each interchange. Level of Service (LOS) and average delay are reported for the year 2040 no-build condition. LOS is reported as “A” through “F” with LOS A representing uninhibited, free-flow conditions and LOS F representing gridlock. The point between LOS D and LOS E typically represents when a facility has reached its capacity, with congestion and queuing occurring more frequently as this threshold is exceeded. The Framework Document, an appendix to the IAD, established a minimum AM peak hour and PM peak hour threshold LOS D for all I-65 and interchange operations. Delay is measured in seconds and represents the anticipated average delay experienced by a motorist travelling through the intersection. The existing I-65 interchanges with SR 267 and Whitestown Parkway are anticipated to experience unacceptable levels of congestion and delay during peak periods in 2040.

Table 1 | I-65 at Whitestown Parkway and I-65 at SR 267 Capacity Analysis Summary

		No-Build (Year 2040)			
		AM		PM	
		LOS	Delay	LOS	Delay
Intersection of SR 267 With	Indianapolis Rd	D	30.1	A	6.3
	I-65 SB	E	56.0	F	92.3
	I-65 NB	E	71.2	F	234.4
	Perry Worth Rd	F	3587.8	F	4452.8
Intersection of Whitestown Parkway With	Indianapolis Rd	F	557.1	F	225.6
	I-65 SB	F	92.4	D	37.3
	I-65 NB	F	232.1	F	250.7
	Perry Worth Rd	F	217.6	D	49.2

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Enhance Safety by Reducing Crash Rates

A safety analysis was performed to assess existing crash history and determine if crash rates can be reduced by enacting a build condition. Crash data was collected between 2013 and 2015. Between 2013 and 2015, 230 crashes occurred within the study area. Table 2 summarizes these crashes by location and provides a breakdown of crash severity and crash type. This safety analysis is based on crash data provided by INDOT which was retrieved from the Automated Reporting Information Exchange System (ARIES).

Table 2 | Crash Summary 2010-2012 (Crash Location and Severity)

Location	Off-Road			Rear End			Side Swipe			Head On			Right Angle/Turn			Other/Unknown			Total	
	PD	PI	F	PD	PI	F	PD	PI	F	P	PI	F	PD	PI	F	PD	PI	F		
I-65 Mainline	16	5	0	26	13	0	41	3	0	6	2	0	1	1	0	16	6	0	136	59%
SR 267 Mainline	3	2	0	2	1	0	1	0	0	2	2	1	0	1	0	0	0	0	15	7%
SR 267 Interchange	1	0	0	7	2	0	1	3	0	0	0	0	3	1	1	7	0	0	26	11%
SR 267 / Indianapolis Rd. Intersection	2	0	0	3	0	0	4	1	0	1	0	0	4	3	0	6	3	1	28	12%
SR 267 / Albert White Intersection	3	0	0	7	3	0	3	0	0	0	0	0	0	2	0	2	0	0	20	9%
Albert White Dr.	1	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2%
Total	26	7	0	48	20	0	50	7	0	9	4	1	8	8	1	31	9	1	230	100%
Percentage	14%			30%			25%			6%			7%			18%			100%	

Source: HNTB/Corradino, Interstate Access Document, December 21, 2017
 PD = Property Damage
 PI = Personal Injury
 F = Fatality

Table 2 illustrates that 136 out of 230, or 59%, of the crashes occurred along the I-65 mainline, and the highest number of crashes at an interchange was at SR 267 with 11%. Of the crashes that occurred in the study area, 68 (30%) were rear end crashes. The next highest accident type was side swipe crashes at 57 (25%). The higher frequency of rear end crashes along I-65 is likely due to high traffic volumes, congestion, and queuing onto mainline I-65 at the ends of the exit ramps. Side swipe crashes are typically caused by improper lane changes that typically occur when vehicles are entering or exiting the interstate, or when vehicles try to change lanes to pass a stopped vehicle on the mainline. The low crash rate at CR550S is because there is no existing interchange; therefore, there are no existing potential conflict points.

A traffic safety analysis was conducted for this project using the crash prediction module of the Interactive Highway Safety Design Model (IHSDM) software. The IHSDM module uses information about roadway type, traffic volumes, and geometric features to predict the number of crashes that will occur on an existing or planned roadway facility. IHSDM was used to predict crashes for the no-build condition for year 2040.

Table 3 summarizes the IHSDM predicted crashes for the 2040 no-build condition for intersections within the project area while Table 4 does the same for roadways within the project area. Total crashes, including intersections and roadway sections, predicted by IHSDM for the 2040 no-build condition, are shown in Table 5.

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Table 3 | 2040 IHSDM Predicted Intersection Crashes

Subsection	No-build Condition		
	Property Damage Only Crashes	Fatal and Injury Crashes	Total Crashes
1: Whitestown Parkway Interchange Area	36.8	24.6	61.3
2: CR 550 Interchange Area	0.0	0.0	0.0
3: SR 267 Interchange Area	8.5	6.2	14.7
TOTAL ALL AREAS	45.3	30.7	76.0

Table 4 | 2040 IHSDM Predicted Roadway Crashes

Subsection	No-build Condition		
	Property Damage Only Crashes	Fatal and Injury Crashes	Total Crashes
1: Whitestown Parkway Interchange Area*	72.6	30.2	102.8
2: CR 550 Interchange Area	0.0	0.0	0.0
3: SR 267 Interchange Area	7.8	18.4	26.2
TOTAL ALL SUBSECTIONS	80.5	48.5	129.0

Table 5 | 2040 IHSDM Predicted Total Crashes

Subsection	No-build Condition		
	Property Damage Only Crashes	Fatal and Injury Crashes	Total Crashes
1: Whitestown Parkway Interchange Area	109	55	164
2: CR 550 Interchange Area	0	0	0
3: SR 267 Interchange Area	16	25	41
TOTAL ALL SUBSECTIONS	126	79	205

The IHSDM is a relatively new analysis tool and has not yet been calibrated to reflect the specific conditions of Indiana highways and Indiana crash reporting procedures; however, the analysis is a useful tool for establishing a baseline for predicted future year no-build condition crash levels. Similar IHSDM predicted crash levels for build alternatives can then be compared to the baseline to determine a build alternative's ability to enhance safety.

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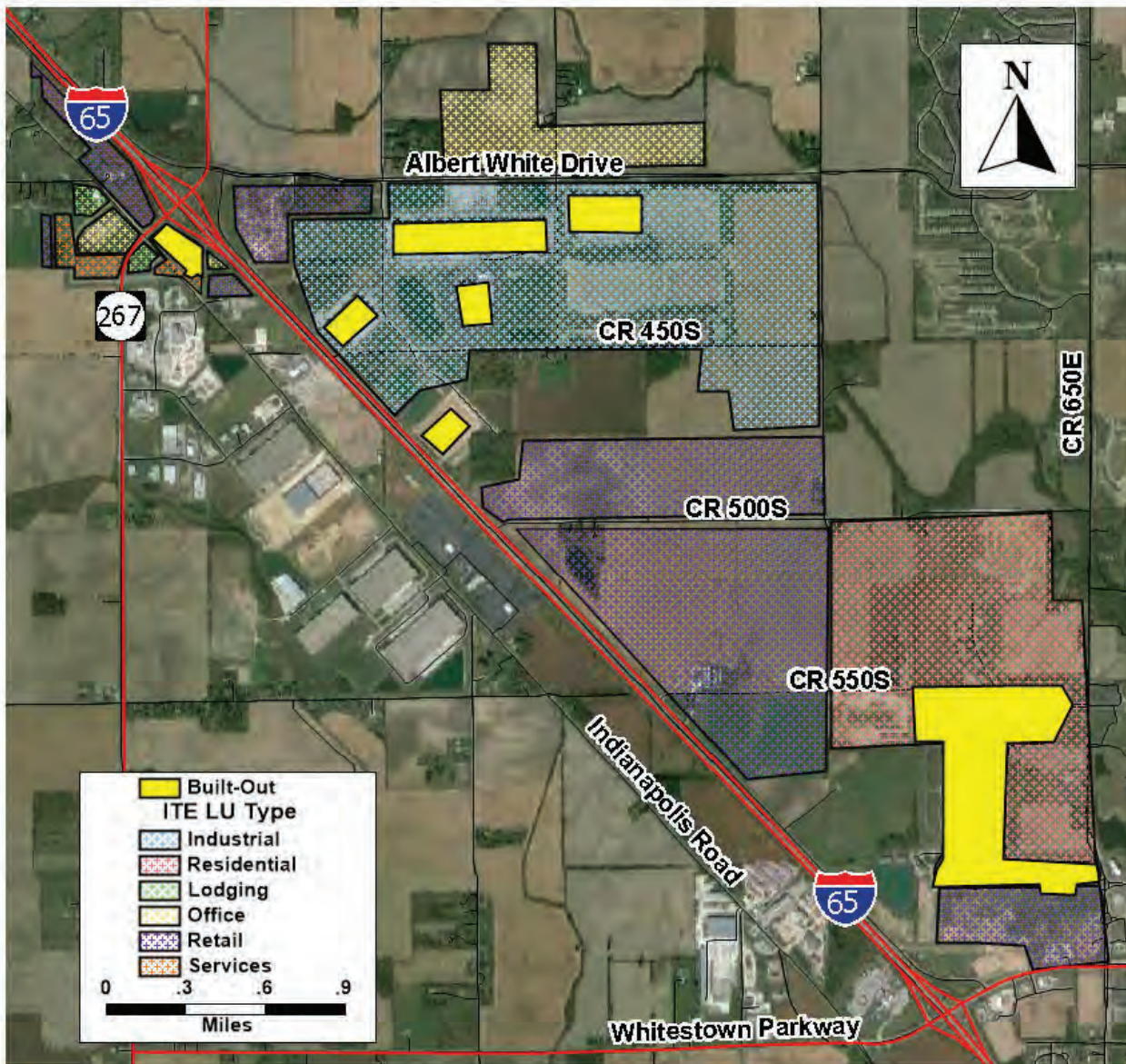
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Provide Access to I-65 between Whitestown Parkway and SR 267 to Support Development and Growth Trends

The portion of Boone County along I-65, between I-865 and SR 267, is experiencing rapid growth. There are numerous industrial, commercial, and residential developments currently under construction, with more developments in the planning stages (Figure 2). An annual straight-line traffic growth rate of 1% is considered high-growth. As detailed in the IAD, the annual straight-line growth rate for the portion of Boone County in which the project is located is approximately 1.86%. The annual straight-line growth rate for the same area is 1.56% in the Indianapolis Metropolitan Planning Organization (IMPO) travel demand model. There is a need to provide direct access to I-65 between Whitestown Parkway and SR 267 to serve the existing and future land uses and growth, and to provide congestion relief, in the form of diverted future traffic, from the existing I-65 interchanges at Whitestown Parkway and SR 267.

Figure 2 | Planned Developments in the Project Area



Source: HNTB/Corradino, Interstate Access Document, December 21, 2017

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PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Boone Municipality: Whitestown

Total Work Length: 4.5 Mile(s) Total Work Area: 120 Acre(s)

Limits of Proposed Work:

I-65

The overall limits of the proposed work along I-65 extend from approximately 500 feet south of the ramp gore of the I-65 / I-865 split to approximately 1,400 feet north of the SR 267 overpass.

SR 267

The limits of the proposed work along SR 267 extend from approximately 1,500 feet west of to approximately 1,200 feet east of the centerline of I-65 and approximately 3,000 feet along Perry Worth Road.

CR550S

The limits of the proposed work along CR550S extend from approximately 2,100 feet west of to approximately 1,700 feet east of the centerline of I-65 and approximately 1,400 feet along Indianapolis Road.

Whitestown Parkway

The limits of the proposed work at the I-65 at Whitestown Parkway interchange extend approximately 800 feet along the I-65 northbound exit ramp.

I-865

The limits of the proposed work at the I-65 at I-865 interchange extend approximately 2,200 feet along the southbound I-65 exit to I-865 ramp (near the split).

Is an Interchange Access Document (IAD) required?

If yes, when did the FHWA grant a conditional approval for this project?

Yes¹	No
X	
Date: December 21, 2017	

¹If an IAD is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IAD.

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.

INDOT, with active support and financial sponsorship from the Town of Whitestown (Whitestown), is proposing to reconstruct and modify the existing I-65 at SR 267 interchange (mile marker 133.0) and to construct a new interchange at I-65 and CR550S (mile marker 131.4). The project also includes ramp modifications at the northbound I-65 exit to Whitestown Parkway (mile marker 129.9) and the southbound I-65 exit to I-865 (mile marker 129.1). See Appendix A for location and project mapping. A detailed description of the preferred alternative at each interchange location is contained in the IAD. FHWA reviewed the IAD and issued a Determination of Engineering and Operational Acceptability (Appendix G) on December 21, 2017. Final FHWA approval of the IAD will occur upon successful completion of the NEPA process.

Existing Conditions

Interstate I-65

The existing I-65 typical cross section, for the 4-mile project area from I-865 to SR 267, consists of three 12 feet wide through lanes, a 10 feet wide paved outside shoulder, and an 8 feet wide paved median shoulder in each direction. There is an 18 feet wide open grass median for this section. The posted speed of I-65 in the project area is 70 mph. Land use along the I-65 corridor is comprised of agricultural, residential, commercial, and industrial. The agricultural land that remains is rapidly being converted to commercial, industrial, and residential uses.

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Whitestown Parkway

The I-65 interchange at Whitestown Parkway is located in Whitestown, Boone County (Section 6, Township 17N, Range 2E). Where Whitestown Parkway crosses I-65, it is a five-lane road with one 11 feet wide left-turn lane and one 11 feet wide through lane eastbound, along with two 11 feet wide left-turn lanes and one 11 feet wide through lane westbound. Whitestown Parkway is classified as a Minor Arterial with a posted speed limit of 40 mph. There is existing commercial and industrial land uses in the northwest, northeast, and southeast quadrants of the interchange and agricultural land in the southwest quadrant. The existing Whitestown Parkway interchange was not constructed to accommodate pedestrians. A 6 feet wide paved shoulder exists along both sides of Whitestown Parkway.

CR550S

The proposed I-65 interchange at CR550S is located in Whitestown, Boone County (Section 36, Township 18N, Range 1E). CR550S used to be a continuous east-west route, but continuous access was cut by I-65 and so now CR550S exists on both sides of the interstate. On the west side of I-65, CR550S is a narrow 12 feet wide one-lane gravel road. On the east side of I-65, CR550S is an 18 feet wide two-lane gravel roadway. CR550S is classified as a Major Collector with a posted speed of 40 mph. Existing surrounding land use is agricultural that is rapidly being converted to commercial, industrial, and multi-family residential uses.

SR 267

The I-65 interchange at SR 267 is located in Boone County (Section 27, Township 18N, Range 1E). Currently SR 267 is grade separated at I-65 with existing interchange access. SR 267 is a two-lane road with 11 feet wide lanes and 10 feet wide shoulders. SR 267 is classified as a Minor Arterial south of I-65 and a Major Collector north of I-65 with a posted speed limit of 45 mph. Commercial development is occurring in the northwest quadrant of the interchange, while existing commercial and industrial land uses exist in the southwest and southeast quadrants. The northeast quadrant contains agricultural, park, and sparse single-family residential land uses. No pedestrian facilities exist along SR 267 within the existing interchange. There is a two-way stop-controlled intersection at CR400S (Albert White Drive)/Perry Worth Road (east project limit), a non-signalized right-in/right-out intersection at the Love's Travel Stop, and a two-way stop-controlled intersection at Indianapolis Road farther to the west (west project limit). The SR 267 ramp junctions are also signalized.

Proposed Project Improvements:

The proposed project is a reconstruction of the I-65 at SR 267 interchange, construction of a new I-65 interchange at CR550S, ramp modification at the northbound I-65 exit to Whitestown Parkway, and ramp modification at the southbound I-65 exit to I-865. The project is within the limits of the Indianapolis MPO, which is also a Transportation Management Area (TMA). Schematic exhibits for the proposed interchanges can be found in Appendix B. The proposed interchanges provide for all four turning movements to and from I-65. Project alternatives, including the Do-Nothing Alternative, were analyzed based on their ability to meet the project's purpose and need. The preferred alternative is discussed in more detail in the following section. Other interchange build alternatives, and why they were eliminated from further consideration, are discussed in the *Other Alternatives Considered* section of this document.

All build alternatives have similar impacts to wetlands. The wetlands in the project area result from poor drainage along the interstate and interchange ramps. Because all build alternatives involve the modification of existing interchanges or the addition of a new interchange along the existing interstate, they cannot avoid impacts to the adjacent wetlands. Interchange locations are set, either because they already exist or in the case of the proposed new I-65 at CR550S interchange, because of the interchange spacing requirements for Whitestown Parkway to the south and SR 267 to the north.

Preferred Alternative at Each Location

Preferred Alternative (I-65 at SR 267): Conventional Diverging Diamond Interchange

The preferred alternative at SR 267 (Appendix B-1) is a conventional Diverging Diamond Interchange (DDI) with three westbound lanes across the existing bridge, and two eastbound lanes across the new parallel bridge to the north. A new 10 feet wide multi-use trail will be constructed along the northern edge of SR 267 and Albert White Drive, for the entire project length, as part of this project. The new eastbound bridge will include the new 10 feet wide multi-use trail along the inside travel lane. The existing adjacent right-in/right-out at the Loves Travel Stop, west of the interchange, will be closed, requiring patrons to travel through the two-way stop-controlled SR 267 intersection with Indianapolis Road. The south leg of the existing Perry Worth Road/CR400E/CR400S (Albert White Drive) intersection will be closed and reconfigured as a frontage road. The intersection of Perry Worth Road and Albert White Drive will be relocated further to the east and signalized as a part of this project.

This is page 10 of 52 Project name: Int. Mod. (I-65/SR 267) & New Int. (I-65/CR550S) Date: February 27, 2019

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DDI's have been implemented multiple times in Indiana recently due to the ability of the design to efficiently handle high volume left turning movements onto and off of the interstate. To maneuver a DDI interchange, drivers on the local road approach the interchange in a normal manner, but then cross to the left-hand side of the bridge at a simple two-phase signal at the ramp junctions on either end of the bridge structure. By crossing to the left-hand side, motorists can then cross the interchange bridge and make a free-flow left turn onto the interstate entrance ramp. This provides a highly efficient traffic operation, especially in a suburban area with a high directional ratio of vehicular traffic traveling to a large metropolitan area. One advantage of a DDI is the ability to reuse the existing SR 267 bridge, reconstructed approximately 10 years ago, for one direction of traffic.

The Conventional DDI will acquire 9.3 acres of additional permanent right-of-way. The project footprint encompasses 29.7 acres of existing right-of-way. The project will impact 3.1 acres of wetland. Most of the wetlands impacted are in existing right-of-way. No impacts to streams or endangered species are anticipated. The Conventional DDI does not require residential or commercial relocations.

A summary of advantages provided by the preferred DDI alternative include the following.

Advantages:

- Increases capacity, decreases delay over all alternatives considered,
- Accommodates a large number of unbalanced of left turns,
- Provides fewer conflict points than standard diamond,
- Combines lanes for left-turn and through movements, thus narrowing bridge structure, and
- Provides controlled pedestrian crossings by creating signal controls for all turning movements.

Preferred Alternative (I-65 at CR550S): Conventional Diverging Diamond Interchange

The preferred alternative at CR550S (Appendix B-3) is a conventional DDI with three WB lanes and two EB lanes across the new bridge. The four-way stop controlled intersection of CR550S and Indianapolis Road, west of the interchange, will be improved with dedicated left turn lanes on all approaches. East of the interchange, Perry Worth Road will be realigned further to the east to intersect with CR550S, with a signalized intersection, as part of this project. Existing CR550S, east of the new intersection with realigned Perry Worth Road, is an 18 feet wide, low volume gravel road. This segment of CR550S will be developed locally per the 2018 Whitestown Thoroughfare Plan, separate from the subject INDOT project. The precise timing of local development of CR550S is not known at this time. If the CR550S local improvement to the east new Perry Worth Road realignment has not been constructed by the time the new I-65 at CR550S interchange is constructed, INDOT will close CR550S to the east and provide a stub for a future connection to be made by Whitestown.

The Conventional DDI was selected as the preferred alternative for the I-65 at CR550S interchange for similar reasons as the I-65 at SR 267 interchange. The DDI has the ability to efficiently handle high volume left turning movements onto and off of I-65. This provides a highly efficient traffic operation, especially in a suburban area with a high directional ratio of vehicular traffic traveling to a large metropolitan area.

The Conventional DDI will acquire 56.0 acres of additional permanent right-of-way. The project footprint encompasses 20.7 acres of existing right-of-way. The project will impact 0.02 acre of wetland and approximately 2,550 feet of stream. No impacts to floodplains or endangered species are anticipated. The Conventional DDI requires one relocation, an agricultural facility in the northeast quadrant of the interchange.

A summary of advantages provided by the Conventional DDI include the following.

Advantages:

- Increases capacity, decreases delay over all alternatives considered,
- Accommodates a large number of unbalanced of left turns,
- Provides fewer conflict points than standard diamond,
- Combines lanes for left-turn and through movements, thus narrowing bridge structure, and
- Provides controlled pedestrian crossings by creating signal controls for all turning movements.

Indiana Department of Transportation

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Preferred Alternative (Northbound I-65 Exit to Whitestown Parkway): 2-Lane Exit Ramp

The preferred alternative (Appendix B-5) is to add pavement near the ramp gore area to improve the shared through/right exit radius to allow for proper use.

Preferred Alternative (Southbound I-65 Exit to I-865): Eliminate 2-lane Weave

For the southbound weaving movement, the entry of the Whitestown Parkway ramp at I-65 southbound provides a configuration of three through lanes on I-65 and a one-lane parallel type entry that is a continuous auxiliary lane from Whitestown Parkway, referred to as a 3+1 entry. The existing exit at I-865 has a configuration of a two-lane plus two-lane split, meaning two lanes continue south on I-65 and two lanes exit to I-865, referred to as a 2+2. This entry/exit scenario is unbalanced with a 3+1 entry and a 2+2 exit, resulting in a situation where a southbound motorist, entering from Whitestown Parkway, that wishes to continue southbound on I-65 toward Indianapolis, must weave across two lanes of traffic. To simplify this weave, the entry/exit will be rebalanced as a 3+1 entry to a 3+1 exit. The proposed solution (Appendix B-6) allows three lanes of I-65 southbound through the entry/exit area requiring Whitestown Parkway vehicles travelling south on I-65 to only cross one lane of traffic through the two interchanges. South of the exit at I-865, the outside through lane on I-65 southbound would be dropped approximately 0.5 mile from the painted nose of the gore at I-865.

The preferred alternative meets the project's purpose and need by reducing congestion and enhancing safety along the I-65 corridor and providing direct access between I-65 and the high growth area near CR550S.

Maintenance of Traffic

Much of the project, such as the new additional SR 267 bridge over I-65 and the entire new I-65 at CR550S interchange will be constructed outside of and adjacent to existing roadways and bridges; therefore, this portion of the project construction will occur without impacting existing traffic operations. INDOT will construct and make the new I-65 at CR550S interchange operational prior to reconstructing portions of the existing I-65 at SR 267 interchange and realigning the local frontage roads. This sequencing will minimize impacts to the motoring public during construction.

Indiana Department of Transportation

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County Boone

Route I-65 at SR 267 and at CR550S

Des. No.

OTHER ALTERNATIVES CONSIDERED:

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

No-build Alternative: Do-Nothing Alternative

The Do-Nothing Alternative serves as a baseline for comparison for build alternatives. The Do-Nothing Alternative has no impacts to environmental resources; however, it does not meet the purpose and need for the project because it would not 1) reduce traffic congestion at the I-65 interchanges with SR 267 and Whitestown Parkway, 2) enhance safety in the study area, and 3) provide direct access between I-65 and the area between Whitestown Parkway and SR 267 to support existing and future land use. The Do-Nothing Alternative would not result in any wetland impacts but is not practical because it does not meet these identified needs.

The proposed improvements at each of the four locations (I-65 at SR 267, I-65 at CR550S, northbound I-65 exit to Whitestown Parkway, and southbound I-65 exit to I-865) that comprise the preferred alternative are not mutually exclusive. A new I-65 at CR550S interchange draws future traffic from the SR 267 corridor such that a less robust I-65 at SR 267 interchange modification, with less impacts, can be implemented and still meet the purpose and need of the project. A new I-65 at CR550S interchange draws future traffic from the Whitestown Parkway corridor such that there will be less traffic on the northbound I-65 exit to Whitestown Parkway. The preferred alternative, a two-lane exit, will operate better than if a new I-65 at CR550S interchange were not constructed. Likewise, a new I-65 at CR550S results in less future traffic on the Whitestown Parkway entrance ramp to southbound I-65. It is the weaving movement of the vehicles from this entrance ramp, desiring to continue south on I-65, that must cross multiple southbound I-65 exit lanes to I-865 to complete this movement. This two-lane weaving movement is what is being addressed by the preferred alternative, and less traffic making this weave, due to the construction of a new I-65 at CR550S interchange, only improves the traffic operations at this location.

The Do-Nothing Alternative was eliminated from further consideration because it does not satisfy purpose and need.

Build Alternative: Transportation Systems Management (TSM) Alternative

The TSM Alternatives strategies do not meet the purpose and need for the project because they would not 1) reduce traffic congestion at the I-65 interchanges with SR 267 and Whitestown Parkway, 2) enhance safety in the study area, 3) provide direct access between I-65 and the area between Whitestown Parkway and SR 267 to support existing and future land use. In addition to not meeting purpose and need, TSM Alternatives identified below were eliminated from further consideration for the following reasons:

- **High Occupancy Vehicle Lanes (HOV)** – HOV lanes, also known as carpool lanes, are restricted to use by vehicles with a driver and one or more passengers and are intended to incentivize ride sharing. HOV lanes typically improve mainline interstate capacity and not necessarily interstate accessibility. As detailed in the IAD, mainline I-65 has plenty of capacity for the 2040 design year. It is the I-65 at SR 267 and the I-65 at Whitestown Parkway interchange and ramp junctions that do not have adequate capacity in the 2040 design year, which will result in queuing of vehicles on the I-65 exit ramps and onto mainline I-65, creating traffic operations and safety challenges.
- **Ramp Metering** – Ramp meters are devices, typically traffic signals, that control the volume of traffic entering a freeway and are intended to protect the flow of traffic on the freeway at the expense of potentially queuing traffic on the ramp. Ramp metering is most effective for limiting the flow of local network vehicles accessing the mainline interstate. As previously mentioned, mainline I-65 capacity is adequate through the 2040 design year; therefore, ramp metering would not provide benefit.
- **Mass Transit** – Mass transit is the transportation of people by means of buses, trains, or other vehicles running on fixed routes. The Indy MPO has commissioned numerous studies over the years to investigate the viability of mass transit. These studies included significant ridership modeling and public outreach. Multiple bus rapid-transit initiatives are currently being designed with the first initiative, The Red Line, scheduled to begin construction in 2018. None of these studies identified the I-65 NW corridor as a viable mass transit alternative.

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County Boone Route I-65 at SR 267 and at CR550S Des. No. 1702147, 1801826, 1801825

I-65 at SR 267 Interchange

Non-Preferred Interchange Build Alternatives (I-65 at SR 267):

In addition to the preferred Conventional DDI previously discussed, three additional reconstruction/modification alternatives were investigated: Partial Cloverleaf Type A (Parclo A) with slip ramp, DDI with grade separation, and a single point urban interchange (SPUI). All of the interchange build alternatives for I-65 at SR 267 satisfied the project's purpose and need.

Table 6 | I-65 at SR 267 Interchange Alternatives Summary Matrix

			Parclo A with Slip Ramp	DDI with Grade Separation	Conventional DDI (Preferred)	SPUI
Traffic Operations (P&N)	2040 Peak Traffic Operations	AM	Total delay = 33 hrs VMT = 7,474 miles VHT = 300 hours	Total delay = 29 hrs VMT = 7,692 miles VHT = 299 hours	Total delay = 36 hrs VMT = 7,298 miles VHT = 297 hours	Total delay = 35 hrs VMT = 6,911 miles VHT = 288 hours
		PM	Total delay = 29 hrs VMT = 8,317 miles VHT = 159 hours	Total delay = 29 hrs VMT = 8,400 miles VHT = 162 hours	Total delay = 38 hrs VMT = 7,972 miles VHT = 164 hours	Total delay = 36 hrs VMT = 7,534 miles VHT = 157 hours
Safety (P&N)	Enhanced Via Imp. Traffic Operations		Yes	Yes	Yes	Yes
Growth (P&N)	Supports Existing & Projected Land Use		Yes	Yes	Yes	Yes
Environmental Impacts	New Permanent ROW (acres)		21.7	9.3	9.3	9.3
	Wetlands (acres)		3.2	3.1	3.1	3.0
	Floodplain (acres)		3.9	3.5	3.5	3.5
	Streams (linear feet)		0.0	0.0	0.0	0.0
	Farmlands (acres)		13.7	6.3	6.3	6.1
	Section 106		No	No	No	No
	Section 4(f)		No	Potential Impact to Boone's Pond	No	No
	Relocations		1 (commercial)	0	0	0
Cost	Total Cost		\$35.44 million	\$24.06 million	\$20.01 million	\$22.61 Million
Other	Constructability		Reconstruct and widen bridge under traffic condition	Construct new EB bridge off-line and use for MOT	Construct new EB bridge off-line and use for MOT	Existing bridge closure required during construction
	Future Expandability		Bridge can be easily widened but loop ramps would need reconstruction	Bridges easily widened with minimal approach work	Bridges easily widened with minimal approach work	Widening would require raising bridge profile and approaches – new deck
	Infrastructure Economics		Nothing saved	Utilizes SR 267 bridge reconstructed in 2010	Utilizes SR 267 bridge reconstructed in 2010	Nothing saved

Note: VMT (vehicle miles travelled), VHT (vehicle hours travelled)

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All of the interchange build alternatives for I-65 at SR 267 met the traffic capacity LOS thresholds established in the Framework Document, incorporated as an appendix of the IAD. It can be difficult to compare and contrast traffic operations for various interchange alternatives based on LOS only. For instance, a Parclo may operate very well at the ramp junctions from a LOS standpoint; however, there is a user cost associated with traveling the longer distance of the loop ramp, at a lower speed, than just a normal diamond interchange ramp. A SPUI might show a worse LOS at its single signalized intersection than the LOS results for each individual signalized ramp junction of a DDI; however, if a motorist is travelling through the interchange, it could be beneficial to only have to potentially stop at one signalized intersection instead of two. Performance measures from the traffic model microsimulation were used to compare the build interchange alternatives on a more comprehensive basis. The performance measures track the total delay, vehicle miles travelled (VMT), and vehicle hours travelled for each individual vehicle travelling through the study area, within the traffic model, and adds them together to provide cumulative results for the AM and PM peak hours. All four build alternatives provide desirable traffic operations with the Parclo A with slip ramp and DDI with grade separation alternatives having the least overall delay and the Conventional DDI and the SPUI alternatives having the least VMT and VHT. All four build alternatives would be constructed to INDOT standards and would be considered safe.

Parclo A with Slip Ramp (I-65 at SR 267)

The Parclo A with slip ramp alternative was eliminated from further consideration because it has the greatest impacts and it costs approximately \$15.43 million more than the Conventional DDI alternative.

DDI with grade Separation (I-65 at SR 267)

The DDI with grade separation alternative was eliminated from further consideration because it costs approximately \$4.05 million more than the Conventional DDI alternative and results in the potential use of a Section 4(f) resource.

SPUI (I-65 at SR 267)

With the choice of preferred alternative narrowed to the Conventional DDI and SPUI, the SPUI was eliminated from further consideration because it would cost approximately \$2.60 million more than the Conventional DDI, it does not fully utilize the design life of a recent INDOT infrastructure investment (SR 267 bridge reconstructed in 2010), and it does not provide the benefit of minimizing disruption to SR 267 traffic operations during construction. The SPUI does not safeguard against unforeseen fluctuations in future land development and traffic projections because, unlike the Conventional DDI, the SPUI is not easy to expand in the future to add capacity, if necessary.

I-65 at CR550S Interchange

Non-Preferred Interchange Build Alternatives (I-65 at CR550S):

In addition to the preferred Conventional DDI previously discussed, three additional new interchange build alternatives were investigated: Tight Diamond, SPUI, and Conventional Diamond. All of the interchange build alternatives for I-65 at CR550S satisfied the project's purpose and need and all would have similar impacts to environmental resources. While all four build alternatives provide desirable traffic operations, the Conventional DDI has low forecasted delay (lowest for the AM peak and second lowest for the PM peak), as well as the lowest VMT and VHT of all alternatives. All four alternatives would be constructed to INDOT standards and would be considered safe. The Conventional DDI has the least conflict points of all alternatives. The Conventional Diamond and Tight Diamond alternatives perform similarly.

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County Boone Route I-65 at SR 267 and at CR550S Des. No. 1702147, 1801826, 1801825

Table 7 | I-65 at CR550S Interchange Alternatives Summary Matrix

			Tight Diamond	Conventional DDI (Preferred)	SPUI	Conventional Diamond
Traffic Operations (P&N)	2040 Peak Traffic Operations	AM	Total delay = 57 hrs VMT = 7,467 miles VHT = 339 hours	Total delay = 42 hrs VMT = 7,336 miles VHT = 305 hours	Total delay = 43 hrs VMT = 7,498 miles VHT = 314 hours	Total delay = 56 hrs VMT = 7,480 miles VHT = 342 hours
		PM	Total delay = 59 hrs VMT = 7,930 miles VHT = 180 hours	Total delay = 47 hrs VMT = 7,813 miles VHT = 164 hours	Total delay = 45 hrs VMT = 7,966 miles VHT = 165 hours	Total delay = 58 hrs VMT = 7,950 miles VHT = 183 hours
Safety (P&N)	Enhanced Via Imp. Traffic Operations		Yes	Yes	Yes	Yes
Access (P&N)	Direct Between Whitestown Pkwy. and SR 267		Yes	Yes	Yes	Yes
Growth (P&N)	Supports Existing & Projected Land Use		Yes	Yes	Yes	Yes
Environmental Impacts	New Permanent ROW (acres)		53.5	56.0	56.2	65.2
	Wetlands (acres)		0.02	0.02	0.02	0.02
	Floodplain (acres)		0.7	0.7	0.7	0.7
	Streams (linear feet)		2,550	2,550	2,550	2,550
	Farmlands (acres)		48.5	49.5	49.1	53.2
	Section 106		No	No	No	No
	Section 4(f)		No	No	No	No
	Relocations		1 residence with farming operation	1 residence with farming operation	1 residence with farming operation	1 residence with farming operation
Cost	Total Cost		\$18.46 million	\$19.30 million	\$22.11 million	\$19.03 million
Other	Constructability		New terrain alignment – no disruption	New terrain alignment – no disruption	New terrain alignment – no disruption	New terrain alignment – no disruption
	Future Expandability		Bridges easily widened but adding a 3 rd left-turn lane would be undesirable	Bridges easily widened with minimal approach work	Widening would require raising bridge profile and approaches – new deck	Bridge easily widened with minimal approach work
	Infrastructure Economics		New terrain alignment – nothing to save	New terrain alignment – nothing to save	New terrain alignment – nothing to save	New terrain alignment – nothing to save

Note: VMT (vehicle miles travelled), VHT (vehicle hours travelled)

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Tight Diamond (I-65 at CR550S)

While the traffic modeling and growth forecasting methodology meets industry standards and is based on the best tools available, the precise final buildout of this area is not yet known. The area is currently wide-open and prime for continued, rapid development. Left turning movements tend to pose the greatest challenge to signalized intersections because they require green time that could otherwise be used for through movements. The I-65 at CR550S interchange will experience a heavy westbound CR550S to southbound I-65 left turning volume. The Tight Diamond alternative was eliminated from further consideration because if the Tight Diamond alternative would need to be expanded in the future, it would require triple lefts from CR550S to the southbound I-65 entrance ramp, which is operationally undesirable and would require additional bridge widening.

SPUI (I-65 at CR550S)

The SPUI alternative was eliminated from further consideration because it did not perform as well as the Conventional DDI alternative for the traffic operations, it is not as easily expandable in the future if necessary, and it is estimated to cost approximately \$2.81 million more than the Conventional DDI alternative.

Conventional Diamond (I-65 at CR550S)

With the choice of preferred alternative narrowed to the Conventional DDI and the Conventional Diamond, the Conventional Diamond was eliminated from further consideration because the Conventional DDI provides better peak traffic operations. The Conventional DDI provides a free-flow configuration for the critical westbound CR550S to southbound I-65 movement, representing the morning commute into the city, in the AM peak period. Another reason for eliminating the Conventional Diamond from further consideration is because it has higher anticipated right-of-way impacts than the Conventional DDI. The Conventional Diamond is estimated to cost approximately \$0.27 million less than the Conventional DDI; however, this cost is minor compared to the operations benefits of the Conventional DDI.

Northbound I-65 Exit to Whitestown Parkway

Non-Preferred Interchange Build Alternatives (Northbound I-65 Exit to Whitestown Parkway):

The only alternatives at this location are the No-build and the preferred alternative.

Southbound I-65 Exit to I-865

Non-Preferred Interchange Build Alternatives (Southbound I-65 Exit to I-865):

The only alternatives at this location are the No-build and 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 (Describe)

X
X
X

ROADWAY CHARACTER:

Interstate 65

Functional Classification:	Principal Arterial (Interstate)				
Current ADT:	57,869	VPD (2016)	Design Year ADT:	84,474	VPD (2040)
Design Hour Volume (DHV):	7,415	Truck Percentage (%)	24		
Designed Speed (mph):	70	Legal Speed (mph):	70		

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Existing Proposed

Number of Lanes:	6		6	
Type of Lanes:	Vehicular – 3 NB, 3 SB		Vehicular – 3 NB, 3 SB	
Pavement Width:	72	ft.	72	ft.
Shoulder Width:	Outside 10 Inside 8	ft.	Outside 10 Inside 8	ft.
Median Width:	18 grass	ft.	18 grass	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

SR 267

Functional Classification: Minor Arterial south of I-65, Collector Intermediate north of I-65
 Current ADT: 9,828 VPD (2016) Design Year ADT: 34,461 VPD (2040)
 Design Hour Volume (DHV): 2,910 Truck Percentage (%) 27
 Designed Speed (mph): 45 Legal Speed (mph): 45

Existing Proposed

Number of Lanes:	2		5	
Type of Lanes:	Vehicular – 1 EB, 1 WB		Vehicular – 2 EB, 3 WB	
Pavement Width:	22	ft.	60	ft.
Shoulder Width:	10	ft.	2	ft.
Median Width:	N/A	ft.	Varies	ft.
Multi-Use Path Width:	8.5	ft.	10	ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

CR550S

Functional Classification: Major Collector west of I-65, Local Road east of I-65, No existing crossing of I-65
 Current ADT: 515 VPD (2016) Design Year ADT: 36,284 VPD (2040)
 Design Hour Volume (DHV): 3,180 Truck Percentage (%) 19
 Designed Speed (mph): 40 Legal Speed (mph): 40

Existing Proposed

Number of Lanes:	2		5	
Type of Lanes:	Vehicular – 1 EB, 1 WB		Vehicular – 2 EB, 3 WB	
Pavement Width:	18	ft.	60	ft.
Shoulder Width:	N/A	ft.	Varies	ft.
Median Width:	N/A	ft.	2.8	ft.
Multi-Use Path Width:	N/A	ft.	10	ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

If the proposed action has multiple roadways, this section should be filled out for each roadway.

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DESIGN CRITERIA FOR BRIDGES:

SR 267 (WB only)

Structure/NBI Number(s): 267-06-9291A

Sufficiency Rating: 98.7, Crawfordsville District Bridge Insp. Report (11-1-17)
(Rating, Source of Information)

	Existing	Proposed	
Bridge Type:	continuous composite prestressed concrete box beam	continuous composite prestressed concrete box beam	
Number of Spans:	2	2	
Weight Restrictions:	N/A	N/A	ton
Height Restrictions:	17.71	17.71	ft.
Curb to Curb Width:	56.0	56.0	ft.
Outside to Outside Width:	59.0	59.0	ft.
Shoulder Width:	8.0, 8.0	4.0, 12.0	ft.
Length of Channel Work:	N/A	N/A	ft.

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

Remarks: The existing SR 267 bridge over I-65 was reconstructed in 2010 and provides three lanes (one westbound through, one eastbound through and one left turn lane) with shoulders. The bridge will receive partial and full depth patching, as necessary, and a polymeric concrete bridge deck overlay. The bridge will carry three westbound through lanes as part of the new Conventional DDI interchange. See the Crawfordsville District Bridge Inspection Report (Appendix M), dated November 1, 2017, for sufficiency rating and other information regarding the condition of the existing SR 267 over I-65 bridge. A new, parallel bridge will be constructed to the north to carry eastbound SR 267 traffic as part of the new Conventional DDI.

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

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

SR 267 (EB only)

Structure/NBI Number(s): N/A

Sufficiency Rating: N/A
(Rating, Source of Information)

	Existing	Proposed	
Bridge Type:	N/A	continuous composite prestressed concrete beam	
Number of Spans:	N/A	2	
Weight Restrictions:	N/A	N/A	ton
Height Restrictions:	N/A	17.0	ft.
Curb to Curb Width:	N/A	45.2	ft.
Outside to Outside Width:	N/A	48.2	ft.
Shoulder Width:	N/A	3.7, 4.0	ft.
Length of Channel Work:	N/A	N/A	ft.

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

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Remarks: The new bridge will provide a 3.7 feet outside shoulder, two 12 feet through lanes, and a 4 feet inside shoulder as part of the new Conventional DDI interchange. The bridge will also carry a 10 feet multi-use path on the inside with 1 feet offsets to barrier rail on each side. The multi-use path will connect to the existing Albert White Drive Trail, in the southeast quadrant of the intersection of Albert White Drive with the realigned Perry Worth Road, at the eastern limit of the project. The bridge will have a 4 feet inside and 3.7 feet outside shoulder.

Yes No N/A

Will the structure be rehabilitated or replaced as part of the project?

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

CR550S
 Structure/NBI Number(s): N/A Sufficiency Rating: N/A
 (Rating, Source of Information)

	Existing	Proposed
Bridge Type:	N/A	continuous composite prestressed concrete beam
Number of Spans:	N/A	2
Weight Restrictions:	N/A	N/A
Height Restrictions:	N/A	16.9
Curb to Curb Width:	N/A	91.3
Outside to Outside Width:	N/A	94.3
Shoulder Width:	N/A	3.7,3.7
Length of Channel Work:	N/A	N/A

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

Remarks: The new bridge will provide 3.7 feet inside and outside shoulders, two 12 feet eastbound through lanes, two 12 feet and one 13 feet westbound through lanes, and a 10 feet multi-use path down the center with 1 feet offsets to barrier rail on each side. The multi-use path will serve as an extension of the Albert White Drive Trail. This extension is proposed in the Whitestown Bicycle and Pedestrian Master Plan, dated February 28, 2018.

Yes No N/A

Will the structure be rehabilitated or replaced as part of the project?

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

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MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

I-65 at SR 267 Interchange

- Is a temporary bridge proposed?
- Is a temporary roadway proposed?
- Will the project involve the use of a detour or require a ramp closure? (describe in remarks)
 - Provisions will be made for access by local traffic and so posted.
 - Provisions will be made for through-traffic dependent businesses.
 - Provisions will be made to accommodate any local special events or festivals.
- Will the proposed MOT substantially change the environmental consequences of the action?
- Is there substantial controversy associated with the proposed method for MOT?

Yes	No
	X
	X
X	
X	
X	
	X
	X

Remarks:

The new I-65 at CR550S Conventional DDI interchange and the new SR 267 bridge over I-65 (future eastbound lanes for the Conventional DDI) will be built at the same time and constructed outside of and adjacent to existing roadways and bridges, with minimal disruption to existing traffic. The existing I-65 at SR 267 interchange can remain operational, with no restrictions, while this work occurs. Once the new I-65 at CR550S Conventional DDI and the new SR 267 bridge over I-65 are complete, they will be made operational and used for maintenance of traffic during the rehabilitation of the existing SR 267 bridge over I-65 and the reconstruction of the I-65 at SR 267 interchange (Appendix C). There will be disruptions to I-65 traffic when beams are set for the SR 267 bridges over I-65. Efforts will be made to perform this work during the off-peak to minimize queuing. Proper notification and signage will be used to communicate any closure to the public.

With the large amount of local traffic in the area, it is anticipated that some motorists will decide to take an unofficial detour route to the south to Whitestown Parkway. Provisions will be made to maintain access to any adjacent business along SR 267, within the construction zone, that do not already have additional access. The project team will continue to coordinate with the Town of Whitestown and the Boone County Highway Department during design and construction.

I-65 at CR550S Interchange

- Is a temporary bridge proposed?
- Is a temporary roadway proposed?
- Will the project involve the use of a detour or require a ramp closure? (describe in remarks)
 - Provisions will be made for access by local traffic and so posted.
 - Provisions will be made for through-traffic dependent businesses.
 - Provisions will be made to accommodate any local special events or festivals.
- Will the proposed MOT substantially change the environmental consequences of the action?
- Is there substantial controversy associated with the proposed method for MOT?

Yes	No
	X
	X
	X
X	
X	
X	
	X
	X

Remarks:

The new CR550S interchange will be constructed outside of and adjacent to existing roadways and bridges; therefore, this portion of the project construction will occur without impacting existing traffic operations. Maintenance of traffic issues are minor at this location. There will be disruptions to I-65 traffic when beams are set for the new CR550S bridge over I-65. Efforts will be made to perform this during the off-peak to minimize queuing. Proper notification and signage will be used to communicate any closure to the public.

Northbound I-65 Exit to Whitestown Parkway

- Is a temporary bridge proposed?
- Is a temporary roadway proposed?
- Will the project involve the use of a detour or require a ramp closure? (describe in remarks)
 - Provisions will be made for access by local traffic and so posted.
 - Provisions will be made for through-traffic dependent businesses.
 - Provisions will be made to accommodate any local special events or festivals.

Yes	No
	X
	X
	X
X	
X	
X	

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Will the proposed MOT substantially change the environmental consequences of the action?
 Is there substantial controversy associated with the proposed method for MOT?

Remarks: Construction will only impact the northbound I-65 exit ramp to Whitestown Parkway. Work will be completed under traffic conditions; however, minimal closure of the ramp may be necessary to complete a construction task. Efforts will be made to perform this during the off-peak to minimize queuing. Proper notification and signage will be used to communicate any closure to the public.

Southbound I-65 Exit to I-865

	Yes	No
Is a temporary bridge proposed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is a temporary roadway proposed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the project involve the use of a detour or require a ramp closure? (describe in remarks)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provisions will be made for access by local traffic and so posted.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for through-traffic dependent businesses.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made to accommodate any local special events or festivals.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Will the proposed MOT substantially change the environmental consequences of the action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there substantial controversy associated with the proposed method for MOT?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: Construction will only impact the southbound I-65 exit ramp to I-865. Work will be completed under traffic conditions; however, minimal closure of the ramp may be necessary to complete a construction task. Efforts will be made to perform this during the off-peak to minimize queuing. Proper notification and signage will be used to communicate any closure to the public.

ESTIMATED PROJECT COST AND SCHEDULE:

I-65 at SR 267 Interchange

Engineering: \$ 4,500,000 (2018) Right-of-Way: \$ 3,092,4055 (2019) Construction: \$ 29,676,000 20/21

Anticipated Start Date of Construction: Spring 2020

Date project incorporated into STIP July 3, 2017

Is the project in an MPO Area? Yes No

If yes,

Name of MPO Indianapolis Metropolitan Planning Organization (MPO)

Location of Project in TIP Page 27

Date of incorporation by reference into the STIP May 24, 2017

CR550S Interchange

Engineering: \$ 1,510,606 (2018) Right-of-Way: \$ _____ (2019) Construction: \$ 11,816,426 (2020)

Anticipated Start Date of Construction: Spring 2020

Date project incorporated into STIP Amend. #18-08 (December 10, 2017)

This is page 22 of 52 Project name: Int. Mod. (I-65/SR 267) & New Int. (I-65/CR550S) Date: February 27, 2019

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County Boone Route I-65 at SR 267 and at CR550S Des. No. _____

Is the project in an MPO Area? **Yes** **No**

If yes,

Name of MPO Indianapolis Metropolitan Planning Organization (MPO)

Location of Project in TIP Resolution Number 17-IMPO-012

Date of incorporation by reference into the STIP December 13, 2017

RIGHT-OF-WAY:

I-65 at SR 267 Interchange

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	0.0	0.0
Commercial	2.5	0.0
Agricultural	6.3	0.0
Forest	0.0	0.0
Wetlands	0.0	0.0
Other: Scrub/Mowed	0.5	0.0
TOTAL	9.3	0.0

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 land use impacts in the previous table include impacts created by new permanent and temporary right-of-way. The preferred alternative will permanently impact 2.5 acres of commercial land, 6.3 acres of agricultural land, and 0.5 acre of scrub/mowed land. No temporary land use impact is anticipated. When including existing right-of-way with the new right-of-way, the preferred alternative will permanently impact 2.5 acres of commercial land, 6.3 acres of agricultural land, 1.9 acres of trees, 3.1 acres of wetlands, and 25.2 acres of scrub/mowed land. Typical right-of-way width along I-65 and the Perry Worth Road (frontage road) at this location is 270 feet (existing) with no plans to widen I-65. Typical right-of-way along SR 267 at this location is 140 feet (existing) and 220 feet (proposed) with a maximum right-of-way of 270 feet (proposed). I-65 and SR 267 right-of-way widths vary within the interchange proper.

I-65 at CR550S Interchange

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	5.9	0.0
Commercial	0.1	0.0
Agricultural	49.5	1.3
Forest	0.0	0.0
Wetlands	0.02	0.00
Other: Mowed	0.5	1.1
TOTAL	56.0	2.4

This is page 23 of 52 Project name: Int. Mod. (I-65/SR 267) & New Int. (I-65/CR550S) Date: February 27, 2019

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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 land use impacts in the previous table include impacts created by new permanent and temporary right-of-way. The preferred alternative will permanently impact 5.9 acres of residential land, 0.1 acre of commercial land, 49.5 acres of agricultural land, and 0.5 acre of mowed land. The preferred alternative will temporarily impact 1.3 acres of agricultural land and 1.1 acres of mowed land. When including existing right-of-way with the new right-of-way, the preferred alternative will permanently impact 5.9 acres of residential land, 0.1 acre of commercial land, 49.5 acres of agricultural land, 2.2 acres of trees, 0.02 acre of wetlands, and 19.0 acres of mowed land. Typical right-of-way width along I-65 and the Perry Worth Road (frontage road) at this location is 270 feet (existing) and 340 feet (proposed) with a maximum width of 390 feet (proposed). Typical right-of-way along CR550S at this location is 30 feet (existing) 200 feet (proposed) with a maximum right-of-way of 400 feet (proposed) at the proposed diverging diamond junction on the west side of I-65. I-65 and CR550S right-of-way widths vary within the interchange proper, and there are proposed right-of-way acquisitions in the northeast and southeast quadrants to accommodate the relocation of Perry Worth Road (frontage road).
--

Northbound I-65 Exit to Whitestown Parkway

Existing right-of-way along I-65 at this location varies from 250 feet, at the southern limit of the proposed improvement, and widens to 260 feet where the exit ramp departs from northbound I-65. No new permanent or temporary right-of-way is required.

Southbound I-65 Exit to I-865

Existing right-of-way along I-65 at this location varies from 260 feet, at the northern limit of the proposed improvement, and widens to 270 feet where the exit ramp departs from southbound I-65. No new permanent or temporary right-of-way is required.

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

SECTION A – ECOLOGICAL RESOURCES

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

Remarks: Three Red Flag Investigations (RFIs) were completed for this project (Appendix E). The Red Flag Investigation (RFI) for the SR 267 interchange modification was approved on April 10, 2018. Two stream segments were located within the 0.5-mile search radius, with the nearest being Fishback Creek approximately 0.09 mile north of the SR 267 interchange modification. Two IDEM 303d Listed Impaired Stream segments were located within the 0.5-mile search radius, including Fishback Creek which is listed as impaired for *E. coli*. No impact is expected due to the distance from the project. The RFI for the added interchange at CR550S was approved on April 26, 2018. Five stream segments were located within the 0.5-mile search radius. The presence of Etter Ditch within the CR550S new interchange area required preparation of a Waters of the U.S. report. Etter Ditch is listed as impaired for *E. coli*. The RFI for ramp modifications at the I-65 exits at Whitestown Parkway and I-865 was approved on May 11, 2018. Four stream segments were located within the 0.5-mile search radius, with the nearest being a tributary of Fishback Creek approximately 0.2 mile east of the I-865 ramp. No impact is expected due to the distance from the project. Workers who are working in or near water with *E. coli* should take care to wear proper PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

Field work for streams was conducted on October 17, 2017, and January 11, 2018. The Waters of the U.S. Report was approved on March 20, 2018 (Appendix H). The I-65 at CR550S interchange is expected to impact two tributaries. Etter Ditch is an excavated riverine intermittent seasonally flooded streambed that drains to the south and has an ordinary high-water mark (OHWM) of 8.0 feet in width and 1.0 foot in depth. The UNT of Etter Ditch is an ephemeral channel which drains west into Etter Ditch and has an OHWM of 6.0 feet in width and 0.75 foot in depth. Etter Ditch is a mapped USGS blue line stream, but UNT to Etter Ditch is not. Roadside ditches with outlets into Etter Ditch did not show characteristics of a tributary. Etter Ditch has apparent connectivity to White Lick Creek, which itself encounters the navigable White River, therefore Etter Ditch and UNT to Etter Ditch are considered likely Waters of the U.S. Approximately 1577 linear feet of Etter Ditch and approximately 975 linear feet of an Unnamed Tributary (UNT) of Etter Ditch are expected to be impacted. See the Waters of the U.S. Report for more information (Appendix H). Mitigation may be required for impacts to streams greater than 300 cumulative feet. Impacts to the streams have been reduced though reduction of the CR550S new interchange right-of-way to the extent practicable in stream areas. Complete avoidance of stream impacts is not practicable because the No-build Alternative would not meet identified project needs.

No other streams, rivers, watercourses, or jurisdictional ditches are expected to be impacted at the SR 267, Whitestown Parkway, or I-865 interchanges. The Waters of the U.S. Report identified some wetland features which occurred within roadside ditches, but these had no OHWMs and were considered potentially impacted wetlands.

Early coordination was sent to the U.S. Army Corps. of Engineers (USACE), Indiana Department of Natural Resources (IDNR) and the U.S. Fish and Wildlife Service (USFWS) on October 2, 2017. The response from USFWS was dated October 3, 2017 and contained no recommendations pertaining to waters (Appendix D-5). More coordination was sent to USFWS regarding the added interchange at CR550S on April 23, 2018, and a

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response was sent on April 25, 2018. This response included recommendations regarding avoidance of work during fish spawning, low-water and channel work restrictions, wildlife crossings where practical, extension of riprap below the low water elevation, and temporary erosion and silt control methods. See Section J – Environmental Commitments for more detail.

The response from IDNR was dated November 2, 2017. IDNR recommended reducing impacts to Etter Ditch to the extent practicable. Impacts to the streams have been reduced though reduction of the CR550S new interchange right-of-way to the extent practicable in stream areas. Complete avoidance of stream impacts is not practicable because the No-build Alternative would not meet identified project needs. The response included recommendations regarding mitigation, erosion control, fish passage, bed and streambank stabilization, fish spawning dates, and the minimization of channel disturbance. See Section J – Environmental Commitments for more detail.

USACE coordination was received on October 20, 2017, (Appendix D-10) USACE stated that a Department of the Army (DA) permit application should be submitted for impacts to any “waters of the United States” including Etter Ditch and UNT to Etter Ditch.

Other Surface Waters

Reservoirs
Lakes
Farm Ponds
Detention Basins
Storm Water Management Facilities
Other: Boone’s Pond (recreation area)

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Reservoirs			
Lakes	X		X
Farm Ponds			
Detention Basins	X		X
Storm Water Management Facilities			
Other: <u>Boone’s Pond (recreation area)</u>	X		X

Remarks:

Three RFIs were completed for this project (Appendix E). The Red Flag Investigation (RFI) for the SR 267 interchange modification was approved on April 10, 2018. Six lakes are located within the 0.5-mile search radius. The presence of the adjacent Boone’s Pond required preparation of a Waters of the U.S. report. The RFI for the added interchange at CR550S was approved on April 26, 2018. Six lakes are located within the 0.5-mile search radius, with the nearest being 0.05 mile northeast of the proposed interchange. No impact is expected due to the distance from the project. The RFI for ramp modifications at the I-65 exits at Whitestown Parkway and I-865 was approved on May 11, 2018. Thirteen lakes are located within the 0.5-mile search radius, with the nearest being 0.04 mile east of the Whitestown Parkway ramp. No impact is expected due to the distance from the project.

The SR 267 interchange is near four unnamed detention basins with standing water (Appendix H). Three of these are south of the gas station in the south quadrant and the other is in an agricultural field in the west quadrant. None of these are within the project right-of-way. Additionally, there are two detention basins east of the project and associated with the GreenCycle property. The GreenCycle ponds are outside the project right-of-way. All of these detention basins are manmade drainage control structures and therefore isolated exempt waters. Boone’s Pond is a recreational pond used primarily for fishing and approximately 205 feet northeast of the SR 267 northbound entrance ramp. Boone’s Pond is a likely Water of the U.S. due to its apparent significant nexus to Fishback Creek. Boone’s Pond is outside the right-of-way for this project. None of these surface waters are expected to be impacted by the project.

The exit ramp modification at Whitestown Parkway is approximately 250 feet northwest of an unnamed retention pond east of I-65. This pond is outside the right-of-way and is not expected to be impacted by this project.

There are no surface waters in, adjacent to, or near the proposed new interchange at CR550S and exit ramp modification at I-865.

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Wetlands Yes Yes No

Total wetland area: 5.83 acre(s) Total wetland area impacted: 3.41 acre(s)

Preferred Alternative

Table 8 | Wetland Impacts

Wetland No.*	Project	Classification	Total Size (Acres)	Impacted Acres	Quality/ Function	Jurisdictional
1	SR 267	PEM	0.01	0.01	Low – Depression at a pipe outlet	Yes
2	SR 267	PEM	0.73	0.73	Low – Detention area	Yes
3	SR 267	PEM	0.08	0.08	Low – Ditch	Yes
4	SR 267	PEM	0.11	0.01	Low - Ditch	Yes
5	SR 267	PEM	0.02	0.02	Low – Depression at hillslope base	Yes
6	SR 267	PEM	0.36	0.18	Low – Ditch	Yes
7	SR 267	PEM	0.03	0.03	Low – Depression at a pipe outlet	Yes
8	SR 267	PEM	0.08	0.08	Low – Detention area	Yes
9	SR 267	PEM	0.005	0.005	Low – Depression	Yes
10	SR 267	PEM	0.30	0.30	Low – Detention Area	Yes
11	SR 267	PEM	1.54	1.54	Low – Detention Area	Yes
13	CR550S	PEM	2.18	0	Fair – Marsh	Yes
14	CR550S	PEM	0.003	0.003	Low – Ditch Feature	Yes
15	CR550S	PEM	0.005	0.005	Low – Ditch Feature	Yes
16	Whitestown Pkwy	PEM	0.18	0.10	Low – Ditch	Yes
17	I-865	PEM	0.19	0.19	Low - Ditch	Yes
18	SR 267	PEM	0.12	0.12	Low - Ditch	Yes
JAR#1	CR550S	PEM	0.002	0.002	Low – Ditch Feature	Yes
JAR#2	CR550S	PEM	0.001	0.001	Low – Ditch Feature	Yes
JAR#3	CR550S	PEM	0.0005	0.0005	Low – Ditch Feature	Yes
JAR#4	CR550S	PEM	0.0007	0.0007	Low – Ditch Feature	Yes
JAR#5	CR550S	PEM	0.0008	0.0008	Low – Ditch Feature	Yes
JAR#6	CR550S	PEM	0.0004	0.0004	Low – Ditch Feature	Yes
JAR#7	CR550S	PEM	0.001	0.001	Low – Ditch Feature	Yes
JAR#8	CR550S	PEM	0.002	0.002	Low – Ditch Feature	Yes

* Incidental wetland features not exceeding the banks of roadside ditches were classified as Jurisdictional Aquatic Resources (JARs) in the Waters of the U.S. Report (Appendix H)

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Documentation

ES Approval Dates

Wetlands (Mark all that apply)

Wetland Determination	X	3/20/18
Wetland Delineation	X	3/20/18
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; | X |
| Substantially increased project costs; | X |
| Unique engineering, traffic, maintenance, or safety problems; | |
| Substantial adverse social, economic, or environmental impacts, or | |
| 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:

Three RFIs were completed for this project (Appendix E). The Red Flag Investigation (RFI) for the SR 267 interchange modification was approved on April 10, 2018. Twenty-two National Wetland Inventory (NWI) wetlands are located within the 0.5-mile search radius. The presence of one NWI wetland required preparation of a Waters of the U.S. report. The RFI for the added interchange at CR550S was approved on April 26, 2018. Eighteen NWI wetlands, one NWI wetland point, and five NWI lines are located within the 0.5-mile search radius. The presence of one NWI line, two NWI wetlands and two adjacent NWI wetlands required preparation of a Waters of the U.S. report. The RFI for ramp modifications at the I-65 exits at Whitestown Parkway and I-865 was approved on May 11, 2018. Twenty-two NWI wetlands and one NWI wetland point are located within the 0.5-mile search radius. The presence of one NWI wetland adjacent to the Whitestown Parkway ramp required the preparation of a Waters of the U.S. Report.

The Waters of the U.S. Report was approved on March 30, 2018. It indicated 25 wetlands within the overall project area, of which 8 were small Jurisdictional Aquatic Resources (JAR) incidental to ditches and one (Wetland 13) was not impacted (Appendix H).

During project design it was attempted to reduce wetland impact to the extent practicable. Boone's Pond north of the SR 267 interchange was avoided during design. Wetland 13 north of CR550S, the largest and highest quality wetland identified by the project, was avoided during design of the preferred alternative. All wetland areas affected by this project are either ditches with wetland characteristics, detention areas in the SR 267 interchange, or small incidental depressions in the cases of Wetlands 1, 5, 7, and 9 and all appear to be low or poor quality.

All of the affected ditch and detention areas are dominated by hybrid cattail (*Typha x-glauca*), which is a rapidly spreading vegetation that tends toward monoculture. Cattail marshes are considered low quality wildlife habitat except in very large stands. Wetland 4 is a ditch which contains a sedge marsh in the southern portion – this portion has been avoided by the preferred alternative, which only affects the cattail-dominated portion.

Early coordination was sent to the U.S. Army Corps. of Engineers (USACE), Indiana Department of Natural Resources (IDNR) and the U.S. Fish and Wildlife Service (USFWS) on October 2, 2017. The response from USFWS was dated October 3, 2017, and contained no recommendations pertaining to waters (Appendix D-5). More coordination was sent to USFWS regarding the CR550S project on April 23, 2018, and a response was sent on April 25, 2018. This response contained no recommendations pertaining to wetlands (Appendix D-7).

The response from IDNR was dated November 2, 2017 (Appendix D-14). IDNR recommended reducing

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impacts to Etter Ditch to the extent practicable. The response also recommended the following:

Due to the presence or potential presence of wetlands on site, IDNR recommends contacting and coordinating with the IDEM 401 program and also the USACE 404 program. Impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding.

USACE coordination was received on October 20, 2017 (Appendix D-10). USACE stated that a Department of the Army (DA) permit application should be submitted for impacts to any "waters of the United States" including wetlands with significant nexus to Fishback Creek, Etter Ditch, or Green Ditch.

Efforts to avoid and minimize impacts to wetlands have been made in accordance with Executive Order 11990. Based upon the above considerations, it has been determined that there is no practicable alternative to the proposed new construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. The Do-Nothing Alternative would not result in any wetland impacts but is not practicable because it does not meet the identified needs. FHWA issuance of a Finding of No Significant Impact (FONSI) will constitute approval of the adverse impacts to the wetlands.

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Terrestrial Habitat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unique or High Quality Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Remarks: The preferred alternative for the SR 267 interchange modification involves permanent terrestrial habitat impacts to 13.8 acres of mowed area, 11.4 acres of shrub/fencerow, 6.3 acre of agricultural area, and 1.9 acre of trees. Note that impact to trees has been reduced since the completion of the USFWS Information, Planning and Conservation System (IPaC). See Appendix D-58-59.

The preferred alternative for the proposed new CR550S interchange involves permanent terrestrial habitat impacts to 49.5 acres of agricultural area, 19.0 acres of mowed area, and 2.2 acres of trees. The preferred alternative also involves temporary terrestrial impacts to 1.3 acres of agricultural area and 1.1 acres of mowed area.

The preferred alternative for the northbound I-65 exit to Whitestown Parkway involves permanent terrestrial impacts to 0.1 acre of wetlands.

The preferred alternative for the southbound I-65 exit to I-865 involves permanent terrestrial impacts to 0.2 acre of wetlands.

The mowed areas within all project areas consist mostly of grassy roadside habitat dominated by fescue (*Schedonorus* sp.), ryegrass (*Lolium* sp.) and bluegrass (*Poa* sp.). The shrub/fencerow areas are a mixture of upland scrub/shrub and oldfield species, dominated primarily by autumn olive (*Eleagnus umbellata*), non-native honeysuckle (*Lonicera* sp.), and teasel (*Dipsacus fullonium*).

There are between 5-15 isolated trees which will be impacted from the interchange modification at CR 267. Near Wetland 11 there are some red maples (*Acer rubra*) and eastern cottonwood (*Populus deltoides*). Near Wetlands 2 and 11 there are several non-native pines (*Pinus* sp.), some of which are dead. The remaining wooded area is a stand of eastern cottonwood near Wetland 1. There is approximately 2.2 acres of wooded ditch line at the CR550S which will be impacted by the interchange construction. This area is dominated by eastern cottonwood. No trees are expected to be impacted at the Whitestown Parkway and I-865 ramp modifications.

A total of 25 bird species were noted during field work at the SR 267 interchange, but most were associated with Boone's Pond. A total of 12 bird species were noted at CR550S new interchange area, 2 bird species at

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the I-865 ramp, and no wildlife was noted at the Whitestown Parkway ramp. No sensitive habitat or species were observed in or near the project area during the field investigations by the consultant on October 14 and 21, 2016; October 17 and November 13, 2017; and January 11, 2018.

In an early coordination letter dated April 23, 2018, USFWS recommended that tree-clearing be avoided during the period April 1 - September 30 to avoid incidental take from removal of an occupied roost tree.

In an early coordination letter dated November 2, 2017, IDNR recommended the following:

1. IDNR recommends a mitigation plan be developed (and submitted with the permit application, if required) for any unavoidable habitat impacts that will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at <http://www.in.gov/legislative/iac/20140806-IR-312140295NRA.xml.pdf>. Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees) (IDNR).
2. Revegetate "low maintenance" areas with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; non-native turf-type roadside grasses (excluding tall fescue) may be used in "high maintenance" areas only (low endophyte tall fescue may be used on "high maintenance" ditch bottoms and side slopes only).
3. Do not cut any trees suitable for bat roosting (greater than 3 inches DBH, living or dead, with loose hanging bark) 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

In the Proposed Roadway Letter, 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 (Appendix D-17). Total disturbed area will be greater than the 1 acre threshold for an IDEM Rule 5 Storm Water Runoff Permit.

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

Is the proposed project located within or adjacent to the potential Karst Area of Indiana?
 Are karst features located within or adjacent to the footprint of the proposed project?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

If yes, will the project impact any of these karst features?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

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:

The project is located outside the designated karst area of the state as identified in the October 13, 1993, Memorandum of Understanding (1993 Karst MOU). No karst features were observed or are known to exist within or adjacent to the proposed project. No impacts to karst features are expected. The 1993 Karst MOU is not applicable to this project, and a karst assessment is not required. No karst features were found in the RFI reports (Appendix E).

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An early coordination response from the Indiana Geological Survey (IGS) dated October 3, 2017, stated that the SR 267 and CR550S project areas have moderate potential for liquefaction, moderate potential for impact to a bedrock resource, and moderate potential for impact to a sand and gravel resource (Appendix D-31). Project design will take these geologic resources into account.

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Threatened or Endangered Species			
Within the known range of any federal species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Any critical habitat identified within project area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal species found in project area (based upon informal consultation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State species found in project area (based upon consultation with IDNR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is Section 7 formal consultation required for this action?			
	<input type="checkbox"/>	<input type="checkbox"/>	

Remarks:

Based on a desktop review and the RFIs (Appendix E), completed by Corradino, LLC on April 10, 2018, April 26, 2018, and May 11, 2018, the IDNR Boone County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in Appendix E-12. The highlighted species on the list reflect the federal and state identified ETR species located within the county.

The IDNR Indiana Natural Heritage Data Center early coordination response dated October 3, 2017, revealed no state rare, threatened, or endangered species near the project site (Appendix D-13). The IDNR early coordination response, dated November 2, 2017, recommended not to 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.

According to the Information for Planning and Consultation (IPaC) Official Species List (Appendix D-41 to D-86), the project is within the range of the federally-endangered Indiana bat, *Myotis sodalis* and the federally-threatened northern long-eared bat, *Myotis septentrionalis*. This project is not expected to impact any critical habitat for these species.

The Programmatic IPaC was not able to assess the situation for the CR550S new interchange area, because there were a large number of trees greater than 300 feet from the roadway. Instead, informal consultation with the USFWS was sent on April 23, 2018 (Appendix D-7). A field inspection by the consultant on April 12, 2018, found no signs of bats at the two 48-inch tall structures at CR550S (a culvert under Indianapolis Road and a culvert east of the intersection of CR550S and Indianapolis Road). The USFWS response on April 25, 2018, stated that the CR550S area had suitable habitat for both Indiana bat and northern long-eared bat, including the wooded areas within the project boundary. The project will not eliminate enough habitat (approximately 2.2 acres) to affect these species, but to avoid incidental take from removal of an occupied roost tree, USFWS recommends that tree-clearing be avoided during the period April 1-September 30. If this measure is implemented, USFWS concurs that the project is not likely to adversely affect the Indiana bat or the northern long-eared bat.

The SR 267 interchange modification, Whitestown Parkway ramp modification, and I-865 ramp modification qualify for the Range-wide Programmatic Informal Consultation for the Indiana Bat and Northern Long-eared Bat, Version 4.0, December 2016, between FHWA, Federal Railroad Administration, and USFWS. Consistency Letters from the USFWS, dated March 22, 2018, found that the Whitestown Parkway and I-865 projects are likely to have no effect on the Indiana bat and northern long-eared bat (Appendix D). A Concurrence Verification Letter from the USFWS, dated May 10, 2018, found that the SR 267 project is not likely to adversely affect (NLAA) the Indiana bat and northern long-eared bat (Appendix D-62). Note that at the time of IPaC coordination, it was believed that 3.0 acres of trees may be impacted at the SR 267 interchange (Appendix D58-59), but since that time expected impacts have been reduced to 1.9 acre. Note that although the Whitestown Parkway and I-865 ramp modifications by themselves have findings of no effect,

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the project as a whole is categorized as NLAA due to the inclusion of SR 267. USFWS requests Avoidance and Minimization Measures (AMMs), including the following as firm commitments:

1. General AMM1 – Ensure all 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.
2. Lighting AMM1 – Direct temporary lighting away from suitable habitat during the active season.
3. Tree Removal AMM1 - Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely.
4. Tree Removal AMM 2 - Apply time of year restrictions (October 1 to March 30) 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.
5. Tree Removal AMM 3 - Ensure tree removal is limited to that specified in project plans. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits. Ensure that contractors understand clearing limits and how they are marked in the field.
6. Tree Removal AMM 4 – Do not remove documented Indiana bat or northern long-eared bat roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or documented foraging habitat any time of year.

On April 3, 2018, Corradino, LLC reviewed the USFWS map Range Map for the Rusty Patch Bumble Bee (*Bombus affinis*) (<https://www.fws.gov/midwest/endangered/insects/rpbb/rpbbmap.html>) and identified the project area is located outside a High Potential Zone for Rusty Patch Bumble Bee habitat. The RFI reports were approved on April 10, 2018, April 26, 2018, and May 11, 2018, (Appendix E) and INDOT confirmed this project is located outside a High Potential Zone for the Rusty Patch Bumble Bee.

A field inspection by the consultant's biologist on October 17 and November 13, 2017, revealed that appropriate Bald Eagle habitat is not found within the project area. Recommendations from IDNR and USFWS can be found in Section J (Environmental Commitments) of this EA. No impacts to any endangered or threatened species are expected.

SECTION B – OTHER RESOURCES

Drinking Water Resources	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Wellhead Protection Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Water System(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Well(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Source Water Protection Area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sole Source Aquifer (SSA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If a SSA is present, answer the following:

	<u>Yes</u>	<u>No</u>
Is the Project in the St. Joseph Aquifer System?	<input type="checkbox"/>	<input type="checkbox"/>
Is the FHWA/EPA SSA MOU Applicable?	<input type="checkbox"/>	<input type="checkbox"/>
Initial Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>
Detailed Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>

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Remarks: The proposed project is located within Boone County. Therefore, the project is not located within the legally designated St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the state. Therefore, the FHWA/EPA Sole Source Aquifer Memorandum of Agreement (MOA) is not applicable to this project, and a groundwater assessment is not required.

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<http://idemmaps.idem.in.gov/whpa/>) was accessed on October 3, 2017, by Corradino, LLC. The required project location data were provided and it was determined that this project is not located within a Wellhead Protection Area. According to the DNR Well Records Viewer (<https://www.in.gov/dnr/water/3595.htm>), accessed on October 13, 2017, and May 8, 2018, by Corradino, LLC, there is one well in the vicinity of the CR500S added interchange and four wells near the SR 267 interchange. No wells were found during the field investigations by the consultant on October 14 and 21, 2016; October 17, and November 13, 2017; and January 11, 2018.

The Whitestown and I-865 interchanges are located within the Boone County Urbanized Area Boundary (UAB). Coordination was sent to the Boone County MS4 Coordinator on October 3, 2017, and no response was received. Public water systems are located throughout the project area. Utility coordination meetings with potentially impacted utility providers have occurred as part of the design development process.

No impacts to drinking water resources are expected to occur.

Flood Plains	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Longitudinal Encroachment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Transverse Encroachment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Project located within a regulated floodplain	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Homes located in floodplain within 1000' up/downstream from project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Remarks: The interchange modification at SR 267 includes a grade change within the Fishback Creek floodplain with a new road alignment for Albert White Drive making a longitudinal encroachment, making this a Category 5 project per the INDOT CE Manual. The new interchange at CR550S crosses Etter Ditch with a transverse encroachment at its floodplain near Indianapolis Road. The Whitestown Parkway and I-865 ramp modifications are not near any regulatory floodplain, as determined from available Federal Emergency Management Agency (FEMA) flood plain data (Appendix E-32).

There will be no substantial impacts on natural and beneficial floodplain values; there will be no substantial change in flood risks; and there will be no substantial increase in potential for interruption or termination of emergency service or emergency evaluation routes; therefore, it has been determined that this encroachment is not substantial. A hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this study will be included with the Field Check Plans.

Early coordination was sent to IDNR on October 2, 2017. The response from IDNR was dated November 2, 2017. IDNR stated that any proposal to construct, excavate, or fill in or on the floodway of a stream which has a drainage area greater than one square mile may require formal approval pursuant of the Flood Control Act (IC 14-28-1) (Appendix D-13). Drainage areas were estimated using the USGS StreamStats tool (<https://water.usgs.gov/osw/streamstats/>). The upstream drainage area at the Etter Ditch crossing at the CR550S project area is 1.005 square mile at the structure location, which meets the rural bridge exemption for

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DNR Construction in a Floodway Permits. Coordination was sent to the Boone County MS4 Coordinator, Boone County Engineer, and Boone County Surveyor on October 3, 2017. No response was received from these entities. A meeting was held by the project designer with the Boone County Surveyor to discuss drainage requirements for the project.

The upstream drainage area at the SR 267 grade change area is 2.379 square miles. Because this area does not have an existing bridge, a Construction in a Floodway Permit will be required.

INDOT will work closely with IDNR to adequately study the impacts to the floodplains during further development of this project. INDOT will submit a formal permit application to IDNR Division of Water during the design phase of project development when a "Construction in a Floodway" permit is required.

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Farmland – SR 267			
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
 Total Points (from Section VII of CPA-106/AD-1006* <u>121</u>			
<i>*If 160 or greater, see CE Manual for guidance.</i>			

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Farmland – CR550S			
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
 Total Points (from Section VII of CPA-106/AD-1006* <u>142</u>			
<i>*If 160 or greater, see CE Manual for guidance.</i>			

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

Remarks: As is required by the Farmland Protection Policy Act, the NRCS has been coordinated with and the Form NRCS-AD-1006/ has been completed (Appendix D-35). Since this project received a total point value of less than 160 points, this site will receive no further consideration for farmland protection. No other alternatives other than those already discussed in this document will be considered without a re-evaluation of the project's potential impacts upon farmland. This project will not have a significant impact to farmland.

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SECTION C – CULTURAL RESOURCES

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

Eligible and/or Listed
Resource Present

Results of Research

Archaeology	
NRHP Buildings/Site(s)	
NRHP District(s)	X
NRHP Bridge(s)	

Project Effect

No Historic Properties Affected No Adverse Effect Adverse Effect

Documentation
Prepared

Documentation (mark all that apply)

		ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report			
Historic Property Report	X	April 11, 2018	May 17, 2018
Archaeological Records Check/ Review			
Archaeological Phase Ia Survey Report	X	September 7, 2018	December 5, 2018
Archaeological Phase Ic Survey Report			
Archaeological Phase II Investigation Report			
Archaeological Phase III Data Recovery	X	January 10, 2019	February 20, 2019
APE, Eligibility and Effect Determination	X	January 10, 2019	February 20, 2019
800.11 Documentation			

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.

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Remarks:

Area of Potential Effect (APE):

The Area of Potential Effect (APE) centers on I-65 and extends from the I-865 eastbound flyover structure to approximately 2,500 feet north of SR 267 (Appendix F). The APE extends approximately one-quarter mile to the east and the west of I-65 at the SR 267 interchange, approximately one mile to the east and west of I-65 at the proposed CR550S interchange, and approximately 250 feet to the east and west of I-65 from Whitestown Parkway south to I-865. The Archaeological APE is confined to the area of proposed soil disturbance, assumed to be the proposed right-of-way.

Archaeology:

As the project's cultural resources Qualified Professional, Weintraut and Associates prepared the Phase Ia Archaeological Records Check and Field Reconnaissance and concluded that the proposed construction activities should have no effect on significant archaeological resources meeting the criteria established for listing in the HRHP.

An area with the potential to contain archaeological deposits was identified in the Archaeological Report. This is the area where the two modern buildings occur at the new interchange for CR550S, where the proposed entrance ramp from East CR550S enters the northbound I-65 travel lanes. It was not possible to survey due to the presence of concrete slabs in the approximate location of a nineteenth-century homestead. Preliminary archival research indicates that the homestead was occupied by the same family for at least eighty years. INDOT has agreed to monitor the site during the demolition.

The Archaeology Report recommended the following firm commitment. The vicinity of the two modern buildings east of I-65 at the CR550S new interchange should be clearly marked on construction plans (as do not disturb) and construction crews should be instructed to stop work within 100 feet and notify the INDOT Cultural Resources Office (Shaun Miller: 317-233-6795, smiller@indot.in.gov or Anuradha Kumar: 317-234-5168, akumar@indot.in.gov) if any foundations, deep pits or stains, or concentrations of historic artifacts are found within this specific area.

Historic Properties:

As the project's cultural resources Qualified Professional, Weintraut and Associates prepared the Historic Property Report and concluded that one property, the Traders Point Hunt Rural Historic District (NR-2085), is located within the APE and no other properties within the APE are eligible for listing in the NHRP.

Coordination with Consulting Parties:

- April 24, 2017 - Early Coordination Letters (ECL) and the Historic Property Report (HPR) were transmitted to the Consulting Parties with a 30-day comment period. Consulting Parties include:
 - Eastern Shawnee Tribe of Oklahoma
 - Forest County Potawatomi Community
 - Miami Tribe of Oklahoma
 - Peoria Tribe of Indians on Oklahoma
 - Pokagon Band of Indians of Oklahoma
 - Indiana Landmarks – Central Regional Office
 - Boone County Historian
 - Boone County Genealogy Society
 - Boone County Historical Society
 - Ralph W. Stark Heritage Center
 - SullivanMunce Cultural Center
 - Indianapolis Metropolitan Planning Organization
 - Boone County Planning and Zoning
 - Boone County Commissioners
 - Whitestown Planning and Community Development
 - Whitestown Town Council Members
 - Whitestown Historic Preservation Commission
 - John Hine – Property Owner
 - State Historic Preservation Officer (SHPO)

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- May 17, 2018 – The SHPO responded to the April 24, 2017, ECL and HPR distribution confirming that the list of consulting parties appeared adequate, the proposed APE appeared to be of appropriate size for a project of this nature, and the National Register of Historic Places (NRHP) listed Traders Point Hunt Rural District (NR-2085) is located partially within the APE. The SHPO also commented that it is unlikely the integrity of any of the characteristics of the district that make it eligible for the NRHP listing would be diminished by the project.

 - May 22, 2018 – Indiana Landmarks responded to the April 24, 2017 ECL and HPR distribution confirming the proposed APE is appropriate, the Traders Point Hunt Rural Historic District is the only resource listed in the NRHP within the APE, and there are no additional resources eligible for listing in the NRHP within the APE.

 - September 7, 2018 – The Phase Ia Archaeological Records Check and Field Reconnaissance was transmitted to Consulting Parties with a 30-day comment period.

 - October 3, 2018 – Miami Tribe of Oklahoma responded to the September 7, 2018, Archaeological Report distribution expressing no objection to the project and commenting that there is no known documentation directly linking a specific Miami cultural or historic site to the project site.

 - December 5, 2018 – The SHPO responded to the September 7, 2018, Archaeological Report distribution expressing concurrence with the Qualified Professional’s opinion that there are no known archaeological resources listed in, or eligible to be listed in, the NRHP. The SHPO also concurred with the Qualified Professional’s recommendation for archaeological monitoring of portions of Survey Area 1, Field 6 (agricultural buildings in the northeast quadrant of the proposed new CR550S interchange) during demolition.

 - February 20, 2019 – The SHPO responded to the February 15, 2019 transmittal of the effect finding and concurred with INDOT’s January 3, 2019 finding, on behalf of FHWA, of “Historic Properties Affected: No Adverse Effect.”
- Documentation, Findings:**
 As the project’s cultural resources Qualified Professional, Weintraut and Associates prepared the APE, Eligibility Determinations, and Effect Finding. The finding is Historic Properties Affected: No Adverse Effect. The Qualified Professional prepared the 800.11(e) documentation summarizing the entire Section 106 process.
- Public Involvement:**
 Public notice of “No Adverse Effect” finding and 800.11(e) documentation availability was advertised in the *Indianapolis Star* on January 16, 2019, with a 30-day comment period closure date of February 18, 2019. The “No Adverse Effect” finding and 800.11(e) documentation was made available for public review at HNTB Indiana, Inc.’s office at 111 Monument Circle, Suite 1200, Indianapolis, IN 46204. No comments were received.

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

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

	<u>Presence</u>	<u>Use</u>	
		Yes	No
Parks & Other Recreational Land			
Publicly owned park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Publicly owned recreation area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other (school, state/national forest, bikeway, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**Evaluations
Prepared**

Programmatic Section 4(f)*
"De minimis" Impact*
Individual Section 4(f)

**FHWA
Approval date**

--

Presence

Wildlife & Waterfowl Refuges

National Wildlife Refuge
National Natural Landmark
State Wildlife Area
State Nature Preserve

Use

Yes	No

**Evaluations
Prepared**

Programmatic Section 4(f)*
"De minimis" Impact*
Individual Section 4(f)

**FHWA
Approval date**

--

Presence

Historic Properties

Sites eligible and/or listed on the NRHP

--

Use

Yes	No

**Evaluations
Prepared**

Programmatic Section 4(f)*
"De minimis" Impact*
Individual Section 4(f)

**FHWA
Approval date**

--

**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 US 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, and wildlife/waterfowl refuges, and NRHP eligible or listed historic properties. Lands that are subject to this law are called Section 4(f) resources. Each Section 4(f) resource has certain activities, features, and attributes that make it eligible for protection.

Based on a desktop review, site visits on October 14, 2017, and October 17, 2017, by Corradino, LLC, the aerial map of the project area (Appendix A-4), and the RFI report (Appendix E-3), there is a 4(f) resource located within 0.5 mile of the project. Boone's Pond Public Fishing Area is owned by IDNR and used for public recreation including fishing and boating. Boone's Pond occurs north of the Perry Worth Road adjacent to the SR 267 interchange modification. During design, the project right-of-way was modified to avoid the Boone's Pond property and eliminate any direct or indirect impacts to the 4(f) resource. The project will not use this resource by taking permanent right-of-way and will not alter the environment in such a way as to constitute constructive use of this resource. Therefore, no impacts are expected.

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The Albert White Drive trail is an open asphalt trail that parallels the south side of Albert White Drive, stops east of I-65, and is managed by the Town of Whitestown. The project will not impact this trail; however, it will connect to the existing trail, carry it to the north side of Albert White Drive, then across the new SR 267 bridge over I-65 and along SR 267 to the south. Providing this connection is consistent with future plans identified in the Whitestown Bicycle and Pedestrian Master Plan, adopted in February 28, 2018.

Early coordination was submitted to IDNR and the Town of Whitestown on October 2, 2017. IDNR's response on November 2, 2017, did not mention Section 4(f) or 6(f) resources and the Town of Whitestown responded that the project presented no adverse impacts (Appendix D-38).

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:

Section 6(f) resources are lands that were purchased with or improved using funds from the Land and Water Conservation Fund (LWCF). The fund was created through the Land and Water Conservation Fund Act of 1965 to preserve, develop and assure accessibility to outdoor recreation resources, and to strengthen the health and vitality of the public. These public recreation lands are to be maintained for public outdoor recreation use. The program is administered by the National Park Service (NPS) at the national level and by the Indiana Department of Natural Resources (IDNR) Division of Outdoor Recreation at the state level.

Section 6(f) of the act prohibits the conversion of LWCF lands unless the National Park Service (NPS) approves substitution property of reasonably equivalent usefulness and location and of at least equal fair market value. The Section 6(f) regulations may be found at 36 CFR 59.

The NPS LWCF online lists for Indiana (<http://projects.invw.org/data/lwcf/grants-in.html>) were reviewed on April 6, 2018. No LWCF properties are listed for Boone County which are within the project area. Therefore, no Section 6(f) properties would be affected by 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If YES, then:		
Is the project in the most current MPO TIP?	<input type="checkbox"/>	<input type="checkbox"/>
Is the project exempt from conformity?	<input type="checkbox"/>	<input type="checkbox"/>
If the project is NOT exempt from conformity, then:		
Is the project in the Transportation Plan (TP)?	<input type="checkbox"/>	<input type="checkbox"/>
Is a hot spot analysis required (CO/PM)?	<input type="checkbox"/>	<input type="checkbox"/>

Level of MSAT Analysis required?

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

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Remarks:

This project was incorporated into the INDOT 2018-2021 Statewide Transportation Improvement Program (STIP) on July 3, 2017, and modified on December 10, 2017, via STIP Amendment #18-08. This project was included in the Indianapolis Regional Transportation Improvement Program (TIP), adopted on May 24, 2017, and was amended on December 13, 2017, per resolution number 17-IMPO-014. See Appendix K for STIP and TIP excerpts.

Regardless of the implementation of the preferred alternative, significant development is expected to occur within the open ground along the I-65 corridor in Boone County, and this project is a response to this expectation. According to the Interstate Access Document, approved site development plans adjacent to the project location include All Points at Anson, Fishback Creek Business Park, Whitestown Crossing, Whitestown Business Park, Green Park and Golf Club of Indiana (Appendix G). The project is expected to provide positive impacts for these already-approved developments and to users of the I-65 corridor, including the reduction of existing traffic congestion.

For each alternative in this EA, the amount of mobile source air toxics (MSAT) emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is typically slightly higher than that for the No Build Alternative, because the interchange facilitates new development that attracts trips that would not otherwise occur in the area. Refer to Table 7 and Roadway Character section. This increase in VMT means MSAT under the Build Alternatives would probably be higher than the No Build Alternative in the study area. There could also be localized differences in MSAT from indirect effects of the project such as associated access traffic, emissions of evaporative MSAT (e.g., benzene) from parked cars, and emissions of diesel particulate matter from delivery trucks (modify depending on the type and extent of the associated development). Travel to other destinations would be reduced with subsequent decreases in emissions at those locations.

Because the estimated VMT under each of the Build Alternatives are nearly the same, varying by less than 5% for the total project, it is expected there would be no appreciable difference in overall MSAT emissions among the various Build Alternatives. For all Alternatives, emissions are virtually certain to be lower than present levels in the design year as a result of the Environmental Protection Agency's (EPA) national control programs that are projected to reduce annual MSAT emissions by over 90 percent from 2010 to 2050 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 2016). Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future than they are today.

In sum, under all Build Alternatives in the design year it is expected there would be slightly higher MSAT emissions in the study area relative to the No Build Alternative due to increased VMT. There also could be increases in MSAT levels in a few localized areas where VMT increases. However, EPA's vehicle and fuel regulations will bring about significantly lower MSAT levels for the area in the future than today.

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SECTION F - NOISE

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

	No	Yes/ Date
ES Review of Noise Analysis	<input type="checkbox"/>	May 7, 2018

Remarks: This project is a Type I project due to the relocated and additional interchange ramps at SR 267 and CR 550S. Existing noise level measurements and traffic counts were taken at five representative locations along the corridor on December 19, 2017. The most current version of FHWA's Traffic Noise Model (TNM 2.5) was used to model base year (2016) and design year (2040) worst hourly traffic noise levels within the I-65 at SR 267 and I-65 at CR550S study areas.

Twenty-three receptors were modeled. Base 2016 noise levels ranged from 56.5 to 72.7 dBA Leq(1h). Residential noise levels ranged from 56.5 to 67.7 dBA Leq(1h). Predicted future 2040 noise levels adjacent to the proposed project would approach or exceed the NAC at three receptors consisting of three residences. The noise levels at these three receptors would range from 66.6 to 67.0 dBA Leq(1h).

The Traffic Noise Analysis report, prepared in May 2018 (Appendix I), concluded that noise barrier is feasible at only one location; however, it is not considered reasonable. Based on the studies thus far accomplished, INDOT has not identified any locations where noise abatement is likely. Noise abatement is based upon preliminary design costs and design criteria. Noise abatement has not been found to be reasonable because in order to achieve a 7.0 dB(A) reduction for the majority of benefitted first row receivers, it would exceed the maximum allowable cost of \$25,000 per benefitted receptor. A reevaluation of the noise analysis will occur during final. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Will the proposed action result in substantial impacts to community cohesion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the proposed action result in substantial impacts to local tax base or property values?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will construction activities impact community events (festivals, fairs, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the community have an approved transition plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If No, are steps being made to advance the community's transition plan?	<input type="checkbox"/>	<input type="checkbox"/>
Does the project comply with the transition plan? (explain in the remarks box)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Remarks: No significant economic or community impacts are expected as a result of this project. Much of the project, such as the new additional SR 267 bridge over I-65 and the entire new I-65 at CR550S interchange will be constructed outside of and adjacent to existing roadways and bridges, without impacting existing traffic operations. INDOT will construct and make the new I-65 at CR550S interchange operational prior to closing portions of the existing I-65 at SR 267 interchange and realigning the local frontage roads. This sequencing will minimize impacts to the motoring public during construction. There may be 20-minute closures of I-65 at SR 267 and CR550S for setting beams, deck work, and similar overhead work. There may be temporary lane restrictions at the Whitestown Parkway Ramp and I-865. These may cause temporary impacts such as added travel time.

All curb ramps and cross walks associated with signalized intersections for this project will be designed to be compliant with the most recent standards set forth in the Americans with Disabilities Act.

The new interchange at CR550S is expected to have no effect or a positive effect on community cohesion. Community members who normally cross I-65 will have another route to utilize. Because the SR 267, Whitestown Parkway, and I-865 projects will improve existing travel routes with no routes removed, no impact to community cohesion is expected.

The proposed action is not expected to conflict with development patterns or have substantial impacts to property values.

Indirect and Cumulative Impacts

Will the proposed action result in substantial indirect or cumulative impacts? Yes No

Remarks: Indirect impacts are those effects of a project that occur at a different time or location from the immediate course and completion of the project itself, often including a project's potential to induce development in areas which otherwise would remain undeveloped. Cumulative impacts are defined in 40 CFR § 1508.7 as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions."

This project is not expected to cause negative indirect or cumulative impacts. Regardless of the project improvements, significant development is expected to occur within the open ground along the I-65 corridor in Boone County, and this project is a response to this expectation. According to the Interstate Access Document, approved site development plans adjacent to the project location include All Points at Anson, Fishback Creek Business Park, Whitestown Crossing, Whitestown Business Park, Green Park and Golf Club of Indiana (Appendix G). The project is expected to provide positive impacts for these already-approved developments and to users of the I-65 corridor, including the reduction of existing traffic congestion, reduction of crash rates, and improved access to areas between SR 267 and Whitestown Parkway.

Public Facilities & Services

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.* Yes No

Remarks: Traffic will be maintained on I-65 during construction, and an I-65 road closure with detour will not be necessary. Temporary closures (approximately 20 minutes at a time) are necessary for setting beams and other bridge work at the SR 267 and CR550S interchange areas. Access to a public road will be maintained for all properties during construction. Minor disruption to public facilities and services such as school transport and emergency services may occur due to this project. 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. The project will have a well-defined plan for maintenance of traffic with updates on INDOT websites and no access being fully cut.

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The project will result in the closure of CR550S, immediately east of the proposed intersection of the northbound I-65 exit ramp to CR550S and the realigned Perry Worth Road, until a locally initiated CR550S extension project is constructed to connect to the new interchange. Existing CR550S at this location is a single-lane, seldom-used, dirt and gravel road with severe rutting. There are appropriate roads (wider, paved, and capable of handling traffic), such as CR500S, CR650E, and Schooler Drive, that currently serve the community east of the proposed I-65 at CR550S interchange. The temporary closure of CR550S will not negatively affect public facilities and services.

An Indiana Farm Bureau Co-op Association pipeline is located within the I-865 project area. The project designer has held utility coordination meetings with potentially impacted utility providers as part of the design development process.

The Red Flag Investigation indicated no other public facilities within a half mile of the project area (Appendix E).

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Does the project require an EJ analysis?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

If YES, then:

Are any EJ populations located within the project area?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Will the project result in adversely high or disproportionate impacts to EJ populations?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks:

Under FHWA Order 6640.23A, FHWA and INDOT, 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 is an EA. Therefore, an EJ Analysis is required.

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 Boone County. The community that overlaps the project limits is called the affected community (AC). In this project, the AC are the Perry and Worth Townships. 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 2011-2015 American Community Survey 5 was obtained from the US Census Bureau Website <https://factfinder.census.gov/> on January 12, 2017 by Corradino, LLC. The data collected for minority and low-income populations within the AC are summarized in the below table.

	Percent Minority	125% COC	Population of EJ Concern?	Percent Poverty	125% COC	Population of EJ Concern?
Boone County (COC)	6.4	8.0		7.6	9.5	
Perry Township (AC)	5.9		No	2.8		No
Worth Township (AC)	6.6		No	4.4		No

Perry Township has a percent minority of 5.9%, which is below 50% and is below the 125% COC threshold. Worth Township has a percent minority of 6.6% which is below 50% and is below the 125% COC threshold. Therefore, both AC's do not contain minority populations of EJ concern.

Perry Township has a percent low-income of 2.8% which is below 50% and is below the 125% COC threshold. Worth Township has a percent low-income of 4.4% which is below 50% and is below the 125% COC

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threshold. Therefore, both AC's do not contain low-income populations of EJ concern.
Conclusion
 The census data sheets, map, and calculations can be found in Appendix J. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is a Business Information Survey (BIS) required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is a Conceptual Stage Relocation Study (CSRS) required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has utility relocation coordination been initiated for this project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Number of relocations: Residences: 1 Businesses: 0 Farms: 1 Other: 0

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

Remarks: The preferred alternative, for all four improvement locations combined requires the relocation of one agricultural facility which also contains a residence, in the northeast quadrant of the CR550S new interchange area. On April 7, 2018, the consultant had a meeting with the property owner to gather information about the property and answer questions that they had. A developer has plans to develop this entire farm. The building of any interchange at CR550S makes this relocation unavoidable because the interchange must be located along the alignment of existing CR550S in order to accommodate interchange spacing requirements with the existing Whitestown Parkway interchange to the south and the existing SR 267 interchange to the north. This is the only relocation expected for all project areas.

The acquisition and relocation program will be conducted in accordance with 49 CFR 24 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Relocation resources are available to all residential and business relocates 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.

Utility coordination and relocation is on-going as final design progresses for this project.

SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)	<u>Documentation</u>
Red Flag Investigation	<input checked="" type="checkbox"/>
Phase I Environmental Site Assessment (Phase I ESA)	<input type="checkbox"/>
Phase II Environmental Site Assessment (Phase II ESA)	<input type="checkbox"/>
Design/Specifications for Remediation required?	<input type="checkbox"/>

	No	Yes/ Date
ES Review of Investigations	<input type="checkbox"/>	April 10, 2018; April 26, 2018; May 11, 2017

Include a summary of findings for each investigation.

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Remarks: An IDEM Proposed Roadway Letter was received on April 6, 2017 (Appendix D-17). Applicable recommendations include the following:

1. 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.
2. 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>.
3. 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.
4. 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.

Three Red Flag Investigations (RFIs) were developed by the consultant on December 12, 2017 (Appendix E). The SR 267 interchange modification RFI was approved by a representative of INDOT Environmental Services section on April 10, 2018, the CR550S new interchange RFI was approved on April 26, 2018, and the Whitestown Parkway/I-865 ramp modifications RFI was approved on May 11, 2017. Follow-up coordination was conducted with IDEM on May 1, 2018 in regards to clarifications on the location and extent of National Pollutant Discharge Elimination System (NPDES) sites (Appendix D-24) and responses were received on May 2, 2018 and May 11, 2018. The responses determined that NPDES sites associated with a Holiday Inn and Blue & White Service Inc. were outside the project area, despite mapping errors in the IDEM Virtual File Cabinet (<https://vfc.idem.in.gov/DocumentSearch.aspx>).

I-65 at SR 267 Interchange

One solid waste landfill (composting) is located adjacent to the southeast of the interchange modification at SR 267. The GreenCycle company (4227 Perry Worth Rd, Whitestown, IN 46075) produces and stores mulch, topsoil, and compost. It receives pre- and post-consumer food waste for compost use. No impact is expected because the right-of-way is separated from the material piles by approximately 250 feet.

An underground storage tank associated with Loves Travel Stop is located adjacent to the southeast of the SR 267 interchange modification area. IDEM issued a No Further Action Approval Determination Pursuant to RISC on October 12, 2017. Low levels of groundwater and soil contamination remain near the pump islands to the southeast of the building. No impact is expected with the current project limits; however, if project limits change, coordination with INDOT ESD Site Assessment & Management is recommended.

The former Blue & White Service Inc is located approximately 0.06 mile south of the SR 267 interchange modification area. An Environmental Restrictive Covenant (ERC) was placed on the property on December 15, 2015. The ERC is in place to limit or eliminate exposure to groundwater and soil. Due to soil and ground water contamination, impacts may occur if the project limits extend near or into the site. If excavation occurs in this area, it is likely that petroleum contamination will be encountered. Coordination occurred with IDEM regarding this site and a response was received on May 11, 2018 (Appendix D-25). It was confirmed that all contamination occurred within the Blue & White Service Inc. property boundaries, which are outside the project area.

I-65 at CR 550S

One former confined feeding operation is within the northeast quadrant of the CR 550S new interchange area. Clark's Pork Farm 1 (5380 E 550 S, Whitestown, IN 46075) requested to be removed as a confined feeding operation. An IDEM Office of Land Quality Inspection on September 4, 2009 found no manure in the facility's storage structures. IDEM approved the request on September 29, 2009. No confined feeding operation permits have been requested at this property since this date. All previous inspection reports indicate the no violations have taken place on this property. No impact is expected as the site no longer has evidence of hazardous material.

One National Pollutant Discharge Elimination System facility, Edmonds Creek at Anson-Section 1, addressed

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at CR550S and S. Perry Worth Road, is within the CR550S project area. There are no records of this facility within the IDEM Virtual File Cabinet. Coordination occurred with the IDEM Office of Water Quality and a response was received on May 11, 2018 (Appendix D-27). No specific recommendations for this site were given, although it was indicated that this may be a sensitive site for discharge of sediment-laden runoff and normal sediment precautions during construction should occur.

The RFI identified two IDEM 303d Listed Impaired Streams near the project area. Fishback Creek, approximately 0.09 mile north of the SR 267 interchange, is listed as impaired for *E. coli*. No impact is expected due to the distance from the project. Etter Ditch, located within the CR550S new interchange area, is listed as impaired for *E. coli*. Workers who are working in or near water with *E. coli* should take care to wear proper PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

In addition to the sites listed above, the RFI documented other hazardous material sites within the 0.5-mile search radius of the project. These include seven other NPDES facilities, a waste transfer station, and two Resource Conservation and Recovery Act (RCRA) generators within 0.5 mile of the CR550S new interchange site and eight NPDES facilities, three State Cleanup Sites/Voluntary Remediation Program site, four underground storage tanks, five leaking underground storage tanks, and a Brownfield within 0.5 mile of the Whitestown Crossing and I-865 ramps. All of these sites listed were considered to have enough distance from the project that no impacts are expected. It is not anticipated that the project will impact any other Hazmat sources.

SECTION I – PERMITS CHECKLIST

Permits (mark all that apply)

Likely Required

Army Corps of Engineers (404/Section10 Permit)

Individual Permit (IP)	X
Nationwide Permit (NWP)	
Regional General Permit (RGP)	
Pre-Construction Notification (PCN)	
Other	
Wetland Mitigation required	X
Stream Mitigation required	X

IDEM

Section 401 WQC	X
Isolated Wetlands determination	
Rule 5	X
Other	
Wetland Mitigation required	X
Stream Mitigation required	X

IDNR

Construction in a Floodway	X
Navigable Waterway Permit	
Lake Preservation Permit	
Other	
Mitigation Required	

US Coast Guard Section 9 Bridge Permit

Others (Please discuss in the remarks box below)

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Remarks:

A Rule 5 Permit will be required because disturbance of more than an acre of property is expected. Impacts to jurisdictional streams and over an acre of wetlands will require a Section 404 Individual Permit from USACE and Section 401 permit from IDEM. A Construction in a Floodway permit may be required from IDNR.

An Indiana Tall Structure permit would not be required unless the interchange modification project penetrates a 100:1 slope from the nearest point of the Boone County Airport runway and/or the new interchange project involves the construction of a temporary (e.g., crane) or permanent structure that exceeds a height of 200 feet above ground level.

It will be the responsibility of the designer to submit plans to the INDOT Ecology and Waterway Permitting Office for an official permit determination.

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:

Required:

1. If the scope of work or permanent or temporary right-of-way amounts change, INDOT ESD and the INDOT District Environmental Section will be contacted immediately. (INDOT)
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)
3. Workers who are working in or near water with E. coli should take care to wear proper PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure. (INDOT)
4. Archaeological monitoring of portions of Survey Area 1, Field 6 (agricultural buildings in the northeast quadrant of the proposed new CR550S interchange) shall be provided during demolition. The vicinity of the two modern buildings east of I-65 at the CR550S new interchange should be clearly marked on construction plans (as do not disturb) and construction crews should be instructed to stop work within 100 feet and notify the INDOT Cultural Resources Office (Shaun Miller: 317-233-6795, smiller@indot.in.gov or Anuradha Kumar: 317-234-5168, akumar@indot.in.gov) if any foundations, deep pits or stains, or concentrations of historic artifacts are found within this specific area. (INDOT)
5. General AMM1 – Ensure all 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)
6. Lighting AMM1 – Direct temporary lighting away from suitable habitat during the active season. (USFWS)
7. Tree Removal AMM1 - Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely. (USFWS)
8. Tree Removal AMM 2 - Apply time of year restrictions (October 1 to March 30) 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 (USFWS)
9. Tree Removal AMM 3 - Ensure tree removal is limited to that specified in project plans. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits. Ensure that contractors understand clearing limits and how they are marked in the field. (USFWS)

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10. Tree Removal AMM 4 – Do not remove documented Indiana bat or northern long-eared bat roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or documented foraging habitat any time of year (USFWS)
 11. If a spill occurs or contaminated soils or water are encountered during construction, appropriate personal protective equipment (PPE) should be used. Contaminated materials will need to be properly handled by trained personnel and disposed in accordance with current regulations. IDEM should be notified through the spill line at (888) 233-7745 within 24 hours of discovery of a release from a UST system and within two (2) hours of discovery of a spill. (INDOT)
 12. An underground storage tank associated with Loves Travel Stop is located adjacent to the southeast of the SR 267 project area. IDEM issued a No Further Action Approval Determination Pursuant to RISC on October 12, 2017. Low levels of groundwater and soil contamination remain near the pump islands to the southeast of the building. No impact is expected with the current project limits; however, if project limits change, coordination with INDOT ESD Site Assessment & Management is recommended. (INDOT)
 13. The former Blue & White Service Inc is located approximately 0.06 mile south of the SR 267 project area. An Environmental Restrictive Covenant (ERC) was placed on the property on December 15, 2015. The ERC is in place to limit or eliminate exposure to groundwater and soil. Due to soil and ground water contamination, impacts may occur if the project limits extend near or into the site. If excavation occurs in this area, it is likely that petroleum contamination will be encountered. Proper removal and disposal of soil and/or groundwater may be necessary. Coordination will be conducted with IDEM before further site activities occur. (INDOT)
 14. If the project would impact any "waters of the United States," including Ruddell Ditch and/or any jurisdictional wetlands, a Department of the Army (DA) permit application should be submitted for review by the USACE Louisville District Indianapolis Regulatory Office (USACE).
- For Further Consideration:**
15. 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 should be operated below Ordinary High-Water Mark during this time unless the machinery is within the caissons or on the cofferdams (USFWS).
 16. Restrict below low-water work to placement of piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap (USFWS).
 17. Restrict channel work and vegetation clearing to the minimum necessary (USFWS).
 18. Construct new structures with a widened span and benches on one or both sides to provide for wildlife crossing, if practical. The crossing should be above normal high water, relatively flat and with natural substrate suitable for use by a wide variety of wildlife (USFWS).
 19. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat.
 20. Implement temporary erosion and siltation control devices such as placement of riprap check dams in drainage ways and ditches, installation of silt fences, covering exposed areas with erosion control materials, and grading slopes to retain runoff in basins. (USFWS)
 21. Re-vegetate all disturbed soil areas immediately upon project completion, using native trees and shrubs in the riparian zone wherever feasible. (USFWS)
 22. Post DO NOT DISTURB signs at the construction zone boundaries and do not clear trees or understory vegetation outside the boundaries. (USFWS)
 23. To avoid incidental take from removal of an occupied roost tree USFWS recommends that tree-clearing be

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avoided during the period April 1 - September 30 (USFWS).

24. IDNR recommends a mitigation plan be developed (and submitted with the permit application, if required) for any unavoidable habitat impacts that will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at <http://www.in.gov/legislative/iac/20140806-IR-312140295NRA.xml.pdf>. Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees) (IDNR).
25. Due to the presence or potential presence of wetlands on site, IDNR recommends contacting and coordinating with the IDEM 401 program and also the USACE 404 program. Impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding. (IDNR)
26. Stream relocations, stream crossings, stream enclosures (e.g. culverts and pipes), and other similar projects typically result in impacts upon in-stream habitat that need in-stream mitigation. Because in-stream impacts vary widely, in-stream mitigation is considered on a case-by-case basis. An early coordination meeting with a Division of Fish and Wildlife Biologist may be recommended to discuss any impacts to Etter Ditch and the alternatives. Impacts to less than 50 feet of stream typically do not require in-stream mitigation. Mitigation may be needed if impacts to important resources occur. Impacts from 50 feet to 300 feet through a single project or an accumulation of projects are typically mitigated at a 1:1 ratio. Impacts over 300 feet often warrant 2:1 mitigation. Exceptions to this ratio may be requested based on the quality of the habitat impacted and fish and wildlife resources that are impacted and may be reviewed in coordination with the USACE and IDEM. Mitigation for in-stream impacts includes various measures. These measures include: the installation of in-stream habitat features, such as boulders or lunker structures; riparian plantings to increase the woody buffer adjacent to a stream (50 feet or greater is a common-sized buffer); bioengineering along the streambank to reduce erosion; improving a nearby crossing structure for the benefit of fish and wildlife; or restoring riffle-run-pool assemblages. Mitigation at a 1:1 ratio involves replacing lost functions and values are replaced along a length of the stream or a nearby stream that is twice the length of impact. Channel relocations are not recommended, are difficult to design, and have a high likelihood of failure or permanent loss of habitat and function. If relocation remains the best option after a complete examination of the possible alternatives and avoidance of impacts, a mitigation plan should be developed. Any hydraulic modeling of a relocated channel should be calculated with mature trees, shrubs, grasses, and other similar habitat. Additional mitigation, such as planting trees along a stream, may affect hydraulic modeling, so mitigation and engineering design should be coordinated. Stream relocation requires replacement of lost qualities and characteristics on the relocated segment, which are at least equal to the original segment, and which fit the surrounding landscape. Natural channel design is applied to the relocated segment, including elements needed to complement upstream and downstream conditions. To the extent practicable, the relocated segment has similar cross-section, substrate, in-stream habitat, and riparian corridor and channel morphology when compared to the original segment. The USDA's Natural Resources Conservation Service provides helpful information on channel design (see <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/water/manage/restoration/?cid=stelprdb1044707>). For the relocation of a medium or large trapezoidal channel, a two-stage design may be needed in which there is a low flow channel that is allowed to meander within the new channel. The overbank shelf, or bench is planted with woody vegetation when appropriate. The Woody Riparian Vegetation List in Appendix A of IDNR's mitigation guidelines includes species appropriate for site conditions. (IDNR)
27. For purposes of maintaining fish passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure.

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1702147, 1801826, 1801825

County Boone Route I-65 at SR 267 and at CR550S Des. No. _____

Crossings should: span the entire channel width (a minimum of 1.2 times the bank full width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width / length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel. The new, replacement, or rehabbed structure should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. The Division of Fish and Wildlife would like to emphasize the importance of wildlife passage issues and transportation infrastructure projects. The following is a good place to start in terms of resources to consider in the design of stream crossing structures: <http://www.fs.fed.us/wildlifecrossings/library/> (IDNR).

28. Some form of bank and/or streambed stabilization is almost always needed with the construction, repair, replacement, or modification of a stream channel or crossing structure. For streambank stabilization and erosion control, regrading to a stable slope (2:1 or shallower) and establishing native vegetation along the banks are typically the most effective techniques. A variety of methods to accomplish this include: planting plugs, whips, container stock, seeding, and live stakes. In addition to vegetation establishment, some additional level of bioengineered bank stabilization may be needed under certain circumstances (inability to regrade to a stable slope, flow velocities that exceed the limits of vegetation alone, etc). Combining vegetation with most bank stabilization methods can provide additional bank protection and help reduce impacts upon fish and wildlife. Information about bioengineering techniques can be found at <http://www.in.gov/legislative/iac/20120404-IR-312120154NRA.xml.pdf>. Also, the following is a USDNRCS document that outlines many different bioengineering techniques for streambank stabilization: <http://directives.sc.egov.usda.gov/17553.wba>. Riprap or other hard bank stabilization materials should be used only at the toe of the side slopes up to the OHWM with the exception of areas directly under bridges for instance. The banks above the OHWM should be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. For streambed stabilization or scour protection, riprap or other stabilization materials should not be placed in the active stream channel above the existing streambed elevation. This is to prevent obstructions to the movement of aquatic organisms upstream and downstream (IDNR).
29. Revegetate "low maintenance" areas with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; non-native turf-type roadside grasses (excluding tall fescue) may be used in "high maintenance" areas only (low endophyte tall fescue may be used on "high maintenance" ditch bottoms and side slopes only (IDNR).
30. Minimize and contain within the project limits in channel disturbance and the clearing of trees and brush (IDNR).
31. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife (IDNR).
32. 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 (IDNR).
33. 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 (IDNR).
34. Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas (IDNR).
35. Seed and protect areas where runoff is conveyed through a channel/swale with erosion control blankets (follow manufacturer's recommendations for selection and installation) or use an appropriate structural armament; seed and apply mulch on all other disturbed areas (DNR). 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

This is page 50 of 52 Project name: Int. Mod. (I-65/SR 267) & New Int. (I-65/CR550S) Date: February 27, 2019

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- should be minimized. (IDEM)
36. 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. (IDEM) 37. 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>. (IDEM)
37. 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. (IDEM)
38. If Polychlorinated Biphenyls (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. (IDEM)

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: An Early Coordination Letter with accompanying graphics was sent out October 2 and 3, 2017. Additional coordination was sent on December 13, 2017 as design made impacts more clear. A second coordination was done with the U.S. Fish and Wildlife Service on April 23, 2018 to address potential bat impacts at the CR550S project area. A second coordination was done with IDEM on May 1, 2018 to address specific potential HAZMAT areas which needed clarification. A date in the table below means a response was received. All early coordination documentation is contained in Appendix D. No coordinating agencies reported concern with the nature of the project or the preferred alternative.

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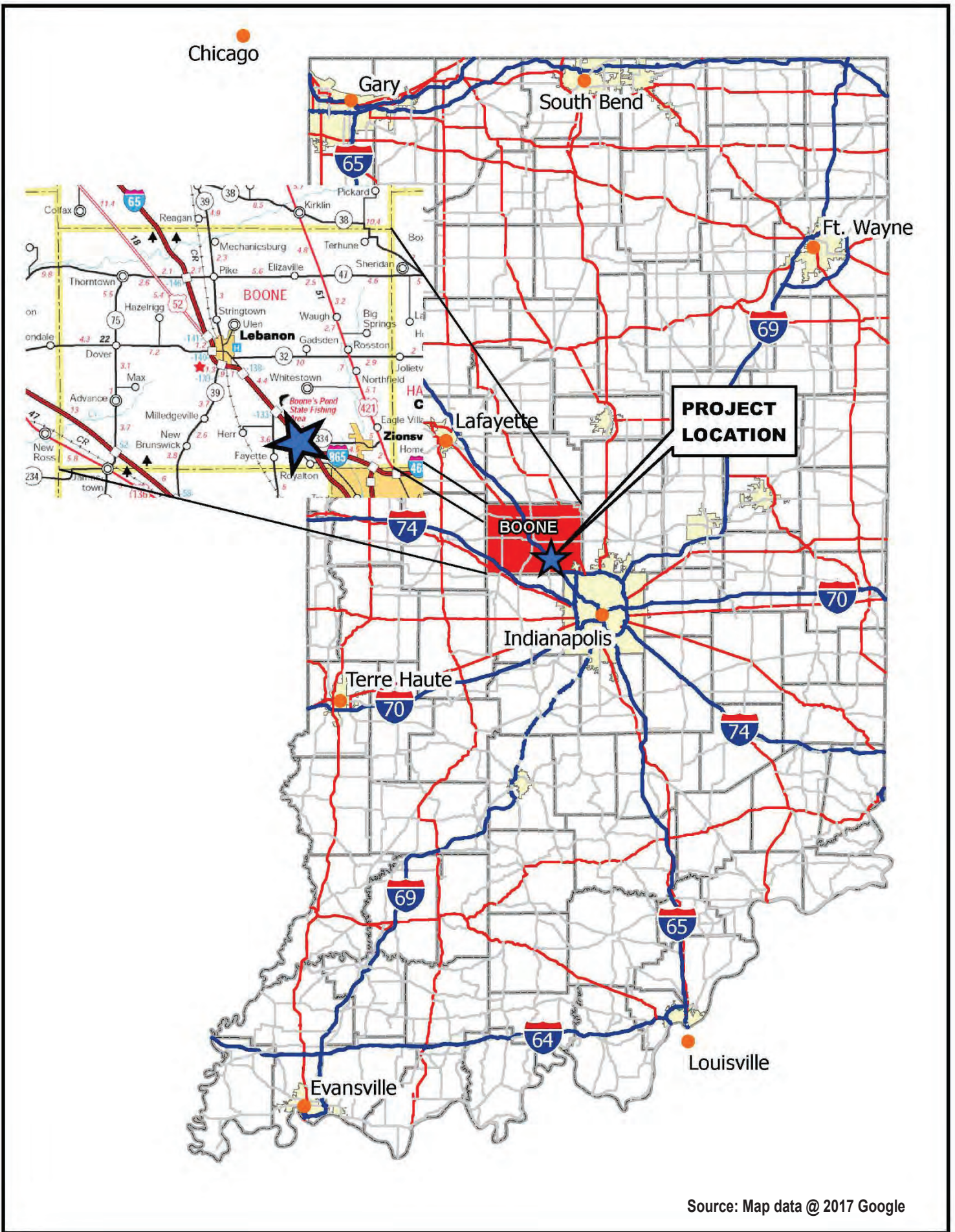
County Boone Route I-65 at SR 267 and at CR550S Des. No. 1400071, 1702143, 1702144, 1702146, 1702147, 1801826, 1801825

Table 9 | Early Coordination Responses

Agency	Date Contacted	Comment Received
US Fish and Wildlife Service	October 2, 2017	October 3, 2017
US Fish and Wildlife Service	April 23, 2018	April 25, 2018
US Dept. of Housing and Urban Develop.	October 2, 2017	No Response
US Army Corps. of Engineers	October 2, 2017	October 20, 2017
National Park Service	October 2, 2017	No Response
Indianapolis MPO	October 2, 2017	No Response
INDOT – Aviation Section	December 13, 2017	December 27, 2017
INDOT – Office of Public Involvement	October 2, 2017	No Response
INDOT – Utilities and Rail	December 13, 2017	No Response
IDNR – SHPO (via Section 106 process)	April 24, 2017	May 17, 2018
IDNR – Department of Fish and Wildlife	October 2, 2017	November 2, 2017
IDEM – Electronic Submittal	October 3, 2017	October 3, 2017
IDEM – Groundwater – Electronic Submittal	October 3, 2017	October 3, 2017
IDEM – HAZMAT Coordination	May 1, 2018	May 11, 2018
Indiana Geological Survey	October 2, 2017	October 3, 2017
Natural Resources Conservation Service	October 2, 2017	April 12, 2018
Boone County Engineers Office	October 3, 2017	No Response
Boone County Surveyors Office	October 3, 2017	No Response
Boone County MS4 Coordinator	October 3, 2017	No Response
City of Lebanon	October 3, 2017	No Response
Town of Whitestown	October 3, 2017	October 3, 2017
Whitestown Parks and Recreation	December 13, 2017	No Response

Appendix A




Location and Project Mapping



Source: Map data @ 2017 Google

PROJECT LOCATION MAP

Legend

-  Interchange Modification
I-65 at SR 267
-  New Interchange Construction
I-65 at CR 550 S
-  Ramp Modification
I-65 at Whitestown Parkway
and I-65 at I-865



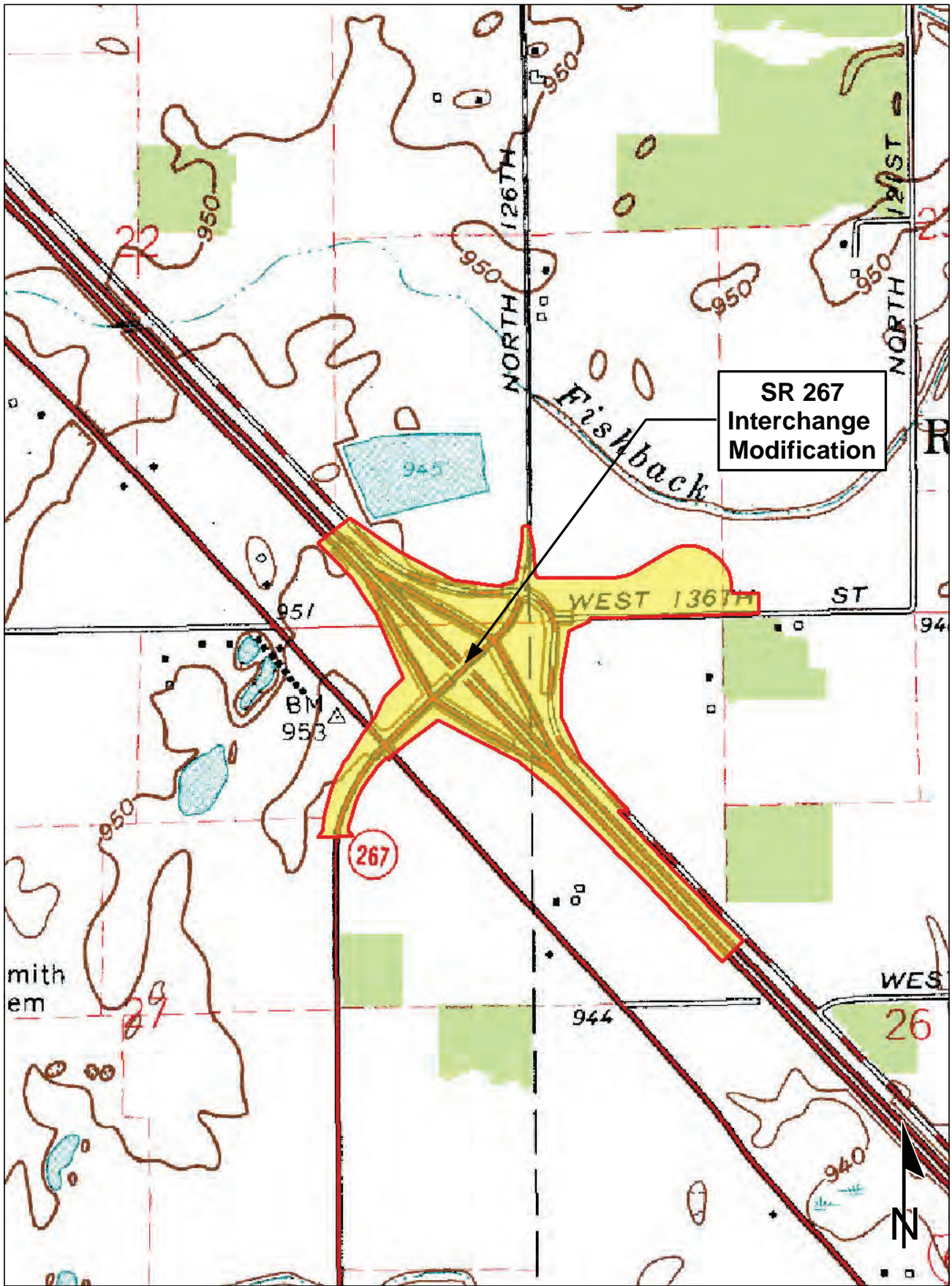
Boone County

BOONE COUNTY

HENDRICKS COUNTY

MARION COUNTY

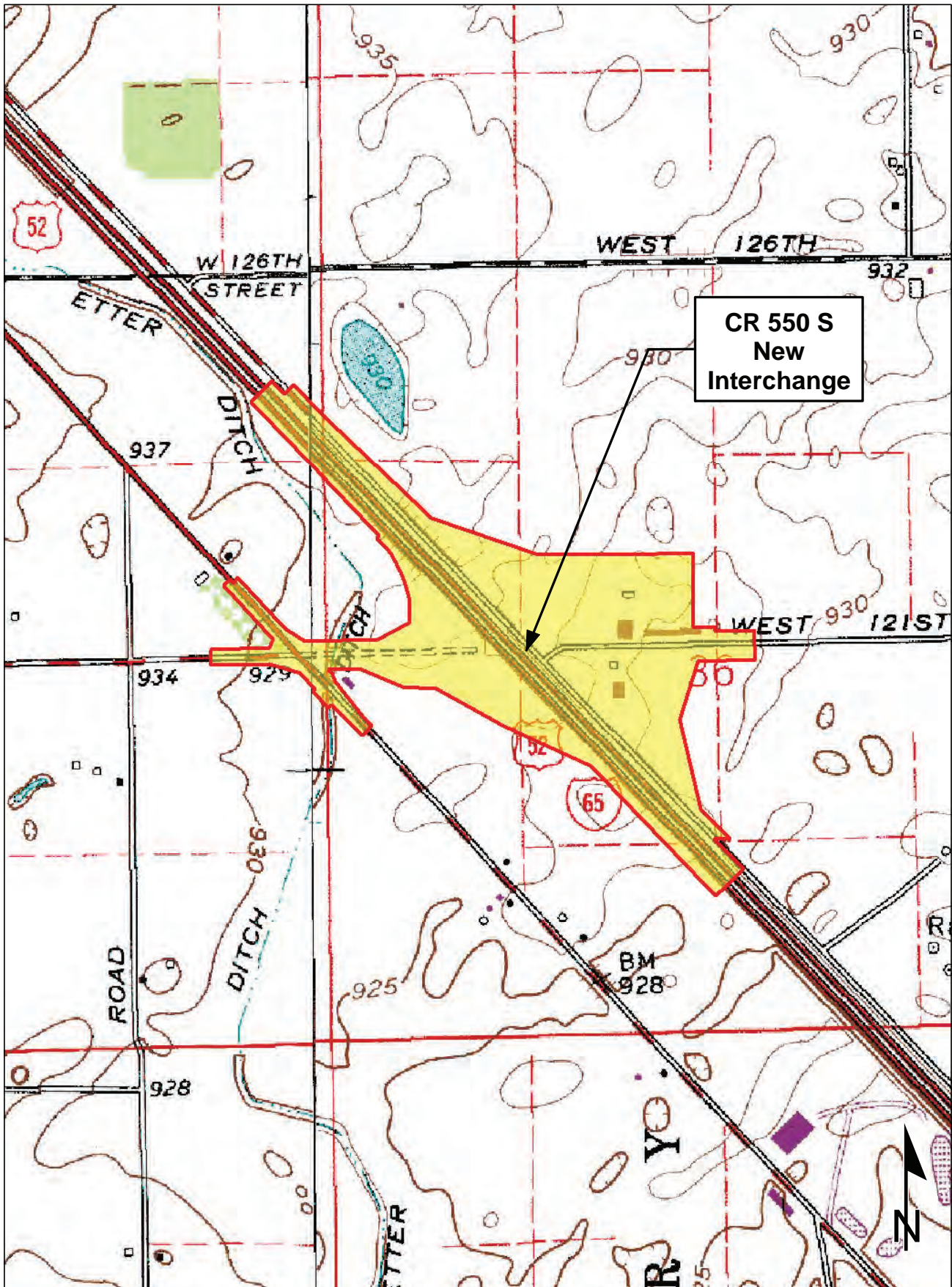
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community



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

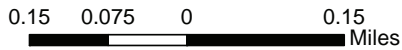
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

ZIONSVILLE/FAYETTE
 QUADRANGLE
 INDIANA
 7.5 MINUTE SERIES

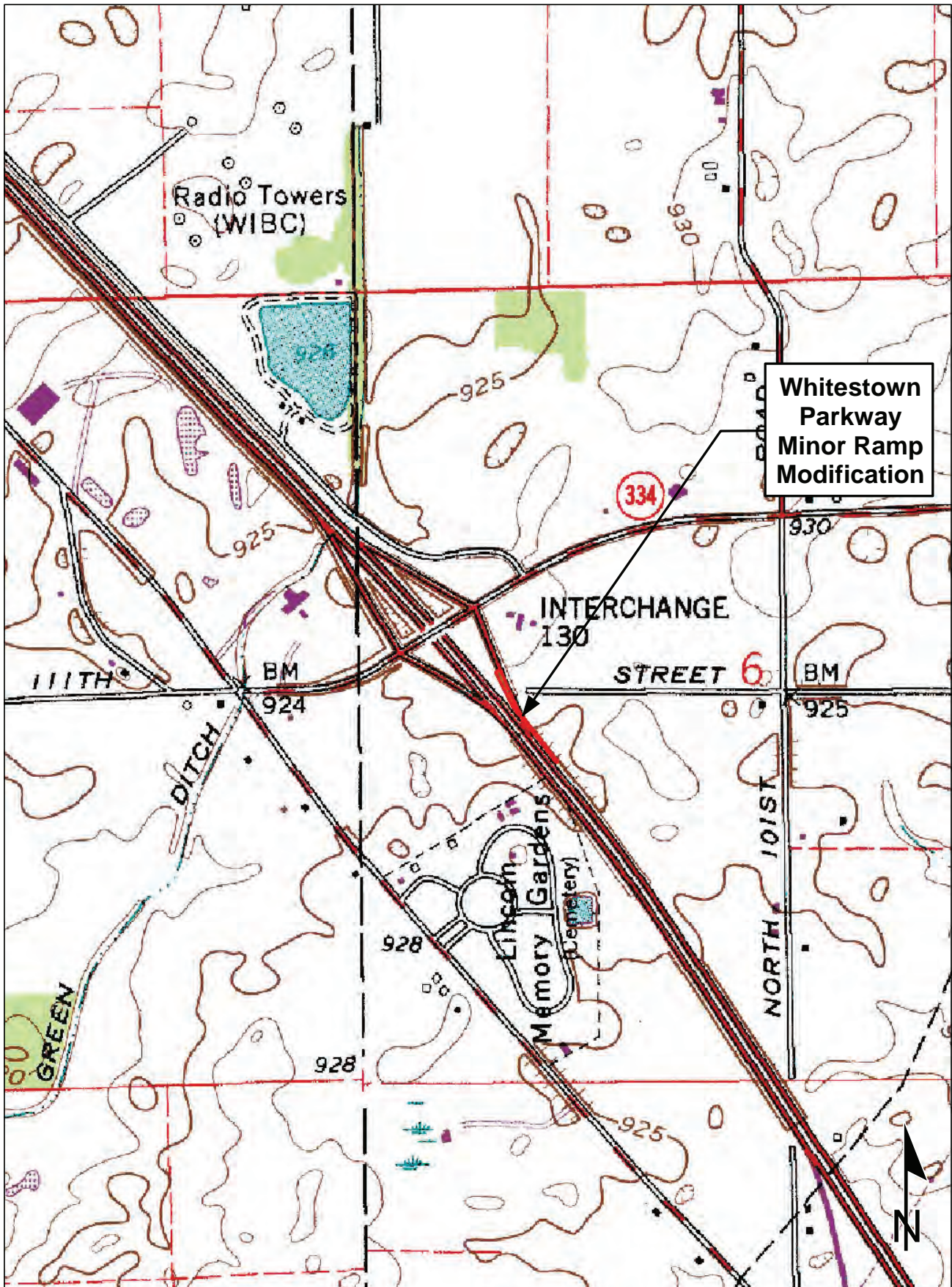


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Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.



ZIONSVILLE/FAYETTE
 QUADRANGLE
 INDIANA
 7.5 MINUTE SERIES



**Whitestown
Parkway
Minor Ramp
Modification**

334

**INTERCHANGE
130**

STREET 6

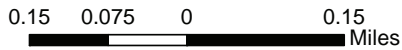
**Lincom
Memory Gardens
(Cemetery)**

DITCH

111TH

NORTH 101ST

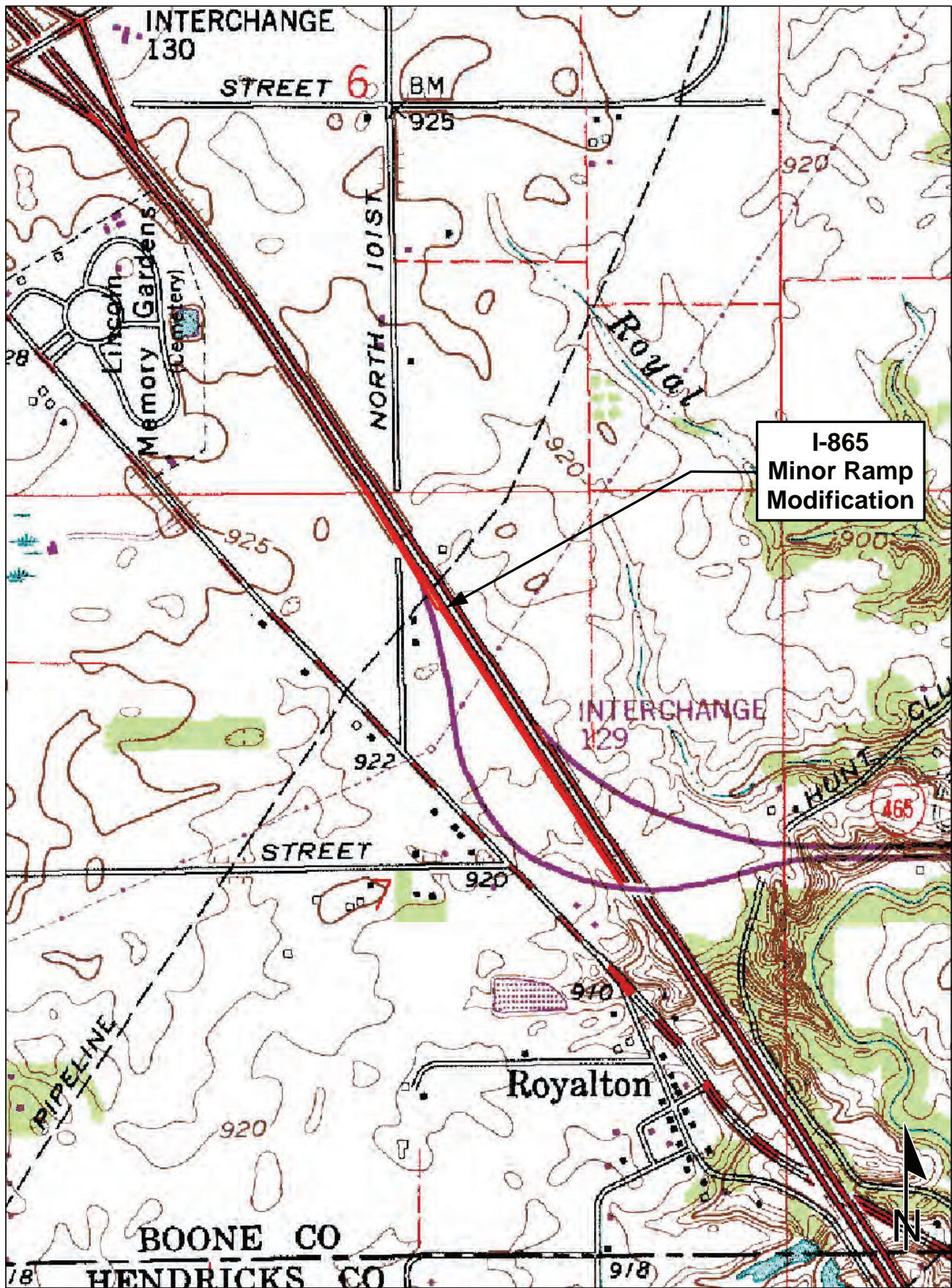
GREEN



Sources:
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 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.

**ZIONSVILLE/FAYETTE
QUADRANGLE
INDIANA
7.5 MINUTE SERIES**



**I-65
Minor Ramp
Modification**

Sources: 0.15 0.075 0 0.15 Miles
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.

**ZIONSVILLE/FAYETTE
 QUADRANGLE
 INDIANA
 7.5 MINUTE SERIES**



SR 267
Interchange
Modification

Sources: 0.15 0.075 0 0.15 Miles
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.

INDIANA STATEWIDE
AERIAL IMAGERY
FLOWN IN 2016



CR 550 S
New
Interchange

Sources: 0.15 0.075 0 0.15 Miles
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.

INDIANA STATEWIDE
AERIAL IMAGERY
FLOWN IN 2016



**Whitestown
Parkway
Minor Ramp
Modification**



Sources: 0.15 0.075 0 0.15 Miles
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.

**INDIANA STATEWIDE
AERIAL IMAGERY
FLOWN IN 2016**



**I-865
Minor Ramp
Modification**

State of Indiana

Sources: 0.15 0.075 0 0.15 Miles
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.

**INDIANA STATEWIDE
AERIAL IMAGERY
FLOWN IN 2016**

Appendix B

Interchange Alternatives Schematic Exhibits

Appendix B1

SR 267 Interchange Schematic Exhibit

Preferred Alternative

Diverging Diamond Interchange (DDI)

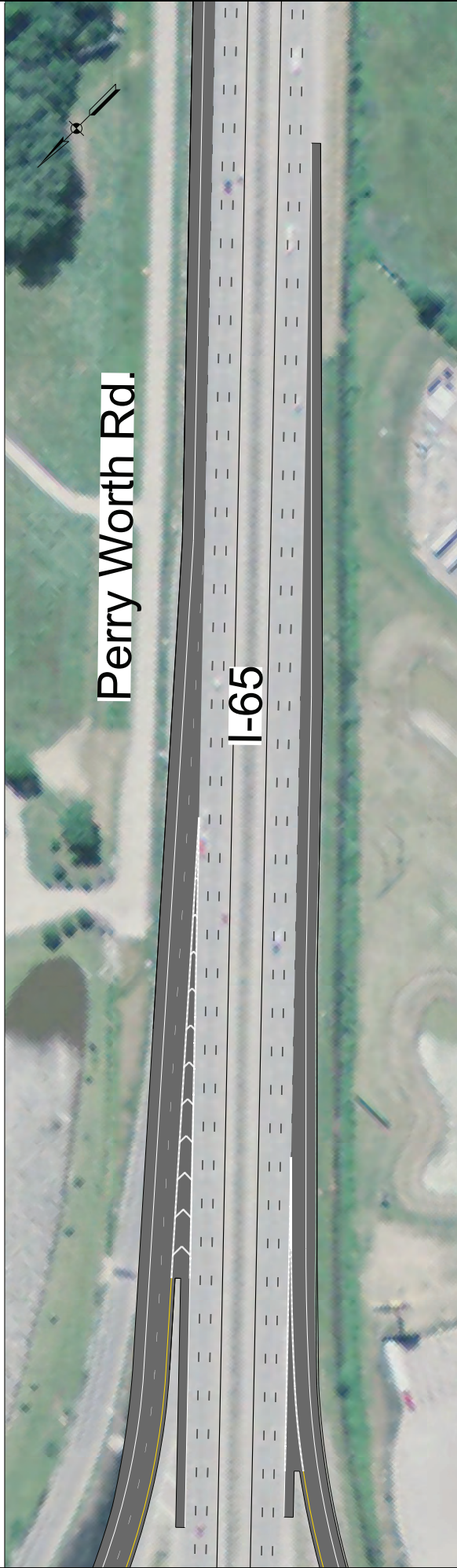
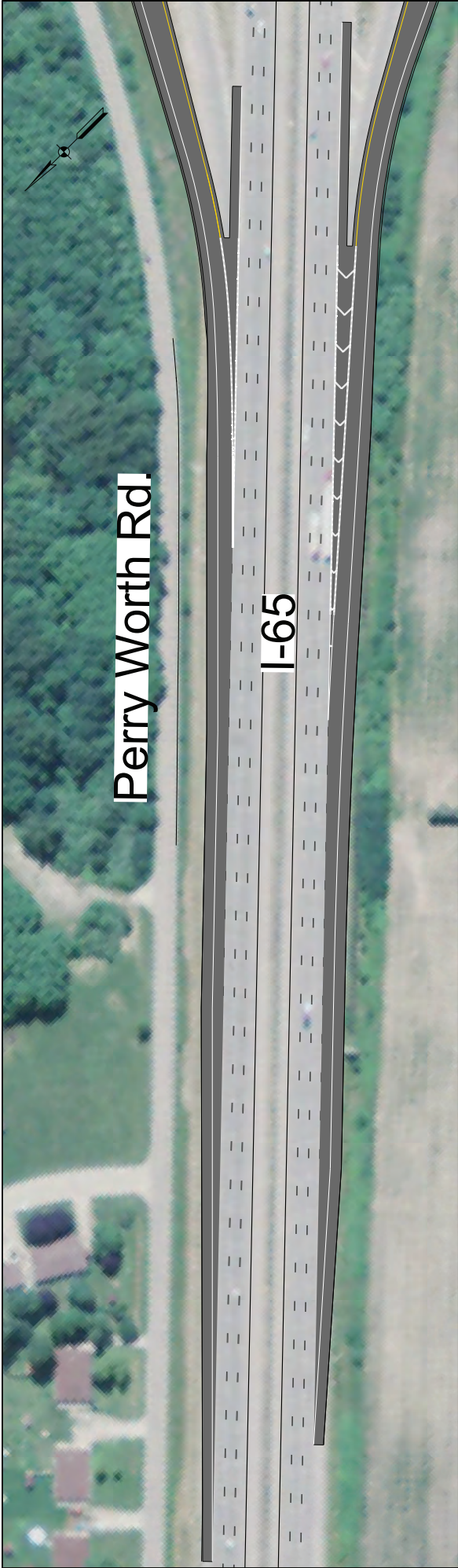


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 HNTB CORPORATION
 THE HNTB COMPANIES
 ENGINEERS-ARCHITECTS-PLANNERS
 111 MONUMENT CIRCLE
 INDIANAPOLIS, IN 46204

I-65 / SR267 - Pavement Markings

SCALE: 1" = 150'
 0 150' 300'

INDIANA
 DEPARTMENT OF TRANSPORTATION
 INTERCHANGE LAYOUT



 <p>HNTB ENGINEERING THE HNTB COMPANIES ENGINEERS-ARCHITECTS-PLANNERS 111 MONUMENT CIRCLE INDIANAPOLIS, IN 46204</p>	<p>I-65 / SR267 - Pavement Markings</p>	<p>INDIANA DEPARTMENT OF TRANSPORTATION INTERCHANGE LAYOUT</p>
<p>SCALE: 1" = 50'</p> 		

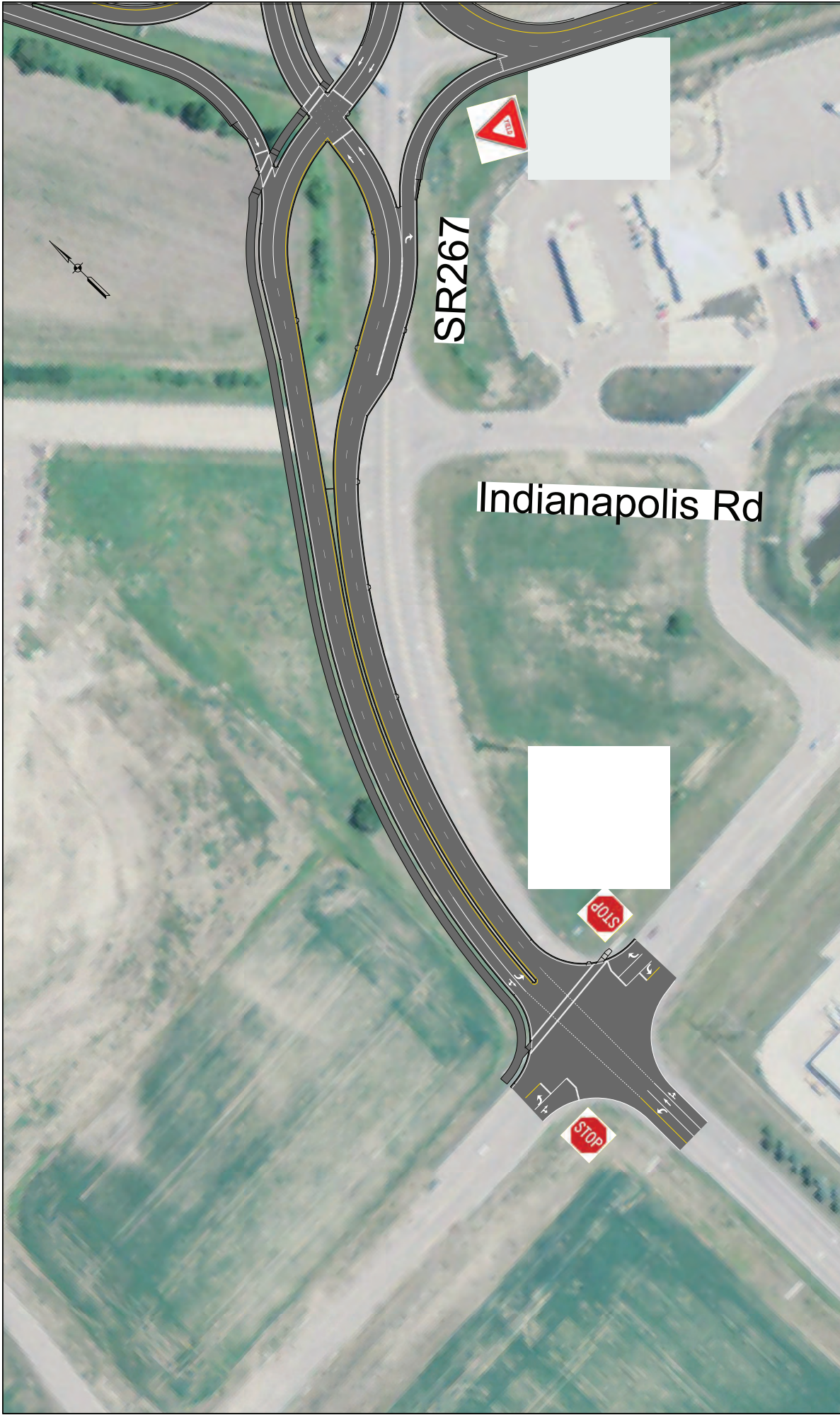


INDIANA
DEPARTMENT OF TRANSPORTATION
INTERCHANGE LAYOUT



I-65 / SR267 - Pavement Markings

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ENGINEERS ARCHITECTS PLANNERS
111 MONUMENT CIRCLE
INDIANAPOLIS, IN 46204

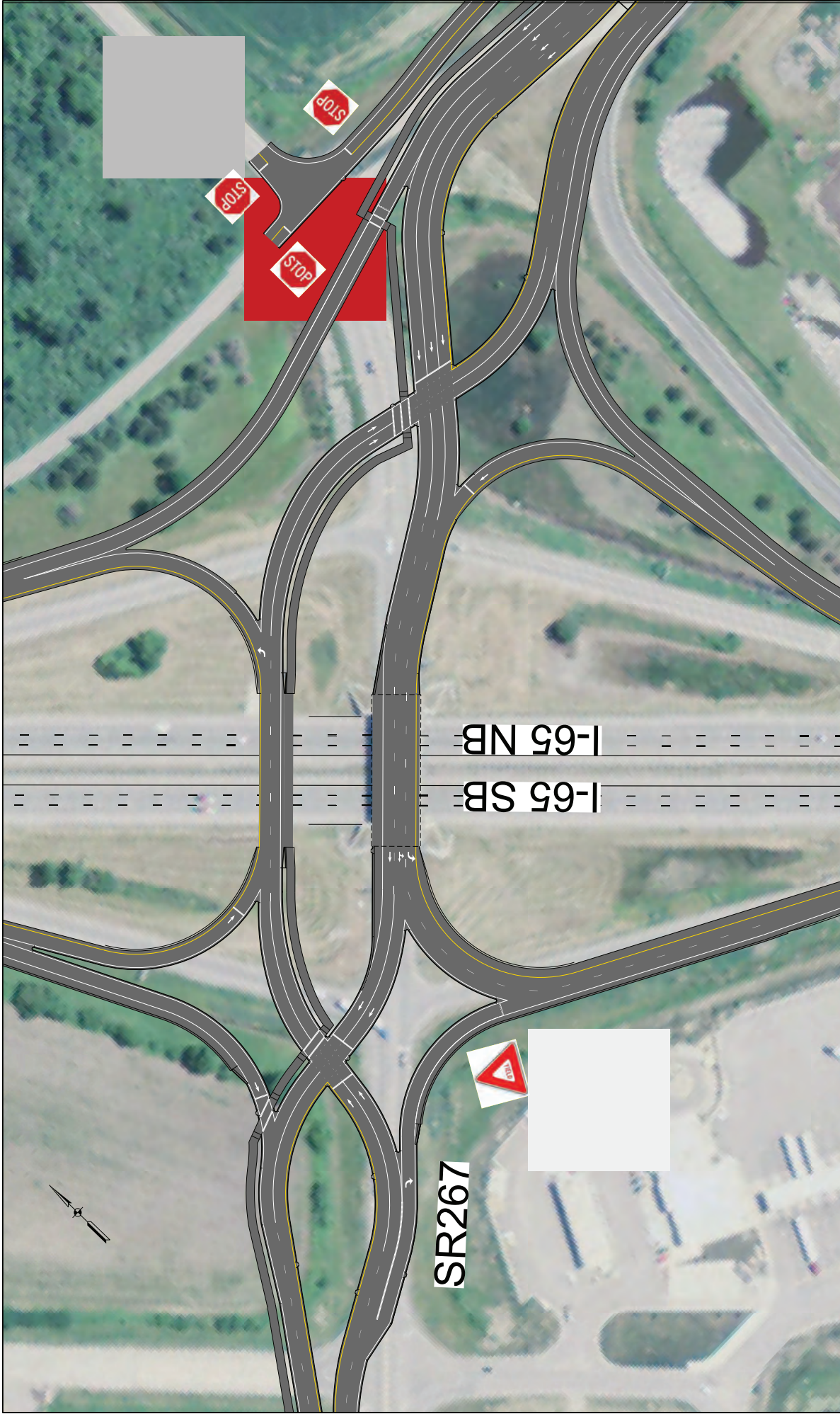


INDIANA
DEPARTMENT OF TRANSPORTATION
INTERCHANGE LAYOUT

SCALE: 1" = 50'
0 50' 100'

I-65 / SR267 - Pavement Markings

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111 MONUMENT CIRCLE
INDIANAPOLIS, IN 46204



INDIANA
DEPARTMENT OF TRANSPORTATION
INTERCHANGE LAYOUT

SCALE: 1" = 50'
0 50' 100'

I-65 / SR267 - Pavement Markings

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Perry Worth Rd.

SR267



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 INDIANAPOLIS, IN 46204

I-65 / SR267 - Pavement Markings

SCALE: 1" = 50'
 0 50' 100'

INDIANA
 DEPARTMENT OF TRANSPORTATION
 INTERCHANGE LAYOUT

Appendix B2

SR 267 Interchange Schematic Exhibits

Other Alternatives Considered

Parclo A

Grade Separated DDI

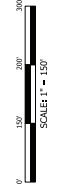
Single Point Urban Interchange (SPUI)



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I-65 / SR267 - INDOT PARCLO A Option

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 INTERCHANGE LAYOUT





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I-65 / SR267 - Grade Separated DDI

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 INTERCHANGE LAYOUT





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I-65 / SR267 - SPU

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 INTERCHANGE LAYOUT

Appendix B3

CR 550 S Interchange Schematic Exhibit

Preferred Alternative

Diverging Diamond Interchange (DDI)

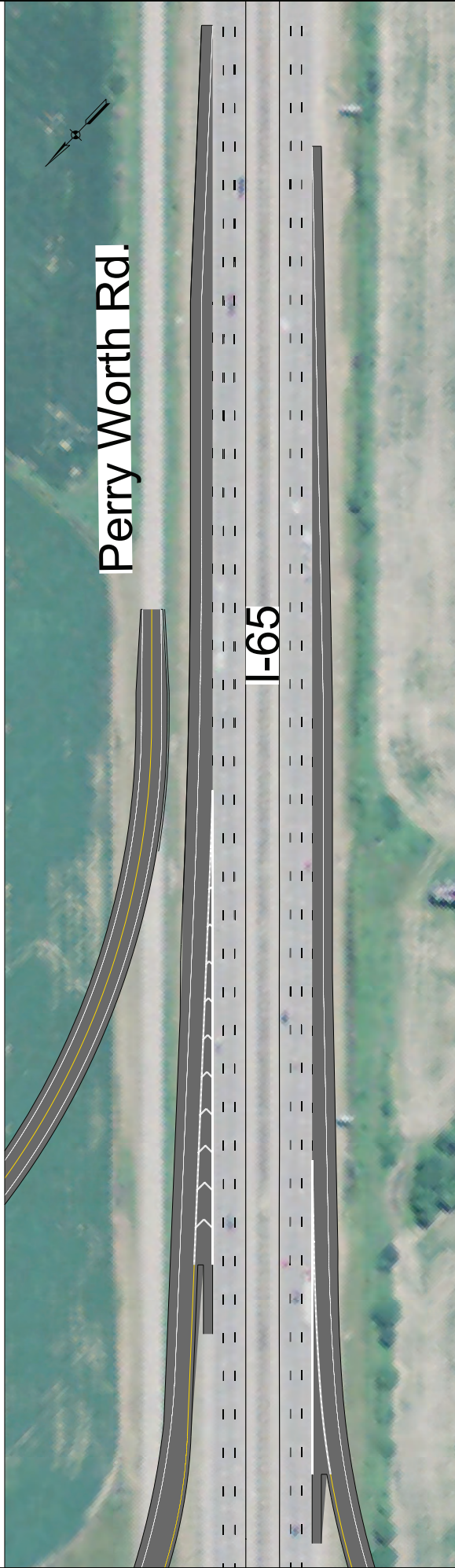


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I-65 / CR550 - Pavement Markings

SCALE: 1" = 150'
 0 150' 300'

INDIANA
 DEPARTMENT OF TRANSPORTATION
 INTERCHANGE LAYOUT



 <p> <small>HNTB CORPORATION THE HNTB COMPANIES ENGINEERS-ARCHITECTS-PLANNERS 111 MONUMENT CIRCLE INDIANAPOLIS, IN 46204</small> </p>	<p>I-65 / CR550 - Pavement Markings</p>	<p> <small>INDIANA DEPARTMENT OF TRANSPORTATION INTERCHANGE LAYOUT</small> </p>
<p>SCALE: 1" = 50'</p> 		



INDIANA
DEPARTMENT OF TRANSPORTATION
INTERCHANGE LAYOUT



I-65 / CR550 - Pavement Markings

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DEPARTMENT OF TRANSPORTATION
INTERCHANGE LAYOUT

SCALE: 1" = 50'
0 50 100'

I-65 / CR550 - Pavement Markings

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Appendix B4

CR 550 S Interchange Schematic Exhibits

Other Alternatives Considered

Tight Diamond Interchange (TDI)

Single Point Urban Interchange (SPUI)

Conventional Diamond Interchange



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I-65 / CR550 Tight Diamond

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 INTERCHANGE LAYOUT



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 111 MONUMENT CIRCLE
 INDIANAPOLIS, IN 46204

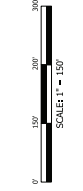
I-65 / CR550 SPUI

INDIANA
 DEPARTMENT OF TRANSPORTATION
 INTERCHANGE LAYOUT





INDIANA
DEPARTMENT OF TRANSPORTATION
INTERCHANGE LAYOUT



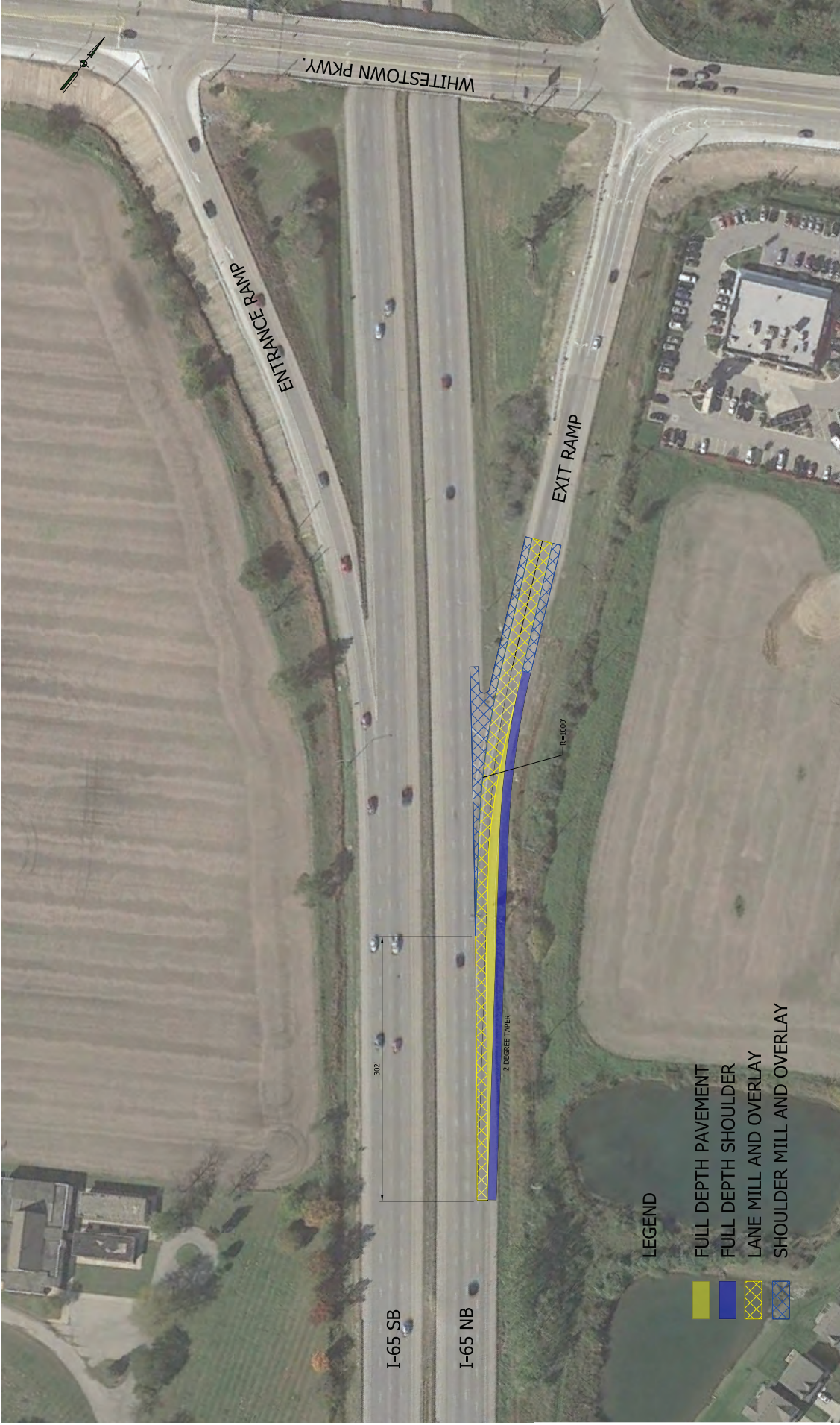
I-65 / CR550 Conventional Diamond

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THE HNTB COMPANIES
ENGINEERS-ARCHITECTS-PLANNERS
111 MONUMENT CIRCLE
INDIANAPOLIS, IN 46204



Appendix B5

Northbound I-65 Exit Ramp to Whitestown Parkway
Minor Ramp Modification Schematic Exhibit

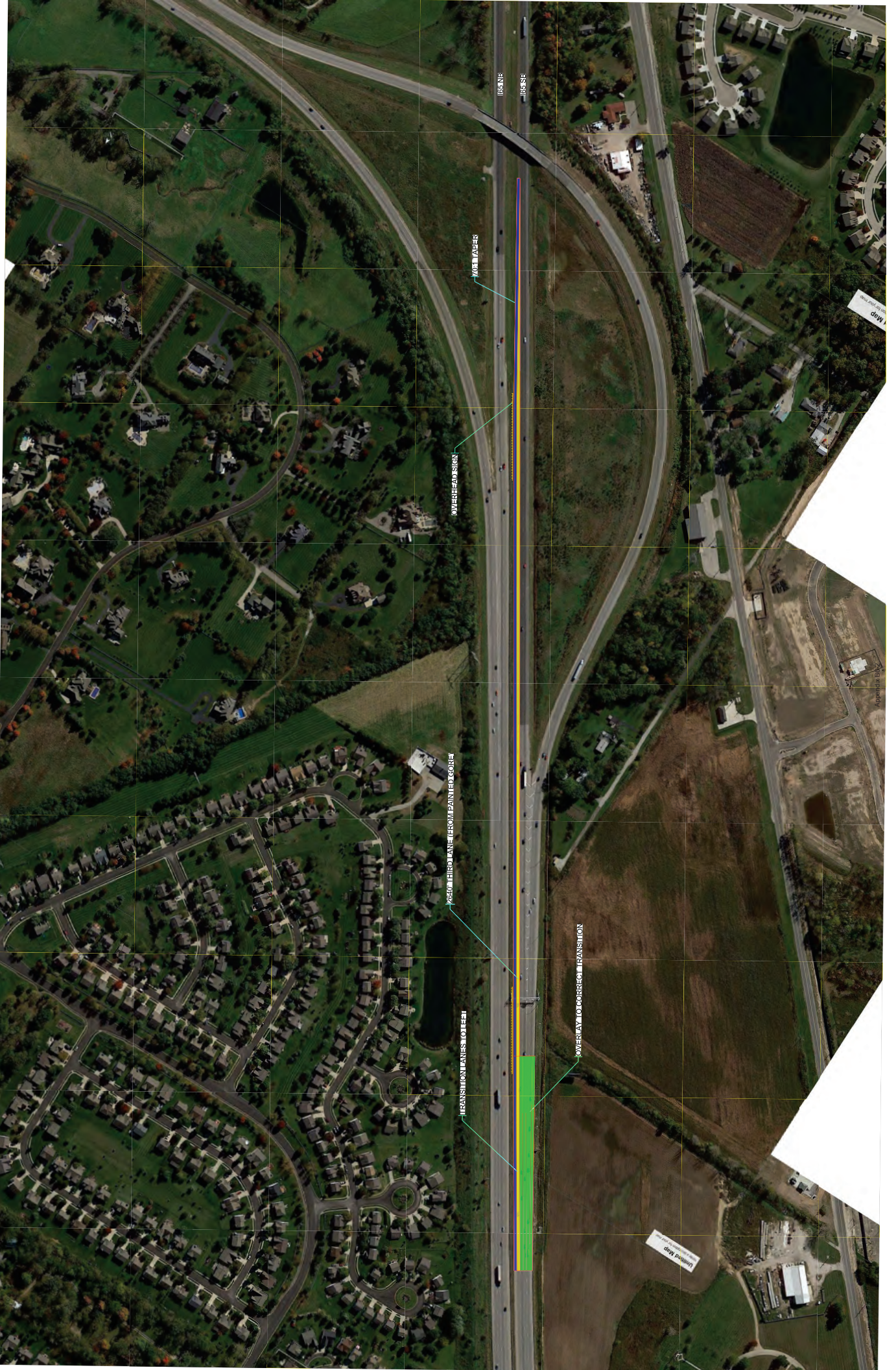


WHITESTOWN PKWY EXIT RAMP REVISION

Appendix B6

Southbound I-65 Exit Ramp to I-865

Minor Ramp Modification Schematic Exhibit



250' BUFFER FROM PAINTED CORE

OVERSIGHT DESIGN

INCREASING WIDTHS TO LEFT

OVERLAY TO CORRECT TRANSITION

WATERWAYS

Map

Appendix 2