

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

Road No./County:

Interstate 70 (I-70)/ Wayne County

Designation Number(s):

2002424 (Lead*)

I-70 Road Reconstruction (hereinafter referred to as "Revive I-70")/ Along I-70 from approximately 1.5 miles west of the I-70/State Road 1 (SR 1) interchange to approximately 1,200 feet east of the Indiana/Ohio State Line.

*A complete list of Designation Numbers is provided in Appendix A-2.

| | |
|----------|---|
| | Categorical Exclusion, Level 2 – Required Signatories: INDOT DE and/or INDOT ESD |
| | Categorical Exclusion, Level 3 – Required Signatories: INDOT ESD |
| X | Categorical Exclusion, Level 4 – Required Signatories: INDOT ESD and FHWA |
| | Environmental Assessment (EA) – Required Signatories: INDOT ESD and FHWA |
| | Additional Investigation (AI) – The proposed action included a design change from the original approved environmental document. Required Signatories must include the appropriate environmental approval authority |

Approval

N/A

INDOT DE Signature and Date
 Digitally signed by KARSTIN MARIE CARMANY-GEORGE
 Date: 2023.11.28 09:22:49 -05'00'

KARSTIN MARIE
 CARMANY-GEORGE

FHWA Signature and Date

Drew Passmore

November 28, 2023

INDOT ESD Signature and Date

Release for Public Involvement

N/A

INDOT DE Initials and Date

ADWP

September 6, 2023

INDOT ESD Initials and Date

Certification of Public Involvement

JoAnn Wooldridge

October 23, 2023

INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer Signature and Date:

Cindy Mauro

11-28-2023

Name and Organization of CE/EA Preparer:

Jennifer Graf/Parsons Transportation Group

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

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*? | <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.

Notice of Entry (NOE) letters were mailed to potentially affected property owners near the project area on May 31, 2022, notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the NOE letter is included in Appendix G-1 and G-2.

A *Public Involvement Plan* (PIP) was prepared by Parsons, and the Indiana Department of Transportation (INDOT) concurred with the plan on December 15, 2022. The purpose of the PIP is to establish goals and strategies for engaging with the public and key stakeholders in accordance with the current INDOT *Project Development Public Involvement Procedures Manual*. A copy of the PIP is included in Appendix G-3 to G-19.

Public Information Meetings (PIMs): The first PIMs were held on January 23 and 24, 2023. The PIMs were advertised via Richmond local television stations, press releases in the *Palladium-Item*, project website, e-blasts, and advertisements on social media. The flier advertising the PIMs, meeting reminder, press releases, and related materials are provided in Appendix G-20 to G-24.

The January 23, 2023, PIM was held at Whitewater Hall at Indiana University East, located at 2325 Chester Boulevard in Richmond. It was an open-house meeting format held from 5:30 to 7:00 p.m., with a presentation at 6:00 p.m. Whitewater Community Television live streamed and recorded the PIM and broadcasted it on a local channel (Appendix G-77). A total of 71 people attended the meeting. Sign-in sheets from the meeting are provided in Appendix G-25 to G-33. At the meeting, a presentation, display boards, informational handout, and comment sheets were available, which are provided in Appendix G-35 to G-47. The handout and comment sheets were provided in both English and Spanish. A total of 11 comments were received regarding the proposed project. The comments received during this meeting focused on the need for added travel lanes and interchange reconstructions, access management for emergency services and tourism, and endangered species concerns. Comments from the January 23, 2023, PIM are provided in Appendix G-48 to G-69, and a meeting summary is provided in Appendix G-71 to G-73.

The January 24, 2023, meeting was held virtually on Microsoft Teams and was attended by 39 people. A list of meeting attendees is located in Appendix G-34. The presentation and handout were the same as presented at the in-person meeting held on January 23, 2023. Public comments were facilitated through the Microsoft Teams chat feature, and the Project Team responded as appropriate during the January 24, 2023, PIM. Additionally, the Project Team further described the various methods in which comments could be submitted following the meeting. The comments received during this meeting focused on increasing local truck traffic, the potential for impacts to businesses and the local economy, safety, traffic management during construction, and beatification at the state line. A transcript of the comments received is available in Appendix G-70, and a meeting summary of this virtual meeting is provided in Appendix G-74 to G-76.

The second public meetings were held on August 9 and 10, 2023. The PIMs were advertised via press releases in the *Palladium-Item*, project website, e-blasts, meeting fliers, and advertisements on social media (Appendix G-94 to G-100).

The August 9, 2023, PIM was held at Whitewater Hall at Indiana University East, located at 2325 Chester Boulevard in Richmond. It was an open-house meeting format held from 5:30 to 7:00 p.m., with a presentation at 6:00 p.m. A total of 40 people attended the meeting. Sign-in sheets from the meeting are provided in Appendix G-101 to G-105. At the meeting, a presentation, display boards, informational handout, and comment sheets were available, which are provided in Appendix G-107 to G-118. The handout and comment sheets were provided in both English and Spanish. A total of 6 comments were received regarding the proposed project. The comments requested a dedicated truck lane, questioned the need for sidewalks along US 40, expressed disapproval of roundabouts, requested a safety barrier between Elmhurst Drive and I-70, and expressed support of the project. Comments from the August 9, 2023, PIM are provided in Appendix G-123 to G-132 and a meeting summary is provided in Appendix G-119 to G-122.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

The August 10, 2023, meeting was held virtually on Microsoft Teams and was attended by 32 people. A list of meeting attendees is located in Appendix G-106. The presentation and handout were the same as presented at the in-person meeting held on August 9, 2023. Public comments were facilitated through the Microsoft Teams chat feature, and the Project Team responded as appropriate during the August 10, 2023, PIM. Additionally, the Project Team further described the various methods in which comments could be submitted following the meeting. The comments received during this meeting pertained to road surfaces, drainage, sidewalks, and contract timelines. A summary of the comments received is provided in Appendix G-136 and a meeting summary of this virtual PIM is provided in Appendix G-133 to G-135. The Whitewater Community Television received a recording of the virtual meeting to play on community and government channels.

The project met the minimum requirements described in the current INDOT *Project Development Public Involvement Procedures Manual*, which requires the project sponsor to offer the public an opportunity to submit comments and/or request a public hearing. Following release of the draft environmental document for public involvement, copies were posted online and placed at the Morris-Reeves Library, Richmond Municipal Building, Centerville Municipal Building, Cambridge City Building, INDOT subdistrict, and on the project website (<https://revivei70.com>). A Legal Notice of Public Hearing (Notice) was emailed to project stakeholders, elected officials, and regulatory agencies on September 9, 2023 (Appendix G-137 to G-141). The Notice was published in the *Palladium-Item*, on September 19 and 26, 2023 (Appendix G-142 to G-149). The public hearing was also advertised project website, e-blasts, and advertisements on social media. As advertised, the comment period ended on October 19, 2023.

A public hearing was held on October 4, 2023, at the Ivy Tech Community College, 2357 Chester Boulevard in Richmond. A total of 26 people attended the meeting. Sign-in sheets from the meeting are provided in Appendix G-150 and G-151. At the meeting, display boards, welcome letter, informational handout, and comment forms were available, which are provided in Appendix G-152 to G-162. The welcome letter, handout and comment form were provided in both English and Spanish. During the hearing, the Project Team gave a presentation that covered the project development process, details about the preferred alternative, project delivery, maintenance of traffic, project schedule, and how to submit public comments (Appendix G-163 to G-168). Project Team members were available before and after the hearing to answer questions.

A total of 13 comments were received during the comment period. Five of the comments were provided by speakers during the public hearing. A transcript of these comments is provided in Appendix G-169 and G-171. Eight comments were submitted through the project website (Appendix G-172 and G-173). INDOT's responses to the public hearing comments are in Appendix G-174 to G-178.

Two comments requested a safety barrier between the cul-de-sac at the end of Elmhurst Drive and I-70 to protect residents from flying debris off vehicles on the interstate. Another comment requested a safety barrier between West Cart Road and I-70 from mile marker 151 to 153. Several crashes have occurred in this area in which vehicles have left the interstate. The Project Team will perform a detailed check of the corridor within the project limits, to ensure protection is provided at required locations, per current INDOT standards. The Project Team will work to identify a sustainable solution that will provide a safety barrier for these locations. A solution is expected to be incorporated into the final design of the project through the design-build process.

Several comments expressed opposition to the proposed sidewalks and roundabouts at the I-70/US 40 interchange. Safety is INDOT's top priority for all users of both our system and the local roadway systems in Indiana. INDOT is focused on designing and building roads that safely and comfortably accommodate all users of the roadways, including motorists, cyclists, and pedestrians, benefiting people of all ages and abilities, as well as promoting Americans with Disabilities Act (ADA) acceptable provisions. The proposed sidewalks along US 40 will provide a safe and accessible option for pedestrians and bicyclists. The sidewalks will be ADA compliant and connect to a new sidewalk network along US 40 proposed by the City of Richmond. Studies by FHWA have determined that roundabouts are a proven safety countermeasure and one of the safest types of intersection designs. Nationally, roundabouts have been found to reduce serious crashes by up to 80 percent. Roundabouts reduce the number of conflict points within an intersection and the slower speeds reduce the severity of crashes.

Two comments addressed the Cardinal Greenway Trail. One comment requested a signed bicycle detour route for the trail during construction. The other comment requested adding multi-use bikeways to the I-70 project with the end goal of completing the trail to the Indiana/Ohio state line and making Richmond a hub for recreational use in eastern Indiana. A maintenance of traffic (MOT) technical feasibility review was conducted for the Cardinal Greenway Trail on October 24, 2023. This review evaluated MOT options and their feasibility. Diverting the trail to either the west side or east side of the existing trail within the existing right of way was not considered feasible because the new structure will encumber the entire area for construction and the grade difference between the existing trail and spill slopes is too great to construct an ADA compliant trail. A mid-block crossing is not available; therefore, this option is not feasible. A short detour was considered; however, the area is rural and a short detour is not feasible. A long detour was considered for the area utilizing West Industries Road to Union Pike to Wayne Road (approximately 1.3 miles). There are no existing facilities for pedestrians or bicycles and shoulders are nonexistent along each of these roads. Therefore, a long detour is not feasible. Based on the MOT technical feasibility review, INDOT will not post a bicycle detour route for the trail. Based on coordination with the Cardinal Greenway Trail, access to the trail north and south of the closed section will be available at existing trailheads. Additionally, the Project Team has discussed a possible shared-use path along US 40 with the City of Richmond, which

Indiana Department of Transportation

County WayneRoute I-70Des. No. 2002424

could be incorporated into the final design of the project through the design-build process.

Several comments inquired about contractor oversight during construction and incentives or penalties for schedule advancements or delays. Construction oversight is included in the contract with damages accrued if construction practices do not meet current standards. INDOT provides incentives to contractors that finish construction projects ahead of schedule. INDOT also implements penalties on contractors that fail to meet project schedules or do substandard work. These penalties could include daily fines, rework at the contractors' expense, contract cancellation, and legal action. The incentives and penalties are included in construction contracts.

Outreach: Several outreach tools have been implemented for the project including a website (www.revivei70.com), social media pages (i.e. Facebook and Twitter), E-blasts, text alerts, a survey, and media coverage. The PIP (Appendix G-3 to G-19) describes these outreach tools in detail. A survey was posted on the project website to obtain input about the project corridor from those who routinely drive on I-70 in Wayne County. The survey was available from February 16 to 28, 2023, and received 787 responses. A summary of the survey questions and results is provided in Appendix G-80 to G-93. This project has been covered by local media such as television stations and the *Indianapolis Business Journal*, and interviews have occurred with several media outlets including, WVXU-FM, White Water Broadcasting, *Inside Indiana Business (IIB) News*, and *Western Wayne News*. Outreach efforts toward Environmental Justice (EJ) populations is detailed in the EJ Section of this CE document. INDOT's public service website www.INDOT4U.com also provides a means for the public to receive information about the project and provide their comments. Public comments received through INDOT4U are provided in Appendix G-78 and G-79.

Public Controversy on Environmental Grounds

Discuss public controversy concerning community and/or natural resource impacts, including what is being done during the project to minimize impacts.

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

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

Sponsor of the Project: INDOT INDOT District: GreenfieldLocal Name of the Facility: I-70Funding Source (mark all that apply): Federal State Local Other*

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

PURPOSE AND NEED:

The need should describe the specific transportation problem or deficiency that the project will address. The purpose should describe the goal or objective of the project. The solution to the traffic problem should NOT be discussed in this section.

The needs for this project stem from existing pavement conditions and geometric deficiencies within the project area, as well as safety and congestion issues along this section of I-70. The following is a summary of the purpose and need for the project. Excerpts from the Purpose and Need Statement are provided in Appendix A-3 to A-30.

Need:

Pavement Conditions: Sections of I-70 within the project area were originally constructed with reinforced cement concrete pavement between 1962 and 1963. From circa 1981 to 2015, segments of I-70 within the project area received various maintenance treatments such as asphalt overlays and resurfacing. The existing 60-year old concrete pavement is now showing age-related distress including joint failure, polishing, faulting, and transverse cracking, as well as poor rideability. Pavement conditions for the majority of I-70, between 0.62 mile west of US 27 and 0.26 mile east of US 40, were documented in an INDOT Pavement Scoping Application dated September 8, 2020. The International Roughness Index (IRI), which is a measure of ride quality, for this section of I-70 was reported to be 123 inches per mile (in/mi). An IRI measurement of 95 in/mi or below is considered "good".

Geometric Deficiencies: Within this section of I-70, most of the existing ramp acceleration and deceleration lanes and merge/diverge points do not meet current *Indiana Design Manual (IDM)* standards, and mainline shoulder widths are too narrow in many locations (Appendix A-9). There are also operational issues associated with the acceleration/deceleration lanes and loop

This is page 4 of 63 Project name: Revive I-70 Date: November 22, 2023

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

ramps at both the US 35/Williamsburg Pike and the US 40 interchanges.

Safety: The four-lane sections of I-70 across Indiana, have higher than average index values for crash rates and/or crash severity, based on functional class and current traffic volumes. According to the 2022 *I-65 and I-70 Safety and Mobility Needs Summary*, approximately 19 percent of I-70 crash indices are in the medium (i.e., index of crash cost and index of crash frequency between 0 and 1) or high categories (i.e., index of crash cost [ICC] and index of crash frequency [ICF] above 1), which indicates potential safety issues. The 2023 *Revive I-70 Traffic and Safety Analysis* assessed existing safety conditions on I-70 within the project area using five years of crash data from 2017 through 2021. A total of 735 crashes over the five-year period were analyzed. Areas with the highest crash frequencies in the eastbound (EB) direction are the US 35 interchange, and the section between the US 27 and SR 227 interchanges. Areas with the highest crash frequencies in the westbound (WB) direction are the US 40 and SR 227 interchanges, and the section between the US 27 and US 35 interchanges.

The 2023 *Revive I-70 Traffic and Safety Analysis* analyzed crash frequency and crash severity within the project area using INDOT's Road Hazard Analysis Tool (RoadHAT) version 4.1. The RoadHAT software calculates two indices, which indicate the number of standard deviations that a particular segment's safety performance is above or below the expected number of crashes for similar segments in Indiana. An index above 0.0 is considered elevated crash activity in terms of frequency or severity and an index 1.0 or above is considered substantially elevated. The ICF indicates the frequency of all crashes within a segment and the ICC indicates the severity of all crashes within a segment. The segment of I-70 between the SR 227 and US 40 interchanges shows the highest ICF in the project area in both the EB and WB directions of travel, at 2.06 and 2.97, respectively. The highest ICC segments of I-70 EB are US 27 to SR 227 and SR 227 to US 40, at 1.4 and 1.31, respectively. The highest ICC segments of I-70 WB are US 27 to US 35 and weigh station to Centerville Road, at 1.83 and 1.46, respectively.

Congestion: Annual average daily traffic on I-70 is 39,600 vehicles per day within the project area and approximately 50 percent of these vehicles are trucks. Substantial congestion along the I-70 corridor has been addressed in INDOT's transportation plans. INDOT's 2018 *Indiana Multi-Modal Freight Plan Update* identifies I-70 from the Illinois State Line to the Ohio State Line as a heavily traveled freight and passenger corridor that experiences significant congestion. INDOT's 2045 *Long-Range Transportation Plan* identifies the I-70 corridor as critical to the state's mobility and economic activity. The long-range plan recommends maximizing its performance to ensure the efficient movement of people and goods, increase regional connectivity and freight truck mobility, and plan for the future.

During normal traffic flow conditions, congestion meets levels of service (LOS) criteria on I-70 within the project area. The traffic analysis presented in the 2023 *Revive I-70 Traffic and Safety Analysis* determined that existing LOS range between A and C and future year (2048) LOS will range between A and C within the project area. However, with high truck percentages and projected growth, future 2048 LOS is projected to be LOS C in multiple segments during the PM peak hour. Levels of Service is a performance measure that represents quality of service, measured on an A – F scale, with LOS A representing a free flow of traffic and LOS F representing a breakdown in flow (e.g., start-and-stop congestion). The project area is both rural and urban. The minimum criteria during peak travel hours (i.e., rush hour) is LOS C in the rural section and LOS D in the urban area. The *Highway Capacity Manual (7th Edition)* description of LOS C notes that freedom to maneuver within the traffic stream is noticeably restricted. Due to the high volume of truck traffic along the I-70 corridor, there are frequently lines of semi-trucks in both the left and right travel lanes. Trucks often pass each other at slower rates than passenger vehicles, which can cause traffic to slow down and back up behind the trucks. This situation causes congestion until the trucks are able to complete the passing movement. Drivers of passenger vehicles feel that the lines of semi-truck restrict traffic, make lane changes difficult to execute, and make merging onto I-70 difficult. This sentiment was expressed in comments received from the PIMs held on January 23 and 24, 2023.

Queuing Due to Maintenance of Traffic: Excessive queuing occurs on I-70 when there are lane closures due to crashes, maintenance work, and other events. Lane closures on this four-lane section of I-70 result in traffic back-ups beyond INDOT policy limits. The *Indiana Highway Congestion Policy* (IHCP) defines acceptable queuing at interstate work zones, based on the length of the queue and the time it remains in place. According to INDOT's 2022 *I-65 and I-70 Safety and Mobility Needs Summary*, on about 85 percent of the four-lane sections of I-70, a lane closure will result in queues beyond INDOT policy limits more than 50 percent the time. Work zones requiring lane closure are common since routine maintenance is required on I-70. INDOT's queue analysis tool was used to identify expected queues from closing one lane in each direction on four-lane segments of I-70. The queue analysis determined that the traffic backups exceed INDOT's policy limits 98 to 100 percent of the time within the project area. It is important to note that work zone lane closures are only allowed at night. The queue analysis is equally applicable for crashes and other incidents where lane closure is required.

Travel time reliability for trucks is also a concern on I-70. The *Indiana Multimodal Freight Plan Update 2018* assessed truck travel time reliability (TTTR), which is an indicator of a highway system's ability to consistently meet demand for travel. The TTTR Index (TTTRI) is a measure of how much additional time shippers must plan for in order to arrive on-time 95 percent of the time. The Federal Highway Administration (FHWA) defines TTTRI as "the consistency or dependability in travel times, as measured from day-to-day and/or across different times of day". Federal performance measures require states to report the worst TTTRI across five times of day. The segment of I-70 through Richmond is documented as unreliable in the *Multimodal Freight Plan*.

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

Purpose:

The purpose of the Revive I-70 project is to:

- Restore the pavement to extend the service life of these sections of roadway by at least 30 years, and provide a ride quality with an IRI of at least 95 in/mi;
- Correct geometric deficiencies to meet current IDM standards;
- Reduce the frequency and severity of crashes;
- Fulfill state and federal long-range plans for increasing mobility; and
- Improve truck travel reliability

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Wayne Municipality: Harrison, Jackson, Center, Clay, and Wayne Townships; City of Richmond

Limits of Proposed Work: Along I-70 from 1.5 miles west of the I-70/SR 1 interchange to approximately 1,200 feet east of the Indiana/Ohio State Line (Des. Nos. 2002424, 2002422, and 2002423).
 Along US 27 from approximately 800 feet north of the center of the I-70/US 27 interchange to approximately 800 feet south of the center of the I-70/US 27 interchange (Des. No. 2200807).
 Along US 40 from approximately 2,244 feet east of the center of the I-70/US 40 interchange to approximately 1,500 feet west of the center of the I-70/US 40 interchange (Des. No. 2002424).

Total Work Length: 20.6 Mile(s) Total Work Area: 581 Acre(s)

Is an Interstate Access Document (IAD)¹ required?
 If yes, when did the FHWA provide a Determination of Engineering and Operational Acceptability?

| Yes ¹ | No |
|------------------|---------------|
| X | |
| Date: | Oct. 18, 2023 |

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.

Describe location of project including township, range, city, county, roads, etc. Existing conditions should include current conditions, current deficiencies, roadway description, surrounding features, etc. Preferred alternative should include the scope of work, anticipated impacts, and how the project will meet the Purpose and Need. Logical termini and independent utility also need discussed.

INDOT, with funding from FHWA, intends to proceed with a roadway improvement project along a 21-mile section of I-70 from 1.5 miles west of the I-70/SR 1 interchange to approximately 1,200 feet east of the Indiana/Ohio State Line. in Wayne County, Indiana (Des. 2002424) (Appendix B-1). A complete list of associated project Designation Numbers is provided in Appendix A-2.

Location: The project is located in Wayne County, Indiana as shown on the United States Geological Survey (USGS) Topographic New Paris, Richmond, Jacksonburg, and Cambridge City, Indiana Quadrangle Maps (Appendix B-1 and B-2). It is within Jackson, Harrison, Center, Clay, and Wayne townships, and the city of Richmond, Indiana. It is in Sections 10, 11, and 12 of Township 16 North, Range 12 East; Sections 1, 2, 7, 8, 9, 10, 11, and 12 of Township 16 North, Range 13 East; Sections 2, 3, 4, 5, 6, 7, 8, and 9 of Township 16 North, Range 14 East; Section 24 of Township 14 North, Range 2 West; Sections 16, 17, 19, 20, 21, 22, 23, 25, 26, and 36 of Township 14 North, Range 1 West; Section 31 of Township 9 North, Range 1 East; and Section 6 of Township 8 North, Range 1 East.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Existing Conditions: The site setting along the project corridor varies from rural to urban (Appendix B-3 to B-9). Beginning at the project area's western boundary near the SR 1 interchange and extending approximately 11 miles east along I-70, the setting is rural consisting primarily of farm fields, forested land, and residences on large parcels. Multiple streams and rivers intersect the project area, including but not limited to the Whitewater River, East Fork of the Whitewater River, Greens Fork, Lick Creek, Martindale Creek, Middle Fork of the East Fork of the Whitewater River, Nolands Fork, and West Fork of the East Fork of the Whitewater River. Beginning at the US 35 interchange, the setting transitions from rural to urban with increasing commercial, industrial, institutional, and office uses along I-70 through the city of Richmond. Project area aerial figures and photographs are provided in Appendix B-3 to B-12.

I-70

Within the project area, I-70 is a divided highway classified as a rural/urban freeway. The typical cross section consists of two 12-foot wide travel lanes in each direction with a 60-foot wide median. There are variable-width ramps and auxiliary lanes at interchanges, and at the weigh station and rest area. Guardrail, bridge rails, median barriers, and interchange lighting are present throughout most of the project area. Existing inside and outside shoulders range from 4 to 12 feet wide. There are six interchanges within the project area located at SR 1, Centerville Road, US 35, Chester Boulevard (US 27), SR 227, and US 40. Along westbound I-70, there is a rest area between SR 1 and Centerville Road, and a weigh station between Centerville Road and US 35. There are no existing noise abatement measures along this section of I-70. This corridor is characterized by various geometric deficiencies, including the existing ramp acceleration, deceleration lanes, and merge/diverge points, as well as acceleration/deceleration lanes and loop ramps at various interchanges, all of which do not meet current design standards (see Purpose and Need Statement in Appendix A-3 to A-30). The functional classifications of each associated roadway with proposed work, including interchange ramps, are provided in the Roadway Character section.

US 35 Interchange

The I-70/US 35 interchange is a cloverleaf with one semi-direct connection (there are loop ramps in all quadrants with the exception of the northeast) and seven access/egress points with I-70. No signals on US 35 are present at the interchange.

US 40 Interchange

The I-70/US 40 interchange is a partial cloverleaf interchange, providing free-flowing movements from I-70 to US 40 using two diagonal and two loop ramps. Access from US 40 to I-70 is provided by two diagonal ramps. No signals are present at the interchange on US 40.

Pedestrian Facilities

Pedestrian facilities are present at three locations within the project area. The Cardinal Greenway Trail crosses the project area via an underpass west of US 27. There are sidewalk segments along US 27 south of the I-70 interchange, which terminate at the project area boundary and do not connect to other pedestrian facilities within the project area. There are 200-foot-long sidewalk segments along US 40 under the I-70 bridges, which do not connect to other pedestrian facilities.

Bridges, Culverts, and Stormwater

There are 47 bridges and 81 culverts within the project area, which are summarized in two tables, Bridges within the Project Area and Culverts within the Project Area, located in Appendix A-31 to A-35. Stormwater is managed by culverts, ditches, inlet structures and outlet pipes, which collect the runoff and redistribute the water to the outside ditch line. The mainline utilizes ditches in both the median and outside grading limits to control flow.

Preferred Alternative:

I-70 Mainline

The proposed preferred alternative will add two travel lanes (one EB and one WB) in the grass median along I-70. This will provide three 12-foot travel lanes in each direction on I-70 separated by a continuous concrete barrier. There will be a 14-foot inside shoulder (12-foot shoulder with a 2-foot barrier offset) and a 12-foot outside shoulder (Appendix I-47 and I-48). The existing mainline pavement will be replaced with continuously reinforced concrete pavement and existing lighting, signage, and guardrail/barrier systems will be upgraded.

On and Off Ramps

The I-70 on and off ramps for the rest area, weigh station, and the SR 1, Centerville Road, US 35, US 27, and SR 227 interchanges will be reconstructed to the gore nose, which is where the ramps separate from the I-70 mainline (Appendix I-47). At some locations, reconstruction may extend further up a ramp due to profile or superelevation adjustments. Where possible the acceleration/deceleration lengths of the ramps will be modified to meet current IDM standards. Sections of the ramps not reconstructed will have a mill and overlay preventative maintenance treatment.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

US 27

At the I-70/US 27 Interchange, a 0.31-mile section of US 27 will require patching. Partial and full depth concrete patches will be placed on US 27 from approximately 850 feet north of the center of the interchange to approximately 800 feet south of the center of the interchange. Pavement markings disturbed by patching will be replaced in kind.

US 35 Interchange

The I-70/US 35 Interchange will be partially modified to improve the acceleration and deceleration length of each ramp movement (Appendix I-51 and I-55). The merging loop ramp from US 35 SB to I-70 EB will be extended approximately 300 feet to provide additional length for acceleration. For the WB I-70 to US 35 exit ramps, a new barrier separated dual lane collector-distributor road will be constructed and provide proper deceleration lengths before accessing the existing US 35 NB and SB ramps. These ramp modifications will meet current INDOT design standards.

US 40 Interchange

The I-70/US 40 Interchange will be reconstructed to a Diamond Interchange with Roundabout Termini (Appendix I-58 and I-59). The US 40 EB and WB travel lanes will connect to a tear-drop style roundabout intersection at each end of the interchange allowing for yield controlled movements to access the EB and WB I-70 single lane ramps and to continue along US 40. US 40 will maintain two lanes in each direction for EB and WB travel. The reconstruction will also provide pedestrian facilities at this location.

Pedestrian Facilities

The two I-70 bridges over the Cardinal Greenway Trail will be replaced with a 14-foot-high by approximately 250-foot-long four-sided concrete box structure. It will be placed under mainline I-70 and the entire median width. The trail will extend through the concrete box structure providing access under I-70. This section of trail will be closed during construction of these structures and will be restored to preconstruction condition.

Improvements to US 27 will not impact the sidewalk located south of the interchange since it is located south of the project area. The sidewalk segments along US 40 will be replaced with two new 5-foot-wide sidewalks located on the north and south sides of US 40 from the western project limit to the Indiana/Ohio State Line. The sidewalks will be ADA compliant and connect to a new sidewalk network along US 40 proposed by the City of Richmond.

Bridges, Culverts, and Stormwater

Improvements will be done to 41 of the 47 bridges. Proposed work includes full replacement of the EB and WB I-70 bridges over the East Fork of the Whitewater River, Cardinal Greenway Trail, and Access Road. Widening to accommodate added travel lanes, painting, and resurfacing will be done as needed to the other bridges. Culverts will be replaced, relocated, or removed as needed.

The proposed stormwater drainage system will implement new inlets and storm sewers along the closed median barrier that drains to outside ditches (Appendix I-47). In specified locations, the outside ditch will be regraded to provide positive drainage. Detention ponds and ditches will be constructed within the interchange infield areas to manage stormwater runoff. Inline detention pipes will be provided where detention ponds are not feasible.

Right-of-Way

The majority of the proposed improvements will be constructed within the existing right-of-way (ROW). A total of 1.48 acres of permanent ROW will be required to construct a new dual lane exit ramp from I-70 WB to US 35 and for replacement of a culvert outside of the existing ROW. Locations of the ROW impacts are provided in Appendix B-13.

Maintenance of Traffic

The MOT plan will maintain two travel lanes in each direction of I-70 at all times. The posted speed limit in the construction zone will be 55 miles per hour (mph). Short-term ramp road closures will occur as necessary. Detours may be needed for the modifications to the I-70/US 40 interchange. The Cardinal Greenway Trail will require a full closure in order to complete adjacent work, and due to the rural nature of the area, a detour will not be provided. Access to the trail north and south of the closed section will be available at existing trailheads. Access for all residences and businesses will be maintained throughout construction.

Environmental Impacts

This project will impact approximately 6,821.40 linear feet of streams and approximately 3.826 acres of regulated wetlands. Additionally, approximately 232.42 acres of terrestrial habitat will be disturbed by this project, of which approximately 49.5 acres will involve tree clearing. The project will not impact historic or other cultural resources.

The preferred alternative will meet the purpose and need of the project by restoring the pavement, providing a ride quality with an IRI of at least 95 in/mi, correcting design deficiencies, reducing the frequency and severity of crashes, increasing the mobility of people and goods, and improving truck travel time reliability along this section of I-70.

Logical Termini/Independent Utility: Federal requirements for logical termini require project limits that have independent transportation utility. Project limits must be of sufficient size to consider all environmental impacts that will result from the proposed transportation improvements. This requires the termini of the project to have logical end points in the roadway and highway network and that the project limits are of sufficient length and width that common environmental and social concerns can be addressed in a

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

meaningful way. The logical termini for the Revive I-70 Project are the I-70/SR1 interchange in the west and the I-70/US 40 interchange in the east. These interchanges were selected as the logical termini for the project because they are existing interchanges that serve as points of access to regional and interstate highway systems. SR 1 is a north-south highway extending through eastern Indiana and US 40 is a major east-west highway across the Mid-Atlantic States.

The project limits for Revive I-70 are from 1.5 miles west of the I-70/SR 1 interchange to approximately 1,200 feet east of the Indiana/Ohio State Line in Wayne County, Indiana. INDOT identified these limits through a multi-asset evaluation of needs along the I-70 Corridor. Identification of this 21-mile section of I-70 for the project was based on combined asset management considerations of safety, pavement, mobility and bridge needs. The deteriorating pavement in this section of I-70 requires recurring pavement patching maintenance every two to three years. The pavement patching is so extensive that the asset is at the point of requiring total replacement. Traffic volumes have increased through this section of I-70 and freight mobility travel times have been documented as unreliable. A third lane in each direction in this section of I-70 would improve mobility and travel times for all motorists. The western project limit extends 1.5 miles west of SR 1 to include both the I-70 EB and WB bridges over the Whitewater River. Both structures are at the end of their life expectancy and have an overall poor rating, therefore they need to be replaced. The eastern project limit of approximately 1,200 feet east of the Indiana/Ohio State Line provide adequate acceleration/deceleration lengths to the US 40 ramps, which meet current IDM standards. The proposed work in Ohio has been coordinated with the Ohio Department of Transportation (ODOT). ODOT is planning to add a third travel lane to I-70 in Preble County, which will connect into the Revive I-70 project near the Indiana/Ohio State Line.

The project limits are of sufficient length to address all environmental impacts associated with design and construction of the project. The preferred alternative has independent utility as it does not create the need for additional work and does not rely on any other project to meet the purpose and need. Therefore, it is a single and complete project.

OTHER ALTERNATIVES CONSIDERED:

Provide a header for each alternative. Describe all discarded alternatives, including the No Build Alternative. Explain why each discarded alternative was not selected. Make sure to state how each alternative meets or does not meet the Purpose and Need and why.

Alternatives considered for the Revive I-70 project were evaluated under a variety of scenarios for various components, including the I-70 mainline, the US 35 and US 40 interchanges, and four I-70 bridges.

I-70 Mainline

Alternatives considered for the Revive I-70 mainline were presented in the *Abbreviated Engineers Report Pavement Replacement with Added Travel Lanes* dated July 13, 2020 (Appendix I-11 to I-21) and the *Engineering Assessment Pavement Replacement with Added Travel Lanes* dated July 13, 2020 (Appendix I-22 to I-42). A No Build Alternative and three build alternatives were evaluated. The build alternatives would provide a full-depth reconstructed pavement section including subbase, new guardrail, underdrain, and other highway related items in accordance with INDOT Standards and Specifications.

No Build Alternative: This alternative means that no federal funds would be expended and that no action would occur. The I-70 pavement would continue to deteriorate, and there would be no impacts to resources, including streams and wetlands. The No Build Alternative requires no design or construction; therefore, it is a feasible alternative. However, the No Build Alternative would not address the deteriorating condition of the pavement, correct geometric deficiencies to meet current IDM standards, reduce the frequency and severity of crashes; alleviate congestion and increase the mobility of people and goods, and improve truck travel time reliability along this section of I-70. Therefore, the No Build Alternative does not meet the project's purpose and need and was dismissed from further consideration.

Full Depth Hot Mix Asphalt (HMA) Alternative: This alternative would remove all the existing asphalt and underlying concrete and replacing it with full depth HMA (Appendix I-18 and I-30). There would be minor to no environmental impacts because the work would be within the existing pavement limits. The environmental impacts of this alternative would be similar to the pavement replacement component of the preferred alternative. This alternative had an initial pavement cost of approximately \$40,060,000. The Full Depth HMA Alternative had the lowest initial construction cost of the three build alternatives. The initial construction had an estimated lifespan of 12 to 15 years with joint sealing taking place every three years. A mill and overlay operation would be required at year 15, followed by a mill and resurface operation on a 9-year cycle. The estimated cost the Full Depth HMA Alternative, including initial pavement cost and subsequent maintenance activities was approximately \$48,090,000. This alternative was dismissed from further consideration due to high maintenance and life cycle costs.

Portland Cement Concrete Pavement (PCCP) Alternative: This alternative would involve construction of PCCP for the proposed project length (Appendix I-19 and I-31). There would be minor to no environmental impacts because the work would be within the existing pavement limits. The environmental impacts of this alternative would be similar to the pavement replacement component of the preferred alternative. This alternative had an initial pavement cost of approximately \$39,420,000. Long term maintenance would involve a CPR construction operation at approximately years 16 and 24, a mill and HMA overlay at approximately year 30, followed by a

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

similar cycle of joint sealing and repaving as described in the HMA alternative. The estimated cost of the PCCP Alternative, including initial pavement cost and subsequent maintenance activities was approximately \$47,320,000. This alternative was dismissed from further consideration due to high maintenance and life cycle costs.

US 35 Interchange

Alternatives considered for the I-70/US 35 interchange to correct operational and design deficiencies were presented in the *INDOT Mini Scope* dated August 7, 2018 (Appendix I-74 to I-77), *Abbreviated Engineers Report Pavement Replacement with Added Travel Lanes* dated July 13, 2020 (Appendix I-11 to I-22), and *Engineers Report* dated May 9, 2023 (Appendix I-43 to I-73). A No Build Alternative and a total of seven build alternatives were evaluated for the interchange. The build alternatives focused on the unsafe merging conditions between vehicles merging onto I-70 EB from US 35 SB and vehicles exiting I-70 to US 35 NB. The existing auxiliary lane acts dually as an acceleration lane for the SB to EB entrance ramp and as a deceleration lane for traffic exiting onto the EB to NB ramp. This lane lacks the appropriate acceleration distance for incoming traffic to safely merge onto I-70 EB. Another focus of the build alternatives was improving mobility through the interchange for tractor trailers by removing the existing cloverleaf configuration.

No Build Alternative: This alternative means that no federal funds would be expended and that no action would occur. The I-70/US 35 interchange would remain as it currently exists, and there would be no impacts to resources, including streams and wetlands (Appendix I-49 and I-50). The No Build Alternative requires no design or construction; therefore, it is a feasible alternative. However, the No Build Alternative would not address the deteriorating condition of the pavement, correct geometric deficiencies to meet current IDM standards and reduce the frequency of crashes; and alleviate congestion and increase the mobility of people and goods along this section of I-70. Therefore, the No Build Alternative does not meet the project's purpose and need and is not a prudent alternative.

Auxiliary Lane Extension: This alternative proposed extending the merging loop ramp from US 35 SB to I-70 EB to provide additional length for acceleration onto the interstate (Appendix I-32, I-36, I-74, and I-77). There would be minor to no environmental impacts because the work would be within the existing pavement limits. The preferred alternative modifications to the I-70/US 35 interchange will result in greater environmental impacts than this alternative. The impacts will be greater due to the barrier separated dual lane collector-distributor road that will provide an exit from WB I-70 to US 35. This collector distributor road will require permanent ROW and impact farmland and wildlife habitat. This alternative was dismissed from further consideration because the proposed land extension and merge taper would not meet current IDM design standards, and it did not eliminate all the cloverleaf ramps.

Stop-Crossover Alternative: This alternative proposed removing the I-70 EB to US 35 NB loop ramp and extending the auxiliary lane to an appropriate distance east of the southeast loop ramp to provide adequate acceleration distance for incoming traffic to reach highway speed (Appendix I-32 and I-38). Traffic exiting I-70 EB would share a single exit. Traffic proceeding to US 35 NB would have a stop-controlled crossover at US 35 SB before continuing NB. This alternative would reduce weaving related safety issues by decreasing the number of vehicles that are required to weave as well as improving the acceleration distance for the SB to EB vehicles. This alternative would require a Level 2 Design Exception for the length of the freeway acceleration lane. There would be temporary environmental impacts resulting from removal of the I-70 EB to US 35 NB loop ramp. The interchange quadrant would be restored to natural habitat. The preferred alternative modifications to the I-70/US 35 interchange will result in greater environmental impacts than this alternative. The impacts will be greater due to the barrier separated dual lane collector-distributor road that will provide an exit from WB I-70 to US 35. This collector distributor road will require permanent ROW and impact farmland and wildlife habitat. This alternative was eliminated from further consideration because the proposed length of the acceleration lane and merge taper did not meet current IDM design criteria; and it did not eliminate all the cloverleaf ramps.

Teardrop Roundabout Alternative: This alternative would reconstruct the entire interchange, remove all loop ramps, reduce queue lengths, and reduce the number of conflict points (Appendix I-33 and I-40). The interchange reconstruction would impact all environmental resources within the ROW limits of the interchange. The environmental impacts associated with this alternative would be greater than those resulting from the preferred alternative. This design would increase travel time through the interchange by changing from uninterrupted free-flowing traffic to a yield-controlled intersection. This design was expected to improve safety by removing the cloverleaf ramps and potentially decrease any high severity crash issues related to weaving along US 35. Alternately, this design could increase crash rates along US 35 by removing free-flowing traffic conditions with the roundabouts. This alternative was eliminated from further consideration due to the potential to increase travel time through the interchange and increase crash rates along US 35.

Diverging Diamond Alternative: This alternative would reconstruct the entire interchange to current IDM design standards. In this design, opposing directions of travel on the non-freeway road cross each other on either side of the interchange (Appendix I-33 and I-42). The interchange reconstruction would impact all environmental resources within the ROW limits of the interchange. The environmental impacts associated with this alternative would be greater than those resulting from the preferred alternative. The advantages of a Diverging Diamond Interchange compared to a conventional signalized diamond interchange include the potential for free-flowing left and right turns onto a freeway, reduced delay due to two-phase signaling, and eliminating left turning lane storage problems for drivers entering a freeway. The effects on mobility and safety for this interchange alternative as compared to the existing interchange are similar to that as described for the Teardrop Roundabout Interchange. This alternative was eliminated from further consideration due to the potential to increase travel time through the interchange and increase crash rates along US 35.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Diamond Interchange with Roundabout Termini Alternative: This alternative would reconstruct the entire interchange to current IDM design standards, remove all loop ramps, reduce queue lengths, and reduce the number of conflict points (Appendix I-52 and I-53). The interchange reconstruction would impact all environmental resources within the ROW limits of the interchange. The environmental impacts associated with this alternative would be greater than those resulting from the preferred alternative. This alternative proposed two roundabouts located north and south of I-70. The roundabouts would direct traffic to US 35 NB and SB and I-70 EB and WB. This alternative was expected to improve safety by removing the cloverleaf ramps, but it could potentially increase crash rates along US 35 by removing free-flowing traffic conditions with the roundabouts. This alternative was eliminated from further consideration due to the potential to increase travel time through the interchange and increase crash rates along US 35.

Diamond Interchange with Signal Termini Alternative: This alternative would reconstruct the entire interchange to current IDM design standards, remove all loop ramps, reduce queue lengths, and reduce the number of conflict points (Appendix I-53 and I-54). The interchange reconstruction would impact all environmental resources within the ROW limits of the interchange. The environmental impacts associated with this alternative would be greater than those resulting from the preferred alternative. This alternative proposed two signalized intersections located north and south of I-70. The signalized intersections would direct traffic to US 35 NB and SB and I-70 EB and WB. This alternative was eliminated from further consideration due to the potential to increase travel time through the interchange.

US 40 Interchange

The *Project Intent Memo* dated January 13, 2021 (Appendix I-1 to I-10) and *Engineers Report* dated May 9, 2023 (Appendix I-43 to I-73), evaluated alternatives for the I-70/US 40 interchange, which would eliminate the existing loop ramps and allow for a lane drop to occur within Indiana before crossing the state line into Ohio. According to the current IDM, added travel lanes must be extended 2,000 to 3,000 feet beyond the previous interchange's entry ramp taper before being dropped to avoid operational issues. Due to the proximity of the I-70/US 40 interchange to the Indiana/Ohio state line, this design requirement would extend the added travel lanes into Ohio. A No Build Alternative and three build alternatives were evaluated for the I-70/US 40 interchange.

No Build Alternative: This alternative means that no federal funds would be expended and that no action would occur. The I-70/US 40 interchange would remain as it currently exists, and there would be no impacts to resources, including streams and wetlands (Appendix I-56 and I-57). The No Build Alternative requires no design or construction; therefore, it is a feasible alternative. However, the No Build Alternative would not address the deteriorating condition of the pavement, correct geometric deficiencies to meet current IDM standards and reduce the frequency of crashes; and alleviate congestion and increase the mobility of people and goods along this section of I-70. Therefore, the No Build Alternative does not meet the project's purpose and need and is not a prudent alternative.

Simple Diamond Alternative: This alternative would demolish both loop ramps and realign the remaining four ramps to meet US 40 perpendicularly (Appendix I-1 and I-2). Two coordinated traffic signals would be installed at the two new ramp terminals. Each off-ramp would be widened to accommodate dedicated left and right turn lanes. The existing left turn lanes on US 40 would be extended slightly to the new ramp terminal intersections, and new right turn lanes would be constructed on US 40 at each ramp terminal. The existing ramp merge and diverge points on I-70 would be lengthened to meet current design standards. The interchange reconstruction would impact all environmental resources within the ROW limits of the interchange. The impacts of this alternative would be similar to the impacts of the preferred alternative, which would also reconstruct the I-70/US 40 interchange. This alternative was eliminated from further consideration due to the potential to increase travel time through the interchange.

Diamond Interchange with Signal Termini: This alternative would partially reconstruct the interchange to current IDM design standards (Appendix I-59 and I-60). This alternative proposed two signalized intersections east and west of I-70. The signalized intersections would direct traffic to I-70 NB and SB and US 40 EB and WB. US 40 would maintain two lanes in each direction for eastbound and westbound and supplement the intersections with left and right turn movements for improved efficiency. The reconstruction would also provide pedestrian facilities for this location. The interchange reconstruction would impact all environmental resources within the ROW limits of the interchange. The impacts of this alternative would be similar to the impacts of the preferred alternative, which would also reconstruct the I-70/US 40 interchange. This alternative was eliminated from further consideration due to the potential to increase travel time through the interchange and safety reasons. This alternative would create 26 conflict points where two vehicles could potentially crash with each other, which is 16 more conflict points than the No Build Alternative.

Structures

The *Engineers Report* dated May 9, 2023, analyzed alternatives for bridges along I-70.

I-70 Bridges over the West Fork of the Whitewater River (Des. Nos. 2200762 and 2200763): The existing structure is a three-span composite continuous steel beam bridge built in 1965 and last rehabilitated in 2015. Currently the bridge has concrete railings on the deck and the approaches. The selection of the preferred alternative was based on cost. The environmental impacts would be the same for all alternatives. The other alternatives considered include the following (Appendix I-62 to I-64):

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

- Alternative 2: Deck replacement and widening with fatigue retrofitting
- Alternative 3: Full structure replacement with rolled steel beams, matching existing spans

I-70 over Cardinal Greenway Trail (Des. Nos. 2002447 and 2002448): The existing structure over the Cardinal Greenway trail is a three-span composite continuous steel beam bridge built in 1960 and last rehabilitated in 2019. Currently the bridge has concrete railings on the deck and the approaches. The selection of the preferred alternative was based on cost. The environmental impacts would be the same for all alternatives. The other alternatives considered include the following (Appendix I-64 to I-67):

- Alternative 1: Bridge deck overlay with widening
- Alternative 3: Bridge replacement with MSE walls

I-70 Bridge over the Indiana American Water Access Road (Des. Nos. 2002457 and 2002458): The existing bridge over the Indiana American Water Access Road is a three-span composite continuous steel beam bridge built in 1959 and widened in 1997. Currently the bridge has concrete railings on the deck and the approaches. The selection of the preferred alternative was based on cost. The environmental impacts would be the same for all alternatives. The other alternatives considered include the following (Appendix I-67 to I-70):

- Alternative 1: Bridge deck overlay with widening
- Alternative 3: Bridge replacement with MSE walls

I-70 Bridge over the East Fork of the Whitewater River (Des. Nos. 2002455 and 2002456): The existing structure is a five-span composite continuous steel beam bridge built in 1959 and widened in 1990. Currently the bridge has concrete railings on the deck and the approaches. The selection of the preferred alternative was based on cost. The environmental impacts would be the same for all alternatives. The other alternatives considered include the following (Appendix I-70 to I-73):

- Alternative 2: Three-span, composite, prestresses bulb-tee beam structures with reinforced concrete decks
- Alternative 3: Three-span, composite, steel plate girder structures with a reinforced concrete deck

The No Build Alternative is not feasible, prudent or practicable because *(Mark all that apply)*

It would not correct existing capacity deficiencies;

| |
|---|
| X |
|---|

It would not correct existing safety hazards;

| |
|---|
| X |
|---|

It would not correct the existing roadway geometric deficiencies;

| |
|---|
| X |
|---|

It would not correct existing deteriorated conditions and maintenance problems; or

| |
|---|
| X |
|---|

It would result in serious impacts to the motoring public and general welfare of the economy.

Other (Describe):

| |
|--|
| |
| |

Indiana Department of Transportation

 County Wayne

 Route I-70

 Des. No. 2002424

ROADWAY CHARACTER:

If the proposed action includes multiple roadways, complete and duplicate for each roadway.

The project is approximately 21 miles in length and traverses rural and suburban areas. Existing and proposed characteristics for roadways where improvements are proposed are presented below and shown on plan sheets in Appendix B-14 to B-92.

| | | | | |
|----------------------------|-------------------------|-----------------------------|------------------|---|
| Name of Roadway | <u>I-70 EB and WB</u> | | | |
| Functional Classification: | <u>Freeway</u> | | | |
| Current ADT: | <u>19,829 to 21,000</u> | <u>VPD (2019)</u> | Design Year ADT: | <u>21,100 to 24,200</u> <u>VPD (2048)</u> |
| Design Hour Volume (DHV): | <u>1,603 to 1,644</u> | <u>Truck Percentage (%)</u> | <u>52 to 53</u> | |
| Designed Speed (mph): | <u>70</u> | <u>Legal Speed (mph):</u> | <u>70</u> | |

| | Existing | | Proposed | |
|------------------|---|-----------------------------------|---|-----|
| Number of Lanes: | 2 | | 3 | |
| Type of Lanes: | Through | | Through | |
| Pavement Width: | 38 | ft. | 62 | ft. |
| Shoulder Width: | 4 inside 10 outside | ft. | 14 inside 12 outside | ft. |
| Median Width: | 60 | ft. | N/A | ft. |
| Sidewalk Width: | N/A | ft. | N/A | ft. |
| Setting: | <input type="checkbox"/> Urban | <input type="checkbox"/> Suburban | <input checked="" type="checkbox"/> Rural | |
| Topography: | <input checked="" type="checkbox"/> Level | <input type="checkbox"/> Rolling | <input type="checkbox"/> Hilly | |

| | | | | |
|----------------------------|--|-----------------------------|------------------|---|
| Name of Roadway | <u>I-70 EB and WB – On and Off-Ramps with SR 1</u> | | | |
| Functional Classification: | <u>Freeway</u> | | | |
| Current ADT: | <u>1,596 to 1,900</u> | <u>VPD (2019)</u> | Design Year ADT: | <u>2,700 to 3,500</u> <u>VPD (2048)</u> |
| Design Hour Volume (DHV): | <u>133 to 236</u> | <u>Truck Percentage (%)</u> | <u>15 to 30</u> | |
| Designed Speed (mph): | <u>50</u> | <u>Legal Speed (mph):</u> | <u>50</u> | |

| | Existing | | Proposed | |
|------------------|---|-----------------------------------|---|-----|
| Number of Lanes: | 1 | | 1 | |
| Type of Lanes: | Auxiliary | | Auxiliary | |
| Pavement Width: | 28 to 30 | ft. | 28 to 30 | ft. |
| Shoulder Width: | 5 to 9 | ft. | 5 to 9 | ft. |
| Median Width: | N/A | ft. | N/A | ft. |
| Sidewalk Width: | N/A | ft. | N/A | ft. |
| Setting: | <input type="checkbox"/> Urban | <input type="checkbox"/> Suburban | <input checked="" type="checkbox"/> Rural | |
| Topography: | <input checked="" type="checkbox"/> Level | <input type="checkbox"/> Rolling | <input type="checkbox"/> Hilly | |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

Name of Roadway North Washington Road
 Functional Classification: Major Collector
 Current ADT: 365 VPD (2022) Design Year ADT: 473 VPD (2048)
 Design Hour Volume (DHV): 42 Truck Percentage (%) 4
 Designed Speed (mph): 35 Legal Speed (mph): 35

| | | Existing | | Proposed | |
|------------------|-------------------------------------|--------------------------------|-----------------------------------|---|--|
| Number of Lanes: | | 2 | | 2 | |
| Type of Lanes: | | Through | | Through | |
| Pavement Width: | 20 | ft. | 20 | ft. | |
| Shoulder Width: | N/A | ft. | N/A | ft. | |
| Median Width: | N/A | ft. | N/A | ft. | |
| Sidewalk Width: | N/A | ft. | N/A | ft. | |
| Setting: | | <input type="checkbox"/> Urban | <input type="checkbox"/> Suburban | <input checked="" type="checkbox"/> Rural | |
| Topography: | <input checked="" type="checkbox"/> | <input type="checkbox"/> Level | <input type="checkbox"/> Rolling | <input type="checkbox"/> Hilly | |

Name of Roadway I-70 - Off-Ramp to Rest Area
 Functional Classification: Freeway
 Current ADT: 1,362 VPD (2019) Design Year ADT: 1,700 VPD (2048)
 Design Hour Volume (DHV): 94 Truck Percentage (%) 74
 Designed Speed (mph): 35 Legal Speed (mph): 35

| | | Existing | | Proposed | |
|------------------|-------------------------------------|--------------------------------|-----------------------------------|---|--|
| Number of Lanes: | | 1 | | 1 | |
| Type of Lanes: | | Auxiliary | | Auxiliary | |
| Pavement Width: | 28 | ft. | 28 | ft. | |
| Shoulder Width: | 4 to 9 | ft. | 4 to 9 | ft. | |
| Median Width: | N/A | ft. | N/A | ft. | |
| Sidewalk Width: | N/A | ft. | N/A | ft. | |
| Setting: | | <input type="checkbox"/> Urban | <input type="checkbox"/> Suburban | <input checked="" type="checkbox"/> Rural | |
| Topography: | <input checked="" type="checkbox"/> | <input type="checkbox"/> Level | <input type="checkbox"/> Rolling | <input type="checkbox"/> Hilly | |

Name of Roadway I-70 EB and WB – On and Off Ramps with Centerville Road
 Functional Classification: Freeway
 Current ADT: 1,018 to 1,192 VPD (2019) Design Year ADT: 1,300 to 1,700 VPD (2048)
 Design Hour Volume (DHV): 90 to 167 Truck Percentage (%) 5 to 15
 Designed Speed (mph): 35 to 55 Legal Speed (mph): 35 to 55

| | | Existing | | Proposed | |
|------------------|-------------------------------------|--------------------------------|-----------------------------------|---|--|
| Number of Lanes: | | 1 | | 1 | |
| Type of Lanes: | | Auxiliary | | Auxiliary | |
| Pavement Width: | 29 | ft. | 29 | ft. | |
| Shoulder Width: | 4 to 10 | ft. | 4 to 10 | ft. | |
| Median Width: | N/A | ft. | N/A | ft. | |
| Sidewalk Width: | N/A | ft. | N/A | ft. | |
| Setting: | | <input type="checkbox"/> Urban | <input type="checkbox"/> Suburban | <input checked="" type="checkbox"/> Rural | |
| Topography: | <input checked="" type="checkbox"/> | <input type="checkbox"/> Level | <input type="checkbox"/> Rolling | <input type="checkbox"/> Hilly | |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

Name of Roadway I-70 EB and WB - On and Off-Ramps with US 35
 Functional Classification: Freeway
 Current ADT: 334 to 2,287 VPD (2019) Design Year ADT: 400 to 2,900 VPD (2048)
 47 to
 Design Hour Volume (DHV): 237 Truck Percentage (%) 15 to 79
 Designed Speed (mph): 20 to 50 Legal Speed (mph): 20 to 50

| | | Existing | | Proposed | |
|------------------|-------------------------------------|----------|--------------------------|----------|--------------------------|
| Number of Lanes: | 1 | | 1 | | |
| Type of Lanes: | Auxiliary | | Auxiliary | | |
| Pavement Width: | 28-38 | ft. | 28-38 | ft. | |
| Shoulder Width: | 4 to 16 | ft. | 4 to 16 | ft. | |
| Median Width: | N/A | ft. | N/A | ft. | |
| Sidewalk Width: | N/A | ft. | N/A | ft. | |
| Setting: | <input checked="" type="checkbox"/> | Urban | <input type="checkbox"/> | Suburban | <input type="checkbox"/> |
| Topography: | <input checked="" type="checkbox"/> | Level | <input type="checkbox"/> | Rolling | <input type="checkbox"/> |
| | | | <input type="checkbox"/> | Rural | <input type="checkbox"/> |
| | | | <input type="checkbox"/> | Hilly | <input type="checkbox"/> |

Name of Roadway US 27
 Functional Classification: Principal Arterial
 Current ADT: 19,188 VPD (2022) Design Year ADT: 24,854 VPD (2048)
 Design Hour Volume (DHV): 1,739 Truck Percentage (%) 9
 Designed Speed (mph): 40 Legal Speed (mph): 40

| | | Existing | | Proposed | |
|------------------|-------------------------------------|----------|--------------------------|----------|--------------------------|
| Number of Lanes: | 4-6 | | 4-6 | | |
| Type of Lanes: | Through | | Through | | |
| Pavement Width: | 80 to 95 | ft. | 80 to 95 | ft. | |
| Shoulder Width: | 9 to 10 | ft. | 9 to 10 | ft. | |
| Median Width: | N/A | ft. | N/A | ft. | |
| Sidewalk Width: | N/A | ft. | N/A | ft. | |
| Setting: | <input checked="" type="checkbox"/> | Urban | <input type="checkbox"/> | Suburban | <input type="checkbox"/> |
| Topography: | <input checked="" type="checkbox"/> | Level | <input type="checkbox"/> | Rolling | <input type="checkbox"/> |
| | | | <input type="checkbox"/> | Rural | <input type="checkbox"/> |
| | | | <input type="checkbox"/> | Hilly | <input type="checkbox"/> |

Name of Roadway I-70 EB and WB - On and Off Ramps with US 27
 Functional Classification: Freeway
 Current ADT: 2,230 VPD (2019) Design Year ADT: 3,000 to 4,400 VPD (2048)
 Design Hour Volume (DHV): 254 to 378 Truck Percentage (%) 4 to 8
 Designed Speed (mph): 35-55 Legal Speed (mph): 35-55

| | | Existing | | Proposed | |
|------------------|-------------------------------------|----------|--------------------------|----------|--------------------------|
| Number of Lanes: | 1 | | 1 | | |
| Type of Lanes: | Auxiliary | | Auxiliary | | |
| Pavement Width: | 29 to 43 | ft. | 29 to 43 | ft. | |
| Shoulder Width: | 4 to 10 | ft. | 4 to 10 | ft. | |
| Median Width: | N/A | ft. | N/A | ft. | |
| Sidewalk Width: | N/A | ft. | N/A | ft. | |
| Setting: | <input checked="" type="checkbox"/> | Urban | <input type="checkbox"/> | Suburban | <input type="checkbox"/> |
| Topography: | <input checked="" type="checkbox"/> | Level | <input type="checkbox"/> | Rolling | <input type="checkbox"/> |
| | | | <input type="checkbox"/> | Rural | <input type="checkbox"/> |
| | | | <input type="checkbox"/> | Hilly | <input type="checkbox"/> |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

Name of Roadway US 27 Crossover Ramps to I-70 EB and WB
 Functional Classification: Principal Arterial
 Current ADT: 411 to 1,672 VPD (2021) Design Year ADT: 538 to 2,188 VPD (2048)
 Design Hour Volume (DHV): 56 to 198 Truck Percentage (%) 6 to 17
 Designed Speed (mph): 25 Legal Speed (mph): 25

| | | Existing | Proposed | |
|------------------|---|-----------------------------------|--------------------------------|-----|
| Number of Lanes: | 2 | | 2 | |
| Type of Lanes: | Auxiliary | | Auxiliary | |
| Pavement Width: | 43 to 44 | ft. | 43 to 44 | ft. |
| Shoulder Width: | 4 to 10 | ft. | 4 to 10 | ft. |
| Median Width: | N/A | ft. | N/A | ft. |
| Sidewalk Width: | N/A | ft. | N/A | ft. |
| Setting: | <input checked="" type="checkbox"/> Urban | <input type="checkbox"/> Suburban | <input type="checkbox"/> Rural | |
| Topography: | <input checked="" type="checkbox"/> Level | <input type="checkbox"/> Rolling | <input type="checkbox"/> Hilly | |

Name of Roadway WB I-70 EB and WB- On and Off-Ramps with SR 227
 Functional Classification: Freeway
 Current ADT: 312 to 1,515 VPD (2019) Design Year ADT: 400 to 1,700 VPD (2048)
 Design Hour Volume (DHV): 32 to 190 Truck Percentage (%) 6 to 10
 Designed Speed (mph): 15-55 Legal Speed (mph): 15-55

| | | Existing | Proposed | |
|------------------|---|-----------------------------------|--------------------------------|-----|
| Number of Lanes: | 1 | | 1 | |
| Type of Lanes: | Auxiliary | | Auxiliary | |
| Pavement Width: | 18 to 29 | ft. | 18 to 29 | ft. |
| Shoulder Width: | 1 to 12 | ft. | 1 to 12 | ft. |
| Median Width: | N/A | ft. | N/A | ft. |
| Sidewalk Width: | N/A | ft. | N/A | ft. |
| Setting: | <input checked="" type="checkbox"/> Urban | <input type="checkbox"/> Suburban | <input type="checkbox"/> Rural | |
| Topography: | <input checked="" type="checkbox"/> Level | <input type="checkbox"/> Rolling | <input type="checkbox"/> Hilly | |

Name of Roadway US 40
 Functional Classification: Principal Arterial
 Current ADT: 13,259 VPD (2022) Design Year ADT: 17,174 VPD (2048)
 Design Hour Volume (DHV): 1,209 Truck Percentage (%) 7
 Designed Speed (mph): 45 Legal Speed (mph): 45

| | | Existing | Proposed | |
|------------------|--|-----------------------------------|--------------------------------|-----|
| Number of Lanes: | EB – 2 Through, 1 Left Turn, 1 Right Turn WB – 2 Through, 1 Left Turn, 1 Right Turn | | 4 (2EB, 2WB) | |
| Type of Lanes: | Through and Turn | | Through | |
| Pavement Width: | 84 to 120 | ft. | 84 to 120 | ft. |
| Shoulder Width: | 4 to 10 | ft. | N/A | ft. |
| Median Width: | 36 | ft. | 12 | ft. |
| Sidewalk Width: | N/A | ft. | 5' EB, 5' WB | ft. |
| Setting: | <input checked="" type="checkbox"/> Urban | <input type="checkbox"/> Suburban | <input type="checkbox"/> Rural | |
| Topography: | <input checked="" type="checkbox"/> Level | <input type="checkbox"/> Rolling | <input type="checkbox"/> Hilly | |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

Name of Roadway I-70 EB and WB – On and Off-Ramps with US 40
 Functional Classification: Freeway
 Current ADT: 476 to 3,224 VPD (2019) Design Year ADT: 600 to 4,300 VPD (2048)
 Design Hour Volume (DHV): 46 to 312 Truck Percentage (%) 5 to 74
 Designed Speed (mph): 25 to 55 Legal Speed (mph): 25 to 55

| | | Existing | | | Proposed |
|------------------|---|-----------|-----------------------------------|-----------|--------------------------------|
| Number of Lanes: | | 1 | | | 1 |
| Type of Lanes: | | Auxiliary | | Auxiliary | |
| Pavement Width: | 18 to 30 | ft. | 28 | ft. | |
| Shoulder Width: | 0 to 9 | ft. | 4 to 8 | ft. | |
| Median Width: | N/A | ft. | N/A | ft. | |
| Sidewalk Width: | N/A | ft. | N/A | ft. | |
| Setting: | <input checked="" type="checkbox"/> Urban | | <input type="checkbox"/> Suburban | | <input type="checkbox"/> Rural |
| Topography: | <input checked="" type="checkbox"/> Level | | <input type="checkbox"/> Rolling | | <input type="checkbox"/> Hilly |

BRIDGES AND/OR SMALL STRUCTURE(S):

If the proposed action includes multiple structures, complete and duplicate for each bridge and/or small structure. Include both existing and proposed bridge(s) and/or small structure(s) in this section.

Structure/NBI Number(s): _____ Sufficiency Rating: _____
(Rating, Source of Information)

| | | Existing | | | Proposed |
|---------------------------|--|----------|-----|--|----------|
| Bridge/Structure Type: | | | | | |
| Number of Spans: | | | | | |
| Weight Restrictions: | | | ton | | ton |
| Height Restrictions: | | | ft. | | ft. |
| Curb to Curb Width: | | | ft. | | ft. |
| Outside to Outside Width: | | | ft. | | ft. |
| Shoulder Width: | | | ft. | | ft. |

Describe impacts and work involving bridge(s), culvert(s), pipe(s), and small structure(s). Provide details for small structure(s): structure number, type, size (length and dia.), location and impacts to water. Use a table if the number of small structures becomes large. If the table exceeds a complete page, put it in the appendix and summarize the information below with a citation to the table.

There are 47 bridges in the project area and work will be done to 41 of these bridges. Proposed work includes full replacement, widening to accommodate added travel lanes, painting, and resurfacing. A table describing each of the existing bridges and summarizing the proposed work for each structure is provided in Appendix A-31.

Within the project corridor, stormwater is managed by ditches, inlet structures and outlet pipes, which collect the runoff and redistribute the water to the outside ditch line. This stormwater management system includes a total of 81 culverts of varying shapes, sizes, and materials. The proposed drainage will implement new inlets and storm sewers along the closed median barrier that drains to the outside ditches. In specified locations, the outside ditch will be regraded to provide positive drainage. Detention ponds and ditches will be constructed within the interchange infield areas to manage stormwater runoff. Proposed work for the culverts includes replacement, relocation, removal. A list of the existing culverts and the proposed work is provided in Appendix A-32 to A-35.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

| | 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 below) | <input checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| Is there substantial controversy associated with the proposed method for MOT? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Will the project require a sidewalk, curb ramp, and/or bicycle lane closure? (describe below) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Provisions will be made for access by pedestrians and/or bicyclist and so posted (describe below). | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discuss closures, detours, and/or facilities (if any) that will be provided for maintenance of traffic. Any known impacts from these temporary measures should be quantified to the extent possible, particularly with respect to properties such as Section 4(f) resources and wetlands. Discuss any pedestrian/bicycle closures. Any local concerns about access and traffic flow should be detailed as well.

The MOT will be conducted in three phases along the approximately 21 miles of I-70. Two travel lanes in each direction of I-70 will be maintained at all times. The posted speed limit in the construction zone will be 55 mph. Short-term ramp closures will occur as necessary. Detours may be needed for the modifications to the I-70/US 40 interchange. Access for all residences and businesses will be maintained throughout construction. Pedestrian access will not be affected at US 27 since the sidewalks are outside of the project area. The sections of the Cardinal Greenway trail and the sidewalk along US 40 within the project area will be closed during construction. Access to the trail north and south of the closed section will be available at existing trailheads. This is a design-build project therefore a MOT plan will be developed at a later phase of the project development process. The MOT plan will include input obtained from meetings with Traffic Management Plan (TMP) stakeholders to ensure impacts to the public transit, schools, and community events are minimized. This engagement includes stakeholders who represent EJ populations including elected officials, public transit, local housing authorities, public schools, religious institutions, and civic organizations.

The Rose View Transit System provides fixed-route and on-demand services in the project area. Currently, one fixed route crosses the project area. This is Route 3, which uses US 27 between downtown Richmond and Towers Medical Center located north of I-70. There will be ongoing coordination with the City of Richmond and Rose View Transit via phone calls, emails, and TMP meetings to minimize potential impacts to transit service. This is included in the Environmental Commitments section.

Early coordination letters were sent to stakeholders on August 16, 2022 (see the Early Coordination section for a list) (Appendix C-1 to C-4). No responses regarding the proposed MOT were received. During public involvement activities, comments were received regarding the MOT of the project. Specifically, comments focused on temporary speed reductions during construction, as well as access as it pertains to businesses, workplaces, and emergency services.

The short-term ramp closures will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated, and all inconveniences and delays will cease upon project completion.

Estimated Project Cost and Schedule

| | | |
|---|--|---------------------------------------|
| Engineering: \$ <u>8,000,000</u> (2022) | Right-of-Way: \$ <u>400,000*</u> (2024) | Construction: \$ <u>40,000</u> (2023) |
| \$ <u>11,828,049</u> (2023) | *ROW will be purchased with state funds. | \$ <u>117,480,000</u> (2024) |
| \$ <u>15,000,000</u> (2024) | _____ | \$ <u>40,344,000</u> (2025) |
| _____ | _____ | \$ <u>150,670,000</u> (2026) |
| _____ | _____ | \$ <u>113,883,230</u> (2027) |
| _____ | _____ | \$ <u>29,231,342</u> (2028) |

Anticipated Start Date of Construction: Summer 2024

Information provided from approved STIP (2024-2028) (Appendix H-1 and H-2). The total project cost is estimated to be over \$940 million, which is not reflected in the current STIP. The project will be divided into three contracts for construction and the construction phasing of the project will extend beyond 2028. Contract 1 is 8.0 miles long and extends from west of US 35 to the Indiana/Ohio state line. Construction of Contract 1 will begin in 2024. Contract 2 is approximately 9.0 miles long and extends from west of SR 1 to west of Centerville. Construction of Contract 2 will begin in 2025. Contract 3 is approximately 4.0 miles long and extends between the limits of Contracts 1 and 2, from west of Centerville to US 35. Construction of Contract 2 is anticipated in either 2026 or 2027.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

| |
|----------------------|
| RIGHT OF WAY: |
|----------------------|

| Land Use Impacts | Amount (acres) | |
|--------------------|----------------|------------|
| | Permanent | Temporary |
| Residential | 0.0 | 0.0 |
| Commercial | 0.0 | 0.0 |
| Agricultural | 1.11 | 0.0 |
| Forest | 0.31 | 0.0 |
| Wetlands | 0.0 | 0.0 |
| Other: Undeveloped | 0.06 | 0.0 |
| Other: | 0.0 | 0.0 |
| TOTAL | 1.48 | 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, reacquisition or easements, either known or suspected, and their impacts on the environmental analysis should be discussed.

The existing ROW consists of paved surfaces, maintained roadway side slopes, median, and related vegetated areas, wetlands, streams, rivers, and forested areas. The existing ROW width along the I-70 mainline averages approximately 105 feet north and south of the median centerline. The widths of ROW vary at each of the interchanges, as well as the weigh station and rest area, and they were primarily measured from the outer edge of the pavement surface at the respective ramps. The approximate ROW widths along the associated interchange ramps are detailed in the Interchange ROW Summary Table below.

Interchange ROW Summary Table

| Interchange | ROW Width (Linear feet measured from the edge of pavement) |
|-----------------------|---|
| SR 1 | 45 to 85 |
| Centerville Rest Area | 80 |
| Centerville Road | 40 to 60 |
| Weigh Station | 65 to 80 |
| US 35 | 40 to 55 |
| US 27 | 41 to 150 |
| SR 227 | 50 to 75 |
| US 40 | 40 to 60 |

A total of 1.48 acres of permanent ROW will be required for this project as show on Appendix B-13. The permanent ROW impacts include a 1.42-acre strip of land along the I-70 WB exit ramp to US 35 and a 0.06-acre of land on the southside of I-70 between the Cardinal Greenway Trail and Union Pike.

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

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

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

SECTION A - EARLY COORDINATION:

List the date(s) coordination was sent and all resource 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.

Early Coordination Letters were sent on August 16, 2022 (Appendix C-1 to C-4).

| <u>Agency</u> | <u>Date Sent</u> | <u>Date Response Received</u> | <u>Appendix</u> |
|--|------------------------|-------------------------------|-----------------------|
| FHWA | 8/16/2022 | No response received | N/A |
| Indiana Department of Natural Resources -Division of Fish and Wildlife (IDNR-DFW) | 8/16/2022 | 9/16/2022 | C-5 to C-8 |
| Indiana Geological and Water Survey (IGWS) | 8/16/2022 | 9/22/2022 | C-9 to C-11 |
| Indiana Department of Environmental Management (IDEM) – Wetlands and Stormwater Programs | 8/16/2022 | No response received | N/A |
| National Park Service | 8/16/2022 | No response received | N/A |
| US Department of Housing and Urban Development | 8/16/2022 | No response received | N/A |
| Natural Resources Conservation Service (NRCS) | 8/16/2022 7/10/2023 | 8/22/2022 7/17/2023 | C-12 C-13 and C-14 |
| US Fish and Wildlife Service (USFWS) | 8/16/2022 | No response received | N/A |
| US Army Corps of Engineers (USACE) | 8/16/2022 | No response received | N/A |
| US Coast Guard | 8/16/2022 | No response received | N/A |
| INDOT Greenfield District Office | 8/16/2022 | No response received | N/A |
| INDOT Central Office | 8/16/2022 | No response received | N/A |
| INDOT Office of Aviation | 8/16/2022 | 8/25/2022 | C-15 |
| INDOT Utilities and Railroad | 8/16/2022 | No response received | N/A |
| Eastern Indiana Regional Planning Commission | 8/16/2022 | No response received | N/A |
| Wayne County Sheriff's Office | 8/16/2022 | No response received | N/A |
| Wayne County Commission | 8/16/2022 | No response received | N/A |
| Wayne County Surveyor | 8/16/2022 | No response received | N/A |
| Wayne County Highway Department | 8/16/2022 | No response received | N/A |
| Wayne County Emergency Management | 8/16/2022 | No response received | N/A |
| City of Richmond City Council | 8/16/2022 | No response received | N/A |
| City of Richmond Mayor | 8/16/2022 | No response received | N/A |
| City of Richmond Police Department | 8/16/2022 | No response received | N/A |
| City of Richmond Street Department | 8/16/2022 | No response received | N/A |
| City of Richmond Public Works & Engineering | 8/16/2022 | No response received | N/A |
| City of Richmond Schools | 8/16/2022 | No response received | N/A |
| Cambridge City Town Council | 8/16/2022 | No response received | N/A |
| Cambridge City Public Works | 8/16/2022 | No response received | N/A |
| Cambridge City Volunteer Fire Department | 8/16/2022 | No response received | N/A |
| Cambridge City Police Department | 8/16/2022 | No response received | N/A |
| Centerville Town Council | 8/16/2022 | No response received | N/A |
| Centerville-Abington Community Schools | 8/16/2022 | No response received | N/A |
| Ivy Tech Community College - Richmond | 8/16/2022 | No response received | N/A |
| Indiana University East | 8/16/2022 | 9/6/2022 | C-16 |
| Purdue Polytechnic - Richmond | 8/16/2022 | No response received | N/A |
| Centerville Municipal Light & Water | 8/16/2022 | No response received | N/A |
| Richmond Power and Light | 8/16/2022 | No response received | N/A |
| Hoosier Energy Rural Electric Cooperative, Inc. | 8/16/2022 | No response received | N/A |
| Indiana Eastern Railroad | 8/16/2022 | No response received | N/A |
| CSX Railroad | 8/16/2022 | No response received | N/A |
| Norfolk Southern Railroad | 8/16/2022 | No response received | N/A |

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

| | | | |
|---|-----------|----------------------|-----|
| Reid Hospital | 8/16/2022 | No response received | N/A |
| Living Faith Church | 8/16/2022 | No response received | N/A |
| Lighthouse Assembly of God | 8/16/2022 | No response received | N/A |
| Pentecost Airport | 8/16/2022 | No response received | N/A |
| Hagerstown Airport | 8/16/2022 | No response received | N/A |
| Richmond KOA Holiday Campground (Indiana-Ohio KOA Campground) | 8/16/2022 | No response received | N/A |
| Highland Lake Golf Course | 8/16/2022 | No response received | N/A |
| Cardinal Greenways, Inc.* | 8/16/2022 | No response received | N/A |
| New Creation Cross | 5/8/2023 | No response received | N/A |

*Coordination has occurred with Cardinal Greenways, Inc., which is discussed in the Public Facilities and Services section of this CE document.

At the start of the NEPA process, INDOT contacted the Ohio Department of Transportation (ODOT) and the Ohio State Historic Preservation Office (Ohio SHPO) regarding project coordination and coordination with Ohio resource agencies. As a result of this coordination and the limited scope of work in Ohio, Section 106 studies were not required for the project. Additionally, coordination with other Ohio resource agencies was not required since environmental resources in Ohio would not be affected by the project.

All applicable recommendations are included in the Environmental Commitments section of this CE document.

SECTION B – ECOLOGICAL RESOURCES:

| Streams, Rivers, Watercourses & Other Jurisdictional Features | <u>Presence</u> | <u>Impacts</u> | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| | | <u>Yes</u> | <u>No</u> |
| Federal Wild and Scenic Rivers | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| State Natural, Scenic or Recreational Rivers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Nationwide Rivers Inventory (NRI) listed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Outstanding Rivers List for Indiana | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Navigable Waterways | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Total stream(s) in project area: 11,408.0 Linear feet Total impacted stream(s): 6,821.4 Linear feet

| Stream Name | Classification | Total Length in Project Area (linear feet) | Permanently Impacted (linear feet) | Comments (i.e. location, flow direction, likely Water of the US, appendix reference) |
|---------------------------|----------------|--|------------------------------------|--|
| UNT 1 to Whitewater River | Perennial | 236.0 | N/A | Approximately 1,000 feet east of the west limits of the study area, flows south under I-70 into the Whitewater River, likely a water of the US (Appendix F-15 and F-26). |
| Whitewater River | Perennial | 328.0 | 180.0 | Approximately 2,000 feet east of the west limits of the study area, flows south under I-70 into the Great Miami River, likely a water of the US (Appendix F-15, 26, and 27). |
| Beard Run | Intermittent | 355.0 | N/A | Western limits of the I-70 and SR 1 interchange, flows south under I-70 into Martindale Creek, likely a water of the US (Appendix F-15 and F-28). |
| Martindale Creek | Perennial | 217.0 | 140.0 | Approximately 1,500 feet east of the I-70 and SR 1 interchange, flows south under I-70 into the Whitewater River, likely a water of the US (Appendix F-15, 29, and 30). |
| Dry Branch | Perennial | 271.0 | 155.0 | Adjacent to the east side of the Martindale State Fishing Area, flows south under I-70 into Martindale Creek, likely a water of the US (Appendix F-15 and F-33). |
| UNT 1 to Greens Fork | Ephemeral | 595.0 | 215.4 | Approximately 660 feet west of Washington Road along the north side of I-70, flows east into Greens Fork, likely a water of the US (Appendix F-15 and F-35). |

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

| Stream Name | Classification | Total Length in Project Area (linear feet) | Permanently Impacted (linear feet) | Comments (i.e. location, flow direction, likely Water of the US, appendix reference) |
|---|----------------|--|------------------------------------|---|
| Greens Fork | Perennial | 381.0 | 153.0 | Approximately 580 feet west of Washington Road, flows south under I-70 into the Whitewater River, likely a water of the US (Appendix F-15 and F-35). |
| UNT 2 to Greens Fork | Intermittent | 388.0 | 367.0 | Approximately 3,000 feet east of North Washington Road, flows south under I-70 into Greens Fork, likely a water of the US (Appendix F-15 and F-36). |
| College Corner Branch | Intermittent | 256.0 | 232.0 | Approximately 3,000 feet west of North Mineral Springs Road, flows south under I-70 into Greens Fork, likely a water of the US (Appendix F-16 and F-37). |
| Black Water Branch | Intermittent | 289.0 | 240.0 | Approximately 1,700 feet east of North Mineral Springs Road, flows south under I-70 into Greens Fork, likely a water of the US (Appendix F-15 and F-38). |
| Far Run | Intermittent | 396.0 | 396.0 | Approximately 1,000 feet west of Sowers Road, flows south under I-70 into Nolands Fork, likely a water of the US (Appendix F-15 to F-40). |
| Nolands Fork | Perennial | 283.0 | 183.0 | Adjacent to the west side of the I-70 and North Centerville Road interchange, flows south under I-70 into the Whitewater River, likely a water of the US (Appendix F-15, 41, and 42). |
| UNT 1 to Nolands Fork | Perennial | 250.0 | N/A | Approximately 700 feet east of the of the I-70 and North Centerville Road interchange, flows south under I-70 into Nolands Fork, likely a water of the US (Appendix F-15 and F-42). |
| Lick Creek | Intermittent | 213.0 | 210.0 | Approximately 660 feet east of Round Barn Road, flows south under I-70 into the East Fork Whitewater River, likely a water of the US (Appendix F-15 and F-45). |
| Clear Creek | Perennial | 441.0 | 190.0 | Adjacent to the west end of the I-70 and US 35 interchange, flows southwest under US 35 and south under I-70 into Lick Creek, likely a water of the US (Appendix F-15, 47, 48, and 49). |
| UNT 1 to Clear Creek | Ephemeral | 211.0 | 185.0 | Within the west side of the of the I-70 and US 35 interchange, flows south under I-70 into Clear Creek, likely a water of the US (Appendix F-15 and F-48). |
| UNT 2 to Clear Creek | Ephemeral | 509.0 | N/A | Between the northeast side of US 35 and Pardo's Towing and Automotive Services, flows southeast into Clear Creek, likely a water of the US (Appendix F-15 and F-49). |
| UNT 1 to West Fork East Fork Whitewater River | Intermittent | 248.0 | 248.0 | Approximately 550 feet west of the Cardinal Greenway multiuse path, flows south under I-70 into Wetland 56 and UNT 2 to West Fork East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-50). |
| UNT 2 to West Fork East Fork Whitewater River | Intermittent | 331.0 | 331.0 | Adjacent to the west side of the Cardinal Greenway multiuse path, flows south under I-70 into the West Fork East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-50). |
| West Fork East Fork Whitewater River | Perennial | 354.0 | 178.0 | Approximately 800 feet west of the I-70 and US 27 interchange, flows south under I-70 into the Whitewater River, likely a water of the US (Appendix F-16 and F-52). |
| UNT 3 to West Fork East Fork Whitewater River | Intermittent | 499.0 | N/A | Adjacent to the south side of I-70 at the west end of the I-70 and US 27 interchange, flows west parallel to I-70 into the West Fork East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-52). |
| UNT 1 to Middle Fork East Fork Whitewater River | Intermittent | 229.0 | N/A | Approximately 3,000 feet east of the center of the I-70 and US 27 interchange, flows south under I-70 into UNT 3 to Middle Fork East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-53). |

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

| Stream Name | Classification | Total Length in Project Area (linear feet) | Permanently Impacted (linear feet) | Comments (i.e. location, flow direction, likely Water of the US, appendix reference) |
|---|----------------|--|------------------------------------|--|
| UNT 2 to Middle Fork East Fork Whitewater River | Intermittent | 250.0 | 217.0 | Approximately 3,600 feet east of the center of the I-70 and US 27 interchange, flows south under I-70 into UNT 3 to Middle Fork East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-54). |
| UNT 3 to Middle Fork East Fork Whitewater River | Perennial | 314.0 | 314.0 | Approximately 4,100 feet east of the center of the I-70 and US 27 interchange, flows south under I-70 into the Middle Fork East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-54). |
| UNT 4 to Middle Fork East Fork Whitewater River | Ephemeral | 16.0 | N/A | Adjacent to the west side of the I-70 and SR 227 interchange on the south side of I-70, flows south under Northmont Boulevard into a UNT to Middle Fork East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-56). |
| Middle Fork East Fork Whitewater River | Perennial | 274.0 | 160.0 | Approximately 400 feet east of SR 227, flows south under I-70 into the Whitewater River, likely a water of the US (Appendix F-16 and F-55). |
| UNT 5 to Middle Fork East Fork Whitewater River | Ephemeral | 474.0 | 460.0 | Approximately 470 feet east of Smyrna Road, flows south under I-70 into the Middle Fork East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-56). |
| UNT 6 to Middle Fork East Fork Whitewater River | Ephemeral | 64.0 | 28.0 | Approximately 1,400 feet east of Smyrna Road on the south side of I-70, flows southwest under I-70 into UNT 14, likely a water of the US (Appendix F-16 and F-56). |
| UNT 1 to East Fork Whitewater River | Ephemeral | 102.0 | 102.0 | Approximately 1,550 feet west of Reservoir Road on the south side of I-70, flows southeast into UNT 2 to East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-57). |
| UNT 2 to East Fork Whitewater River | Intermittent | 271.0 | 260.0 | Approximately 1,500 feet west of Reservoir Road, flows southwest under I-70 into the East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-57). |
| UNT 3 to East Fork Whitewater River | Intermittent | 241.0 | 239.0 | Approximately 1,100 feet west of Reservoir Road, flows southwest under I-70 into UNT 2 to East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-57). |
| UNT 4 to East Fork Whitewater River | Intermittent | 214.0 | 214.0 | Approximately 650 feet west of Reservoir Road, flows southwest under I-70 into UNT 2 to East Fork Whitewater River, likely a water of the US (Appendix F-16 and F-57). |
| UNT 5 to East Fork Whitewater River | Ephemeral | 399.0 | 399.0 | Approximately 700 feet west of SR 121, flows southeast under I-70 into the East Fork Whitewater River, likely a water of the US (Appendix F-17 and F-58). |
| UNT 6 to East Fork Whitewater River | Intermittent | 426.0 | 426.0 | Approximately 700 feet east of SR 121, flows southeast along the northside of I-70 into the East Fork Whitewater River, likely a water of the US (Appendix F-17 and F-59). |
| East Fork Whitewater River | Perennial | 415.0 | 315.0 | Approximately 900 feet east of SR 121, flows west under I-70 into the Whitewater River, likely a water of the US (Appendix F-17 and F-59). |
| UNT 7 to East Fork Whitewater River | Ephemeral | 84.0 | 84.0 | Approximately 900 feet east of SR 121, flows north along the south side of I-70 into the East Fork Whitewater River, likely a water of the US (Appendix F-17 and F-59). |
| UNT 8 to East Fork Whitewater River | Perennial | 342.0 | N/A | Approximately 1,400 feet west of the I-70 EB weigh station entrance ramp, flows southwest into the East Fork Whitewater River, likely a water of the US (Appendix F-17 and F-63). |
| UNT 9 to East Fork Whitewater River | Intermittent | 242.0 | N/A | Approximately 1,300 feet west of the I-70 EB weigh station entrance ramp, flows west into UNT 8 to East Fork Whitewater River, likely a water of the US (Appendix F-17 and F-63). |

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Describe all streams, rivers, watercourses and other jurisdictional features adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if the streams or rivers are listed on any federal or state lists for Indiana. Include if features are likely subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Based on the desktop review, the aerial map of the project area (Appendix B-3 to B-9), and the Red Flag Investigation (RFI) report (Appendix E-1 to E-44), there are 104 NWI lines and 167 streams, rivers, watercourses or other jurisdictional features within the 0.5-mile search radius. There are 12 streams, rivers, watercourses, or other jurisdictional features within or adjacent to the project area. That number was determined to be 38 by the site visits on June 14-16, 20, 22-24, 27-28, July 6-7, 11-14, 18, and September 14-15, 2022, by CHA.

A *Waters of the US (WOTUS) Report* was approved by INDOT Ecology and Waterway Permitting Office (EWPO) on August 3, 2023. Please refer to Appendix F for the *WOTUS Report*. It was determined that there are 38 likely jurisdictional streams totaling 11,408.0 linear feet within the study area. The USACE makes all final determinations regarding jurisdiction.

UNT 1 to Whitewater River originates north of the study area and flows to the south under I-70, ultimately draining into the Whitewater River. Approximately 236.0 feet of this stream lies within the study area. UNT 1 to Whitewater River exhibited an average ordinary high-water mark (OHWM) of 14 feet wide and 1.0 foot deep within the study area. It is classified as an average-quality perennial stream. No permanent or temporary impacts will occur to this stream.

Whitewater River originates north of the study area and flows to the south under I-70, ultimately draining into the Great Miami River. Approximately 328.0 feet of this stream lies within the study area. The Whitewater River exhibited an average OHWM of 75 feet wide and 4.0 feet deep within the study area. It is classified as a good-quality perennial stream. The Whitewater River is listed as impaired for E. coli and for polychlorinated biphenyls (PCBs) in fish tissue on IDEM's 303(d) List of Impaired waters (Appendix E-4 and E-5). Approximately 180.0 linear feet of permanent impacts are anticipated as a result of bridge rehabilitation activities including placing riprap and pier widening. Temporary impacts could occur due to a temporary causeway.

A segment of the Whitewater River in Wayne County is listed on the Indiana Register's listing of *Outstanding Rivers and Streams*; however, the segment begins in Cambridge City, Indiana and continues south, so it is further than 2.0 miles from the project area. Additionally, there are segments of the Whitewater River, including several of its tributaries, listed as a *State Natural, Scenic and Recreational River* and navigable waterways; however, none of these segments are located within Wayne County.

Beard Run originates north of the study area and flows to the south under I-70, ultimately draining into Martindale Creek. Approximately 355.0 feet of this stream lies within the study area. Bear Run exhibited an average OHWM of 4.0 feet wide and 6 inches deep within the study area. It is classified as a poor-quality intermittent stream. Beard Run is listed as impaired for E. coli in IDEM's 303(d) List of Impaired waters (Appendix E-4 and E-5). No permanent or temporary impacts will occur to this stream.

Martindale Creek originates north of the study area and flows to the south under I-70, ultimately draining into the Whitewater River. Approximately 217.0 feet of this stream lies within the study area. Martindale Creek exhibited an average OHWM of 60 feet wide and 3.0 feet deep within the study area. It is classified as a good-quality perennial stream. Martindale Creek is listed as impaired for E. coli in IDEM's 303(d) List of Impaired waters (Appendix E-4 and E-5). Approximately 140.0 linear feet of permanent impacts are anticipated as a result of bridge rehabilitation activities including placing riprap and pier widening. Temporary impacts could occur due to a temporary causeway.

Dry Branch originates north of the study area and flows to the south under I-70, ultimately draining into Martindale Creek. Approximately 271.0 feet of this stream lies within the study area. Dry Branch exhibited an average OHWM of 13 feet wide and 18 inches deep within the study area. It is classified as a poor to average-quality perennial stream. Approximately 155.0 linear feet of permanent impacts are anticipated as a result of bridge rehabilitation activities including placing riprap and pier widening. Temporary impacts could occur due to a temporary causeway.

UNT 1 to Greens Fork originates from Wetland 23 and flows east into Greens Fork. Approximately 595.0 feet of this stream lies within the study area. UNT 1 to Greens Fork exhibited an average OHWM of 6.0 feet wide and 6 inches deep within the study area. It is classified as a very poor-quality ephemeral stream. Approximately 215.4 linear feet of permanent impacts are anticipated due to the construction of a stormwater detention area.

Greens Fork originates north of the study area and flows to the south under I-70, ultimately draining into the Whitewater River. Approximately 381.0 feet of this stream lies within the study area. Greens Fork exhibited an average OHWM of 110 feet wide and 6.0 feet deep within the study area. It is classified as a good-quality perennial stream. Approximately 153.0 linear feet of permanent impacts are anticipated as a result of bridge rehabilitation activities including placing riprap and pier widening.

UNT 2 to Greens Fork originates from Wetland 26 and flows south into Greens Fork. Approximately 388.0 feet of this stream lies within the study area. UNT 2 to Greens Fork exhibited an average OHWM of 4.0 feet wide and 1.0 foot deep within the study area. It is classified as a poor-quality intermittent stream. Approximately 367.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

College Corner Branch originates north of the study area and flows to the south under I-70, ultimately draining into Greens Fork. Approximately 256.0 feet of this stream lies within the study area. College Corner Branch exhibited an average OHWM of 4.0 feet wide and 18 inches deep within the study area. It is classified as a poor-quality intermittent stream. Approximately 232.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

Black Water Branch originates north of the study area and flows to the south under I-70, ultimately draining into Greens Fork. Approximately 289.0 feet of this stream lies within the study area. Black Water Branch exhibited an average OHWM of 30 inches wide and 1.0 foot deep within the study area. It is classified as a poor-quality intermittent stream. Approximately 222.7 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

Far Run originates north of the study area and flows to the south under I-70, ultimately draining into Nolands Fork. Approximately 396.0 feet of this stream lies within the study area. Far Run exhibited an average OHWM of 4.0 feet wide and 6 inches deep within the study area. It is classified as a poor-quality intermittent stream. Approximately 396.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

Nolands Fork originates north of the study area and flows to the south under I-70, ultimately draining into the Whitewater River. Approximately 283.0 feet of this stream lies within the study area. Nolands Fork exhibited an average OHWM of 64 feet wide and 3.0 feet deep within the study area. It is classified as a good-quality perennial stream. Nolands Fork is listed as impaired for Impaired Biotic Communities (IBCs) in IDEM's 303(d) List of Impaired waters (Appendix E-4 and E-5). Approximately 183.0 linear feet of permanent impacts are anticipated as a result of bridge rehabilitation activities including placing riprap and pier widening. Temporary impacts could occur due to a temporary causeway.

UNT 1 to Nolands Fork originates north of the study area and flows to the south under I-70, ultimately draining into Nolands Fork. Approximately 250.0 feet of this stream lies within the study area. UNT 1 to Nolands Fork exhibited an average OHWM of 10 feet wide and 1.0 foot deep within the study area. It is classified as an average-quality perennial stream. UNT 1 to Nolands Fork is listed as impaired for IBCs on IDEM's 303(d) List of Impaired waters (Appendix E-5). No permanent or temporary impacts will occur to this stream.

Lick Creek originates north of the study area and flows to the south under I-70, ultimately draining into East Fork Whitewater River. Approximately 213.0 feet of this stream lies within the study area. Lick Creek exhibited an average OHWM of 7.0 feet wide and 18 inches deep within the study area. It is classified as an average-quality intermittent stream. Approximately 210.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

Clear Creek originates north of the study area and flows to the south under I-70, ultimately draining into Lick Creek. Approximately 441.0 feet of this stream lies within the study area. Clear Creek exhibited an average OHWM of 4.0 feet wide and 1.0 foot deep within the study area. It is classified as an average-quality perennial stream. Approximately 190.0 linear feet of permanent impacts are anticipated as a result of bridge rehabilitation activities including placing riprap and pier widening. Temporary impacts could occur due to a temporary causeway.

UNT 1 to Clear Creek originates from Wetland 51 and flows south under I-70 into Clear Creek. Approximately 211.0 feet of this stream lies within the study area. UNT 1 to Clear Creek exhibited an average OHWM of 2.0 feet wide and 1.0 foot deep within the study area. It is classified as a poor-quality ephemeral stream. Approximately 185.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 2 to Clear Creek originates north of the I-70 and US 35 interchange and flows southeast into Clear Creek. Approximately 509.0 feet of this stream lies within the study area. UNT 2 to Clear Creek exhibited an average OHWM of 2.0 feet wide and 1.0 foot deep within the study area. It is classified as a very poor-quality ephemeral stream. No permanent or temporary impacts will occur to this stream.

UNT 1 to West Fork East Fork Whitewater River originates north of the I-70 and flows south into Wetland 56 and UNT 2 to West Fork East Fork Whitewater River. Approximately 248.0 feet of this stream lies within the study area. UNT 1 to West Fork East Fork Whitewater River exhibited an average OHWM of 5.0 feet wide and 6 inches deep within the study area. It is classified as a poor-quality intermittent stream. Approximately 248.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 2 to West Fork East Fork Whitewater River originates north of the I-70 and flows south into the West Fork East Fork Whitewater River. Approximately 331.0 feet of this stream lies within the study area. UNT 2 to West Fork East Fork Whitewater River exhibited an average OHWM of 3.0 feet wide and 1.0 foot deep within the study area. It is classified as an average-quality intermittent stream. Approximately 331.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

West Fork East Fork Whitewater River originates north of the study area and flows to the south under I-70, ultimately draining into the Whitewater River. Approximately 354.0 feet of this stream lies within the study area. West Fork East Fork Whitewater River exhibited an average OHWM of 26 feet wide and 3.0 feet deep within the study area. It is classified as a good-quality perennial stream. West Fork East Fork Whitewater River is listed as impaired for E. coli in IDEM's 303(d) List of Impaired waters (Appendix E-4 and E-5).

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Approximately 178.0 linear feet of permanent impacts are anticipated as a result of bridge rehabilitation activities including placing riprap. Temporary impacts could occur due to a temporary causeway.

UNT 3 to West Fork East Fork Whitewater River originates at the west end of the I-70 and US 27 interchange on the south side of I-70 and flows west parallel to I-70 into the West Fork East Fork Whitewater River. Approximately 499.0 feet of this stream lies within the study area. UNT 3 to West Fork East Fork Whitewater River exhibited an average OHWM of 2.0 feet wide and 6 inches deep within the study area. It is classified as a very poor-quality intermittent ephemeral stream. No permanent or temporary impacts will occur to this stream.

UNT 1 to Middle Fork East Fork Whitewater River originates north of the I-70 and flows south into UNT 3 to Middle Fork East Fork Whitewater River. Approximately 229.0 feet of this stream lies within the study area. UNT 1 to Middle Fork East Fork Whitewater River exhibited an average OHWM of 3.0 feet wide and 8 inches deep within the study area. It is classified as an average-quality intermittent stream. No permanent or temporary impacts will occur to this stream.

UNT 2 to Middle Fork East Fork Whitewater River originates north of the I-70 and flows south into UNT 3 to Middle Fork East Fork Whitewater River. Approximately 250.0 feet of this stream lies within the study area. UNT 2 to Middle Fork East Fork Whitewater River exhibited an average OHWM of 18 inches wide and 1.0 foot deep within the study area. It is classified as a poor-quality intermittent stream. Approximately 217.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 3 to Middle Fork East Fork Whitewater River originates north of the I-70 and flows south into Middle Fork East Fork Whitewater River. Approximately 314.0 feet of this stream lies within the study area. UNT 3 to Middle Fork East Fork Whitewater River exhibited an average OHWM of 3.0 feet wide and 6 inches deep within the study area. It is classified as a poor to average-quality perennial stream. Approximately 314.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 4 to Middle Fork East Fork Whitewater River originates north of the I-70 and flows south into a UNT to Middle Fork East Fork Whitewater River. Approximately 16.0 feet of this stream lies within the study area. UNT 4 to Middle Fork East Fork Whitewater River exhibited an average OHWM of 6.0 feet wide and 6 inches deep within the study area. It is classified as a poor-quality ephemeral stream. No permanent or temporary impacts will occur to this stream.

Middle Fork East Fork Whitewater River originates north of the I-70 and flows south under I-70 into the Whitewater River. Approximately 274.0 feet of this river lies within the study area. Middle Fork East Fork Whitewater River exhibited an average OHWM of 44.0 feet wide and 3.0 feet deep within the study area. It is classified as a good-quality perennial stream. Approximately 160.0 linear feet of permanent impacts are anticipated as a result of bridge rehabilitation activities including placing riprap and pier widening. Temporary impacts could occur due to a temporary causeway.

UNT 5 to Middle Fork East Fork Whitewater River originates north of the I-70 and flows south under I-70 into the Middle Fork East Fork Whitewater River. Approximately 474.0 feet of this stream lies within the study area. UNT 5 to Middle Fork East Fork Whitewater River exhibited an average OHWM of 1.0 foot wide and 6 inches deep within the study area. It is classified as a poor-quality ephemeral stream. Approximately 450.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 6 to Middle Fork East Fork Whitewater River originates on the south side of I-70 and flows southwest under I-70 into UNT 14. Approximately 64.0 feet of this stream lies within the study area. UNT 6 to Middle Fork East Fork Whitewater River exhibited an average OHWM of 3.0 feet wide and 1.0 foot deep within the study area. It is classified as a very poor-quality ephemeral stream. Approximately 28.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 1 to East Fork Whitewater River originates on the south side of I-70 and flows southeast into UNT 2 to East Fork Whitewater River. Approximately 102.0 feet of this stream lies within the study area. UNT 1 to East Fork Whitewater River exhibited an average OHWM of 3.0 feet wide and 3 inches deep within the study area. It is classified as a very poor-quality ephemeral stream. Approximately 102.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 2 to East Fork Whitewater River originates on the north side of I-70 and flows southwest into East Fork Whitewater River. Approximately 271.0 feet of this stream lies within the study area. UNT 2 to East Fork Whitewater River exhibited an average OHWM of 2.0 feet-6 inches wide and 8 inches deep within the study area. It is classified as an average quality intermittent stream. Approximately 260.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 3 to East Fork Whitewater River originates on the north side of I-70 and flows southwest into UNT 2 to East Fork Whitewater River. Approximately 241.0 feet of this stream lies within the study area. UNT 18 exhibited an average OHWM of 3.0 feet wide and 1.0 foot deep within the study area. It is classified as an average quality intermittent stream. Approximately 239.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

UNT 4 to East Fork Whitewater River originates on the north side of I-70 and flows southwest into UNT 2 to East Fork Whitewater River. Approximately 214.0 feet of this stream lies within the study area. UNT 4 to East Fork Whitewater River exhibited an average OHWM of 3.0 feet wide and 6 inches deep within the study area. It is classified as a poor-quality intermittent stream. Approximately 214.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 5 to East Fork Whitewater River originates on the north side of I-70 and flows southeast into the East Fork Whitewater River. Approximately 399.0 feet of this stream lies within the study area. UNT 5 to East Fork Whitewater River exhibited an average OHWM of 18 inches wide and 6 inches deep within the study area. It is classified as a very poor-quality ephemeral stream. Approximately 399.0 linear feet of permanent impacts are anticipated as a result of culvert replacement and grading.

UNT 6 to East Fork Whitewater River originates on the north side of I-70 and flows southeast into the East Fork Whitewater River. Approximately 426.0 feet of this stream lies within the study area. UNT 6 to East Fork Whitewater River exhibited an average OHWM of 3.0 feet wide and 6 inches deep within the study area. It is classified as a poor-quality intermittent stream. Approximately 426.0 linear feet of permanent impacts are anticipated as a result of grading for road construction.

East Fork Whitewater River originates on the north side of I-70 and flows southwest into the Whitewater River. Approximately 415.0 feet of this stream lies within the study area. East Fork Whitewater River exhibited an average OHWM of 42 feet wide and 3.0 feet deep within the study area. It is classified as a good quality perennial stream. Approximately 315.0 linear feet of permanent impacts are anticipated as a result of bridge replacement activities. Temporary impacts could occur due to a temporary causeway.

UNT 7 to East Fork Whitewater River originates on the south side of I-70 and flows northwest into the East Fork Whitewater River. Approximately 84.0 feet of this stream lies within the study area. UNT 7 to East Fork Whitewater River exhibited an average OHWM of 2.0 feet wide and 6 inches deep within the study area. It is classified as a very poor-quality ephemeral stream. Approximately 84.0 linear feet of permanent impacts are anticipated as a result of grading for road construction.

UNT 8 to East Fork Whitewater River originates on the north side of I-70 and flows southwest into the East Fork Whitewater River. Approximately 342.0 feet of this stream lies within the study area. UNT 8 to East Fork Whitewater River exhibited an average OHWM of 15 feet wide and 2.0 feet deep within the study area. It is classified as a good quality perennial stream. No permanent or temporary impacts will occur to this stream.

UNT 9 to East Fork Whitewater River originates on the south side of I-70 and flows southwest into UNT 8 to East Fork Whitewater River. Approximately 242.0 feet of this stream lies within the study area. UNT 9 to East Fork Whitewater River exhibited an average OHWM of 2.0 feet wide and 3 inches deep within the study area. It is classified as an average quality intermittent stream. No permanent or temporary impacts will occur to this stream.

No other streams are identified on the *Outstanding Rivers and Streams* nor the *State Natural, Scenic and Recreational River* lists. None of the documented streams are listed as a *Federal Wild and Scenic River*, nor are they listed in the *Nationwide Rivers Inventory*.

Non-Jurisdictional Features: Many roadside drainage features were identified within the project area. These features were designed along with the interstate and roadways to convey storm water. The majority of these features were excavated within upland areas, drain upland waters, and did not display a defined bed, bank, or OHWM. Some roadside ditches were identified within the study area that contained a non-continuous OHWM, non-continuous wetland vegetation, or a combination of both. These features are likely considered non-jurisdictional and are not likely considered waters of the US or waters of the State.

The project will result in approximately 6,821.4 linear feet of permanent impacts to likely jurisdictional streams. Various temporary impacts may occur to likely jurisdictional streams during construction and will be addressed and specified during the permitting process. These impacts will result from culvert replacement, grading, riprap, bridge pier widening, stormwater detention areas, and temporary causeways. These impacts cannot be avoided because the streams cross the project area and the majority flow north to south under I-70. The project will likely require an IDEM 401 Water Quality and an USACE Section 404 Permit before impacting resources. IDNR Construction in a Floodway (CIF) Permits will also be required. Mitigation for stream impacts is anticipated. The sections of the streams and rivers outside the construction limits will not be impacted and will be labeled "Do Not Disturb-Environmentally Sensitive Area" on the plans. This is included as a firm commitment in the Environmental Commitments section of this CE document.

There are several impaired water resources within the project area. The following Best Management Practices (BMPs) are included as firm commitments in the Environmental Commitments section of this CE document.

- Beard Run, Martindale Creek, West Fork of East Fork Whitewater River, and Whitewater River are listed for E. coli. Workers who are working in or near water with E. coli should take care to wear appropriate personal protective equipment (PPE), observe proper hygiene procedures, including regular hand washing, and limit personal exposure.
- Nolands Fork and UNT 1 to Nolands Fork are impaired for IBCs. Best Management Practices for IBCs will be used to avoid further degradation to the streams.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

- The Whitewater River is impaired for PCBs in fish tissue. Exposure to PCBs in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. Workers will be informed. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary.

IDNR-DFW responded to early coordination on September 16, 2022, with recommendations to maintain or improve fish and wildlife passage, apply for any applicable permits, develop a mitigation plan for any unavoidable habitat impacts that will occur, and other standard stream recommendations pertaining to construction (Appendix C-5 to C-8). Wildlife passages will be provided at the following water resources: Whitewater River, Martindale Creek, Nolands Fork, Dry Branch, Greens Fork, Lick Creek, Clear Creek, West Fork of the East Fork of the Whitewater River, Middle Fork of the East Fork of the Whitewater River, and East Fork of the Whitewater River.

All applicable recommendations are included in the Environmental Commitments section of this CE document.

Open Water Feature(s)

- Reservoirs
- Lakes
- Farm Ponds
- Retention/Detention Basin
- Storm Water Management Facilities
- Other: _____

Presence

| |
|---|
| X |
| X |
| X |
| X |
| |
| |

Impacts

| Yes | No |
|-----|----|
| | X |
| | X |
| | X |
| | X |
| | |
| | |

Describe all open water feature(s) identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are likely subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Based on the desktop review, the aerial map of the project area (Appendix B-3 to B-9), and the RFI report (Appendix E-1 to E-44), there are 56 open water features within the 0.5-mile search radius. There are 10 open water features within or adjacent to the project area, which was confirmed by the site visits on June 14-16, 20, 22-24, 27-28, July 6-7, 11-14, 18, and September 14-15, 2022, by CHA.

A *Waters of the US (WOTUS) Report* was approved by INDOT EWPO on August 3, 2023. Please refer to Appendix F for the *WOTUS Report*. It was determined that there are no open water features within the project area. The USACE makes all final determinations regarding jurisdiction.

The Martindale State Fishing Area is located adjacent to the southwest of the I-70 crossings over North Jacksonburg Road and the Middle Fork Reservoir is located underneath I-70 to the south and east of the SR 227 crossing (Appendix B-4 and B-8). The project will not impact any of the 10 open water features because they are located outside of the INDOT ROW and all work in the vicinity of these resources will occur within the existing INDOT ROW limits.

An early coordination letter was sent to IDNR-DFW (Appendix C-1 to C-4). In correspondence dated September 16, 2022, IDNR-DFW noted that the Martindale State Fishing Area is located south of the project area, but they did not provide recommendations for this resource, nor applicable recommendations regarding open water features (Appendix C-5 to C-8).

Wetlands

Presence

| |
|---|
| X |
|---|

Impacts

| Yes | No |
|-----|----|
| X | |

Total wetland area: 17.042 Acres Total wetland area impacted: 8.487 Acres
 (If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

| Wetland No. | Type | Total Size (Acres) | Impacted Acres | Impact Description | Comments (i.e. location, likely Water of the US, appendix reference) |
|-------------|-------------|--------------------|-----------------|---|--|
| Wetland 1 | PEM | 0.348 | 0.122 | Grading for stormwater ditch/ Detention area | Wetland 1 is located along the north side of I-70 at the western limits of the study area. It is classified as a poor-quality wetland. It connects to UNT 1 to Whitewater River and is likely a water of the US (Appendix F-18 and F-26). |
| Wetland 2 | PEM | 0.066 | 0.021 | Culvert replacement and grading | Wetland 2 is located along the south side of I-70 at the western limits of the study area. It is classified as a poor-quality wetland. It connects to UNT 1 to Whitewater River and is likely a water of the US (Appendix F-18 and F-26). |
| Wetland 3 | PEM | 0.492 | 0.126 | Stormwater detention area | Wetland 3 is located along the south side of I-70 at the western limits of the study area. It is classified as a poor-quality wetland. It connects to the Whitewater River. It is likely a water of the US (Appendix F-18 and F-26). |
| Wetland 4 | PEM | 0.439 | 0.314 | Stormwater detention area | Wetland 4 is located along the north side of I-70 at the western limits of the study area. It is classified as a poor-quality wetland. It connects to the Whitewater River. It is likely a water of the US (Appendix F-18, F-26, and F-27). |
| Wetland 5 | PEM/ PFO | 1.751 | 1.732 | Placing riprap/ Widening piers/ Roadway grading/ Stormwater detention area | Wetland 5 is located on the north and south sides of I-70 between the Whitewater River and Cambridge Road. It is classified as a poor-quality wetland. It connects to the Whitewater River. It is likely a water of the US (Appendix F-18 and F-27). |
| Wetland 6 | PSS/ PEM | 0.175/ 0.052 | 0.007/ 0.006 | Grading for stormwater ditch/ Placing riprap and grading | Wetland 6 is located on the south side of I-70 at the western limits of the I-70 and SR 1 interchange. It is classified as a poor-quality wetland. It connects to Beard Run and is likely a water of the US (Appendix F-18 and F-28). |
| Wetland 7 | PEM | 0.095 | 0.032 | Culvert replacement and ditch grading | Wetland 7 is located on the north side of I-70 at the western limits of the I-70 and SR 1 interchange. It is classified as a poor-quality wetland. It connects to Beard Run and is likely a water of the US (Appendix F-18 and F-28). |
| Wetland 8 | PEM | 0.018 | 0.001 | Grading for stormwater ditch | Wetland 8 is located in the southwest quadrant of the I-70 and SR 1 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-18 and F-28). |
| Wetland 9 | PEM | 0.899 | 0.001 | Stormwater detention area | Wetland 9 is located in the southwest quadrant of the I-70 and SR 1 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-18 and F-29). |
| Wetland 10 | PFO | 0.093 | N/A | No impacts to Wetland 10 are proposed. | Wetland 10 is located on the south side of southwest quadrant of the I-70 and SR 1 interchange. It is classified as an average quality wetland. It connects to Beard Run and is likely a water of the US (Appendix F-18 and F-29). |
| Wetland 11 | PEM | 0.413 | N/A | No impacts to Wetland 11 are proposed. | Wetland 11 is located in the northwest quadrant of the I-70 and SR 1 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-18 and F-29). |
| Wetland 12 | PEM | 0.008 | 0.003 | Grading for stormwater ditch | Wetland 12 is located in the northwest quadrant of the I-70 and SR 1 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-18 and F-29). |
| Wetland 13 | PEM | 0.199 | 0.118 | Grading for stormwater ditch | Wetland 13 is located in the northeast quadrant of the I-70 and SR 1 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-19 and F-29). |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

| Wetland No. | Type | Total Size (Acres) | Impacted Acres | Impact Description | Comments (i.e. location, likely Water of the US, appendix reference) |
|-------------|------|--------------------|----------------|--|---|
| Wetland 14 | PEM | 0.153 | 0.039 | Grading for stormwater ditch | Wetland 14 is located in the southeast quadrant of the I-70 and SR 1 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-19 and F-29). |
| Wetland 15 | PEM | 0.041 | 0.001 | Grading for stormwater ditch | Wetland 15 is located in the northeast quadrant of the I-70 and SR 1 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-19 and F-29). |
| Wetland 16 | PEM | 0.011 | 0.006 | Stormwater detention area | Wetland 16 is located on the south side of I-70 near the Frontage Road and North Germantown Road intersection. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-19 and F-29). |
| Wetland 17 | PEM | 0.044 | N/A | No impacts to Wetland 17 are proposed. | Wetland 17 is located on the north side of I-70 near the Frontage Road and North Germantown Road intersection. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-19 and F-29). |
| Wetland 18 | PEM | 0.033 | 0.012 | Stormwater detention area | Wetland 18 is located on the south side of I-70 east of Martindale Creek. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-19 and F-30). |
| Wetland 19 | PEM | 0.037 | 0.001 | Stormwater detention area | Wetland 19 is located on the north side of I-70 east of Martindale Creek. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-19 and F-30). |
| Wetland 20 | PEM | 0.082 | 0.026 | Placing riprap/Widening pier/ Channel clearing/ Stormwater ditch | Wetland 20 is located south of I-70 on the north side of the Martindale State Fishing Area. It is classified as a poor-quality wetland. It connects to Dry Branch and is likely a water of the US (Appendix F-19 and F-33). |
| Wetland 21A | PEM | 0.119 | 0.119 | Placing riprap/Widening pier/ Channel clearing/ Stormwater ditch | Wetland 21A is located north of I-70, north of the Martindale State Fishing Area, and it is limited to the roadside ditch. It is classified as a poor-quality wetland. It connects to Dry Branch and is likely a water of the US (Appendix F-19 and F-33). |
| Wetland 21B | PEM | 0.042 | N/A | No impacts to Wetland 21B are proposed. | Wetland 21B is located north of I-70, north of the Martindale State Fishing Area, and is limited to the area directly abutting Dry Branch. It is classified as a poor-quality wetland. It connects to Dry Branch and is likely a water of the state (Appendix F-19 and F-33). |
| Wetland 22 | PEM | 0.042 | 0.031 | Placing riprap/Widening pier/ Channel clearing/ Stormwater ditch | Wetland 22 is located south of I-70, east of Dry Branch. It is classified as a poor-quality wetland. It connects to Dry Branch and is likely a water of the US (Appendix F-19 and F-33). |
| Wetland 23 | PEM | 0.329 | 0.002 | Grading for stormwater ditch | Wetland 23 is located north of I-70, approximately 1000 feet west of North Washington Road. It is classified as a poor-quality wetland. It connects to UNT 2 to Greens Fork and is likely a water of the US (Appendix F-19, F-34, and F-35). |
| Wetland 24 | PFO | 0.238 | 0.086 | Grading for stormwater ditch | Wetland 24 is located south of I-70, west of North Washington Road. It is classified as an average-quality wetland. It connects to Greens Fork and is likely a water of the US (Appendix F-20 and F-35). |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

| Wetland No. | Type | Total Size (Acres) | Impacted Acres | Impact Description | Comments (i.e. location, likely Water of the US, appendix reference) |
|-------------|------|--------------------|----------------|---|--|
| Wetland 25 | PEM | 0.056 | 0.056 | Grading for stormwater ditch | Wetland 25 is located on the north side of I-70, approximately 3000 feet east of North Washington Road. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-20 and F-36). |
| Wetland 26 | PEM | 0.058 | 0.028 | Culvert replacement | Wetland 26 is located north of I-70, approximately 3000 feet east of North Washington Road. It is classified as a poor-quality wetland. It connects to UNT 3 to Greens Fork and is likely a water of the US (Appendix F-20 and F-36). |
| Wetland 27 | PEM | 0.259 | 0.207 | Stormwater detention area/ Grading for stormwater ditch | Wetland 27 is located south of I-70, approximately 700 feet west of North Mineral Springs Road. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-20 and F-37). |
| Wetland 28 | PEM | 0.042 | 0.042 | Grading for stormwater ditch | Wetland 28 is located south of I-70, approximately 1000 feet east of North Mineral Springs Road. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-20 and F-38). |
| Wetland 29 | PEM | 0.286 | 0.246 | Stormwater detention area | Wetland 29 is located south of I-70, approximately 500 feet east of Black Water Branch. It is classified as a poor-quality wetland. It connects to Black Water Branch and is likely a water of the US (Appendix F-20, F-38, and F-39). |
| Wetland 30 | PEM | 0.350 | 0.080 | Culvert replacement | Wetland 30 is located on the north side of I-70. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-20, F-38, and F-39). |
| Wetland 31 | PEM | 0.153 | 0.001 | Culvert replacement | Wetland 31 is located north of I-70, east of the Indiana Welcome Center Rest Area. It is classified as an average-quality wetland. It connects to Far Run and is likely a water of the US (Appendix F-20 and F-40). |
| Wetland 32 | PEM | 0.062 | 0.061 | Grading for stormwater ditch | Wetland 32 is located on the south side of I-70. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-20 and F-41). |
| Wetland 33 | PEM | 0.101 | 0.101 | Grading for culvert | Wetland 33 is located on the northeast quadrant of the I-70 and Centerville Road interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-20 and F-42). |
| Wetland 34 | PEM | 0.109 | 0.053 | Grading for culvert | Wetland 34 is located on the north side of I-70. It is classified as an average-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-20 and F-44). |
| Wetland 35 | PEM | 0.198 | 0.021 | Grading for stormwater ditch | Wetland 35 is located south of I-70, approximately 100 feet east of North Round Barn Road. It is classified as a poor-quality wetland. It connects to Lick Creek and is likely a water of the US (Appendix F-20 and F-45). |
| Wetland 36A | PEM | 0.442 | 0.080 | Culvert replacement | Wetland 36A is located on the north side of I-70, 30 feet east of North Round Barn Road, and it is limited to the roadside ditch portion west of Lick Creek. It is classified as a poor-quality wetland. It connects to Lick Creek and is likely a water of the US (Appendix F-21 and F-45). |
| Wetland 36B | PEM | 0.182 | 0.001 | Culvert replacement | Wetland 36B is located on the north side of I-70, west of the Richmond Weight Station, and is limited to the area directly abutting Lick Creek. It is classified as a poor-quality wetland. It connects to Lick Creek and is likely a water of the state (Appendix F-21, F-45, and F-46). |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

| Wetland No. | Type | Total Size (Acres) | Impacted Acres | Impact Description | Comments (i.e. location, likely Water of the US, appendix reference) |
|-------------|------|--------------------|----------------|--|--|
| Wetland 37 | PEM | 0.121 | 0.121 | Stormwater detention area | Wetland 37 is located on the south side of I-70, south of the Richmond Weight Station. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-46). |
| Wetland 38 | PEM | 0.177 | 0.177 | Stormwater detention area | Wetland 38 is located the south side of I-70, southeast of the Richmond Weight Station. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21, F-46, and F-47). |
| Wetland 39 | PEM | 0.075 | N/A | No impacts to Wetland 39 are proposed. | Wetland 39 is located on the north side of I-70, east of the Richmond Weight Station. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-47). |
| Wetland 40 | PEM | 0.138 | 0.002 | Culvert replacement and grading | Wetland 40 is located on the north side of I-70, 65 feet west of North Salisbury Road. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-47). |
| Wetland 41 | PEM | 0.126 | 0.088 | Grading for stormwater ditch | Wetland 41 is located on the south side of I-70, approximately 160 feet east of North Salisbury Road. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-47). |
| Wetland 42 | PEM | 0.281 | 0.024 | Grading for stormwater ditch | Wetland 42 is located on the north side of I-70, approximately 60 feet east of North Salisbury Road. It is classified as a poor-quality wetland. It connects to Clear Creek and is likely a water of the US (Appendix F-21 and F-47). |
| Wetland 43 | PEM | 0.053 | N/A | No impacts to Wetland 43 are proposed. | Wetland 43 is located on the south side of I-70, at the US 35/Williamsburg Pike exit ramp. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-48). |
| Wetland 44 | PEM | 0.181 | 0.002 | Culvert removal | Wetland 44 is located on the southwest quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-48). |
| Wetland 45 | PEM | 0.789 | 0.789 | Interchange reconstruction | Wetland 45 is located on the southwest quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-48). |
| Wetland 46 | PEM | 0.403 | 0.403 | Interchange reconstruction | Wetland 46 is located on the southwest quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-48). |
| Wetland 47 | PEM | 0.259 | 0.238 | Interchange reconstruction | Wetland 47 is located on the southeast quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-48). |
| Wetland 48 | PEM | 0.109 | N/A | No impacts to Wetland 48 are proposed. | Wetland 48 is located on the southeast quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-21 and F-48). |
| Wetland 49 | PEM | 0.030 | N/A | No impacts to Wetland 49 are proposed. | Wetland 49 is located on the southeast quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-22 and F-48). |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

| Wetland No. | Type | Total Size (Acres) | Impacted Acres | Impact Description | Comments (i.e. location, likely Water of the US, appendix reference) |
|-------------|-------------|--------------------|-----------------|--|---|
| Wetland 50 | PEM | 0.272 | 0.001 | Culvert replacement and grading | Wetland 50 is located on the southeast quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-22, F-48, and F-50). |
| Wetland 51 | PEM | 0.178 | 0.178 | Interchange ramp construction and grading | Wetland 51 is located on the northwest quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It connects to UNT 5 to Clear Creek and is likely a water of the US (Appendix F-22, F-48, and F-49). |
| Wetland 52 | PEM | 0.144 | 0.144 | Culvert replacement and grading | Wetland 52 is located on the northwest quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-22, F-48, and F-49). |
| Wetland 53 | PEM | 0.219 | 0.219 | Interchange ramp construction and grading | Wetland 53 is located on the northeast quadrant of the I-70 and US 35/Williamsburg Pike interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-22, F-48, and F-49). |
| Wetland 54 | PEM | 0.571 | 0.295 | Interchange ramp construction and grading | Wetland 54 is located on the northeast quadrant of the I-70 and 35/Williamsburg Pike interchange, and it is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-22, F-49, and F-50). |
| Wetland 55 | PEM | 0.019 | N/A | No impacts to Wetland 55 are proposed. | Wetland 55 is located on the northeast quadrant of the I-70 and 35/Williamsburg Pike interchange, and it is classified as a poor-quality wetland. It connects to Clear Creek and is likely a water of the US (Appendix F-22 and F-49). |
| Wetland 56 | PEM/ PSS | 0.207/ 0.165 | 0.143/ 0.118 | Grading for stormwater ditch/ Bridge replacement | Wetland 56 is located on the south side of I-70, approximately 10 feet west of Cardinal Greenway. It is classified as a poor-quality wetland. It connects to UNT 8 to Clear Creek and is likely a water of the US (Appendix F-22 and F-50). |
| Wetland 57 | PSS | 0.050 | 0.045 | Bridge replacement | Wetland 57 is located on the north side of I-70, approximately 50 feet west of Cardinal Greenway. It is classified as a poor-quality wetland. It connects to UNT 8 to Clear Creek and is likely a water of the US (Appendix F-22 and F-50). |
| Wetland 58 | PSS | 0.051 | 0.051 | Bridge and culvert replacement | Wetland 58 is located on the south side of I-70, approximately 20 feet east of Cardinal Greenway. It is classified as a poor-quality wetland. It connects to UNT 8 to Clear Creek and is likely a water of the US (Appendix F-22 and F-50). |
| Wetland 59 | PSS | 0.059 | 0.032 | Bridge and culvert replacement | Wetland 59 is located on the north side of I-70, approximately 10 feet east of Cardinal Greenway. It is classified as a poor-quality wetland. It connects to UNT 8 to Clear Creek and is likely a water of the US (Appendix F-22 and F-50). |
| Wetland 60 | PEM | 0.224 | 0.033 | Grading for stormwater ditch | Wetland 60 is located on the northwest quadrant of the I-70 and Chester Boulevard interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-22 and F-52). |
| Wetland 61 | PEM | 1.319 | N/A | No impacts to Wetland 61 are proposed. | Wetland 61 is located on the southeast quadrant of the I-70 and Chester Boulevard interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-22, F-52, and F-53). |
| Wetland 62 | PEM | 0.045 | 0.039 | Grading for stormwater ditch | Wetland 62 is located on the south side of I-70. It is classified as a poor-quality wetland. It connects to UNT 12 to Middle Fork Reservoir and is likely a water of the US (Appendix F-23 and F-54). |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

| Wetland No. | Type | Total Size (Acres) | Impacted Acres | Impact Description | Comments (i.e. location, likely Water of the US, appendix reference) |
|-------------|------|--------------------|----------------|--|--|
| Wetland 63 | PEM | 0.116 | 0.012 | Grading for stormwater ditch | Wetland 63 is located on the south side of the I-70 and SR 227 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-23 and F-55). |
| Wetland 64 | PEM | 0.145 | 0.007 | Grading for stormwater ditch | Wetland 64 is located on the north side of the I-70 and SR 227 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-23 and F-55). |
| Wetland 65 | PEM | 0.026 | N/A | No impacts to Wetland 65 are proposed. | Wetland 65 is located on the north side of the I-70 and SR 227 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-23 and F-55). |
| Wetland 66 | PFO | 0.585 | 0.585 | Placing riprap/ Widening pier | Wetland 66 is located on the north and south side of I-70, parallel to the Middle Fork East Fork Whitewater River. It is classified as an average quality wetland. It connects to Middle Fork East Fork Whitewater River and is likely a water of the US (Appendix F-23 and F-55). |
| Wetland 67 | PEM | 0.025 | N/A | No impacts to Wetland 67 are proposed. | Wetland 67 is located on the northeast side of I-70. It is classified as a poor-quality wetland. It connects to UNT 17 to East Fork Whitewater River and is likely a water of the US (Appendix F-23 and F-57). |
| Wetland 68 | PEM | 0.019 | 0.010 | Culvert replacement | Wetland 68 is located on the northeast side of I-70. It is classified as an average quality wetland. It connects to UNT 19 to East Fork Whitewater River and is likely a water of the US (Appendix F-23 and F-57). |
| Wetland 69 | PEM | 0.027 | 0.027 | Grading for road construction | Wetland 69 is located on the east side of I-70, 200 feet west of Reservoir Road. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-23 and F-57). |
| Wetland 70 | PEM | 0.194 | 0.079 | Culvert replacement and grading | Wetland 70 is located on the east side of I-70, approximately 900 feet north of SR 121. It is classified as an average-quality wetland. It connects to UNT 20 to East Fork Whitewater River and is likely a water of the US (Appendix F-24 and F-58). |
| Wetland 71 | PEM | 0.100 | 0.075 | Culvert replacement and grading | Wetland 71 is located on the west side of I-70, approximately 300 feet north of SR 121. It is classified as a poor-quality wetland. It connects to UNT 20 to East Fork Whitewater River and is likely a water of the US (Appendix F-24 and F-58). |
| Wetland 72 | PEM | 0.031 | 0.002 | Culvert replacement and grading | Wetland 72 is located on the west side of I-70, 60 feet south of East Fork Whitewater River. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-24 and F-59). |
| Wetland 73 | PEM | 0.139 | 0.139 | Interchange ramp construction and grading for culvert | Wetland 73 is located on the northwest quadrant of the I-70 and US 40 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-24 and F-61). |
| Wetland 74 | PEM | 0.029 | 0.029 | Interchange ramp construction/ Culvert replacement and grading | Wetland 74 is located on the southwest quadrant of the I-70 and US 40 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-24 and F-61). |
| Wetland 75 | PEM | 0.064 | 0.064 | Interchange ramp construction/ Culvert replacement and grading | Wetland 75 is located on the southwest quadrant of the I-70 and US 40 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-24 and F-61). |

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

| Wetland No. | Type | Total Size (Acres) | Impacted Acres | Impact Description | Comments (i.e. location, likely Water of the US, appendix reference) |
|-------------|------|--------------------|----------------|--|---|
| Wetland 76 | PEM | 0.011 | 0.011 | Interchange ramp construction/ Culvert replacement and grading | Wetland 76 is located on the northeast quadrant of the I-70 and US 40 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-24 and F-61). |
| Wetland 77 | PEM | 0.392 | 0.392 | Interchange ramp construction and grading | Wetland 77 is located on the southeast quadrant of the I-70 and US 40 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-25 and F-61). |
| Wetland 78 | PEM | 0.061 | N/A | No impacts to Wetland 78 are proposed. | Wetland 78 is located on the southeast quadrant of the I-70 and US 40 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-25 and F-61). |
| Wetland 79 | PEM | 0.046 | 0.046 | Interchange ramp construction/ Culvert replacement and grading | Wetland 79 is located on the northeast quadrant of the I-70 and US 40 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-25 and F-62). |
| Wetland 80 | PEM | 0.084 | 0.084 | Interchange reconstruction | Wetland 80 is located on the northeast quadrant of the I-70 and US 40 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-25 and F-62). |
| Wetland 81 | PEM | 0.166 | N/A | No impacts to Wetland 81 are proposed. | Wetland 81 is located on the northeast quadrant of the I-70 and US 40 interchange. It is classified as a poor-quality wetland. It has no hydrologic connection and is likely a water of the state (Appendix F-25 and F-62). |

Wetlands (Mark all that apply)

Wetland Determination
 Wetland Delineation
 USACE Isolated Waters Determination

Documentation

| |
|---|
| X |
| X |
| X |

ESD Approval Dates

| |
|-----------------------|
| August 3, 2023 |
| August 3, 2023 |
| June 5, 2023 |

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

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

| |
|---|
| X |
| X |
| |
| X |
| X |

Describe all wetlands identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are likely subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Based on the desktop review, the aerial map of the project area (Appendix B-3 to B-9), and the RFI report (Appendix E-1 to E-44), there are 209 wetlands within the 0.5 mile search radius. There are 23 wetlands are mapped within or adjacent to the project area. That number was updated to 83 during the site visits on June 14-16, 20, 22-24, 27-28, July 6-7, 11-14, 18, and September 14-15, 2022, by CHA.

An updated *WOTUS Report* was approved by INDOT EWPO on August 3, 2023. Please refer to Appendix F for the *WOTUS Report*. It was determined that there are 83 likely jurisdictional wetlands totaling 17.042 acres within the study area. The USACE makes all final determinations regarding jurisdiction. The wetland characteristics and proposed impacts are provided in the table above. Approximately 4.379 acres of likely Waters of the U.S. wetland impacts are proposed. The other 4.108 acres of wetland impacts are likely waters of the state.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Presidential Executive Order 11990, entitled *Protection of Wetlands* and dated May 23, 1977, established a national policy to avoid adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands to the extent possible. New construction includes draining, dredging, channelizing, filling, diking, impounding and related activities.

The impacted wetlands are low-quality wetlands. Avoiding impacts to these wetlands is not feasible because they are present within the existing ROW. Avoiding the wetlands is not practicable due to the need for additional travel lanes, drainage improvements and interchange modifications. The project will require a USACE Section 404 permit and an IDEM Section 401 Water Quality Certification before impacting these resources. Mitigation for wetland impacts will be in accordance with the in-lieu fee program.

To minimize impacts, wetlands 10, 11, 17, 21B, 38, 39, 43, 48, 49, 55, 61, 65, 67, 78, and 81 and sections of wetlands outside the construction limits will not be impacted and will be labeled on the plans as "Do Not Disturb-Environmentally Sensitive Area" This is included as a firm commitment in the Environmental Commitments section of this CE document.

IDNR-DFW responded to early coordination on September 16, 2022, with recommendations for wetland mitigation (Appendix C-5 to C-8). All applicable recommendations are included in the Environmental Commitments section of this CE document.

There is no practicable alternative to the proposed new construction in wetlands and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. FHWA approval of this document will constitute approval of the adverse impacts to wetlands.

| Terrestrial Habitat | <u>Presence</u> | <u>Impacts</u> | |
|---------------------|-------------------------------------|--|--------------------------------|
| | <input checked="" type="checkbox"/> | Yes <input checked="" type="checkbox"/> | NO <input type="checkbox"/> |

Total terrestrial habitat in project area: 232.42 Acre(s) Total tree clearing: 49.5 Acre(s)

Describe types of terrestrial habitat (i.e. forested, grassland, farmland, lawn, etc) adjacent or within the project area. Include whether or not impacts will occur to habitat identified. Include total terrestrial habitat impacted and total tree clearing that will occur. Discuss measure to avoid, minimize, and mitigate if impacts will occur.

Based on a desktop review, site visits on June 14-16, 20, 22-24, 27-28, July 6-7, 11-14, 18, and September 14-15, 2022 by CHA, and the aerial map of the project area (Appendix B-3 to B-9), habitats within the project area mainly consist of maintained grassy roadsides and median, trees (suitable summer habitat), and the riparian corridors/floodplains of the various water resources that traverse the project alignment. The maintained grassy areas are primarily dominated by *Phalaris arundinacea* (reed canary grass), *Bromus inermis ssp.* (smooth brome), *Schedonorus arundinaceus* (tall false rye grass), *Poa pratensis* (Kentucky blue grass), *Solidago altissima* (Canada goldenrod), *Schizachyrium scoparium var.* (little bluestem), and *Sporobolus heterolepis* (prairie dropseed). The trees are dominated by *Gleditsia triacanthos* (Honey locust), *Platanus occidentalis* (American sycamore), *Celtis occidentalis* (common hackberry), and *Morus rubra* (mulberry). The vegetation along riparian corridors is primarily dominated by *Phalaris arundinacea* (reed canary grass), *Solidago gigantea* (smooth goldenrod), *Silphium perfoliatum* (cup-plant), *Salix interior* (sandbar willow), *Impatiens capensis* (spotted jewelweed), and *Echinochloa crus-galli* (barnyard grass).

Approximately 232.4 acres of terrestrial habitat will be disturbed by this project. This acreage includes approximately 49.5 acres of trees, which may be trimmed or cleared for construction all within 100 feet of the existing roadway. This amount of tree clearing is for the entire ROW, which is the worst-case scenario. Avoiding impacts to terrestrial habitat is not feasible because it is present within the construction limits of the project, and INDOT needs to improve the interstate and associated interchanges (see Purpose and Need section). All tree trimming and clearing activities will be done in the bats' inactive season.

IDNR-DFW responded on September 16, 2022, with recommendations to maintain or improve wildlife passage at all stream crossings, develop a mitigation plan for any unavoidable habitat impacts, revegetate all bare and disturbed areas with a native seed mixture of grasses and legumes as soon as possible, and implement erosion and sediment control measures as applicable (Appendix C-5 to C-8).

A meeting to discuss wildlife passages was held on August 21, 2023, with IDNR. Existing wildlife passages will be maintained in their current locations at the following water resources: Whitewater River, Wetland 5, Martindale Creek, Greens Fork, Nolands Fork, West Fork of the East Fork of the Whitewater River, and Middle Fork of the East Fork of the Whitewater River. Wildlife passages will be created at Dry Branch and the East Fork of the Whitewater River.

All applicable recommendations are included in the Environmental Commitments section of this CE document.

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

Protected Species

Federally Listed Bats

| | Yes | No |
|--|-------------------------------------|-------------------------------------|
| Information for Planning and Consultation (IPaC) determination key completed | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Section 7 informal consultation completed (IPaC cannot be completed) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Section 7 formal consultation Biological Assessment (BA) required | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Determination Received for Listed Bats from USFWS: NE NLAA LAA

Other Species not included in IPaC

| | Yes | No |
|--|-------------------------------------|-------------------------------------|
| Additional federal species found in project area (based on IPaC species list) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| State species (not bird) found in project area (based upon consultation with IDNR) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Migratory Birds

| | Yes | No |
|--|-------------------------------------|-------------------------------------|
| Known usage or presence of birds (i.e. nests) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| State bird species based upon coordination with IDNR | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discuss IDNR coordination and species identified. Describe USFWS Section 7 consultation and determination received for Indiana bat and northern long-eared bat impacts. Discuss if other federally listed species were identified. If so, include consultation that has occurred and the determination that was received. Discuss if migratory birds have been observed and any impacts.

Based on a desktop review and the RFI report (Appendix E-1 to E-44), completed by Parsons on January 11, 2023, the IDNR Wayne County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated September 16, 2022 (Appendix C-5 to C-8), the Natural Heritage Program's Database has been checked and two insect species and three animal species have been documented within 0.5-mile of the project area. The insect species are northern casemaker caddisfly (*Pycnopsyche rossi*) and cobblestone tiger beetle (*Cicindela marginpennis*), which are state endangered. The IDNR-DFW does not anticipate any impacts to the insect species as a result of the project. The animal species are Kirtland's snake (*Clonophis kirtlandii*), American badger (*Taxidea taxus*), and bald eagle (*Haliaeetus leucocephalus*). IDNR-DFW stated in their response letter that it does not foresee any impacts to the Kirtland's snake and impacts to the American badger or its preferred habitat are unlikely as a result of this project. The agency noted that the recommended buffer between any disturbance and an active eagle nest is 660 feet. An INDOT 0.5-mile bat review occurred on August 31, 2022, and there are no documented sites within 0.5-mile of the project area. However, the project area is within a 5.0-mile buffer of a maternity site for the Indiana bat (*Myotis sodalis*).

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C-17 to C-32). The project is within range of the federally endangered Indiana bat and northern long-eared bat (NLEB) (*Myotis septentrionalis*). The Monarch butterfly (*Danaus plexippus*) was listed in IPaC as a candidate species and at this time there is no guidance. The project is not anticipated to significantly impact the Monarch or its habitat. Additionally, the list included the Tricolored Bat (*Perimyotis subflavus*), which has a listing status of "Proposed Endangered"; therefore, it is not a listed species protected under Section 7 of the Endangered Species Act. However, it is anticipated that the likelihood of impacts will align with the effect determination for the Indiana Bat and the NLEB, which is detailed below.

The official species list identified the probable presence of several protected bird species: bald eagle, bobolink (*Dolichonyx oryzivorus*), Chimney swift (*Chaetura pelagica*), Henslow's sparrow (*Ammodramus henslowii*), lesser yellowlegs (*Tringa flavipes*), prothonotary warbler (*Protonotaria citrea*), red-headed woodpecker (*Melanerpes erythrocephalus*), and wood thrush (*Hylocichla ustulata*). The bald eagle is protected under the Bald and Golden Eagle Act. A public comment was received during the January 23, 2023, PIM regarding known Bald Eagle inhabitation, at least part of the year, located on their property, which is adjacent to the project area. It was stated that a nest is located within 0.25-mile of the project area. Coordination was conducted with IDNR on September 27, 2023, to obtain current information regarding bald eagles in the project area. IDNR responded on October 3, 2023, stating there are known bald eagle nests in the Martindale State Fishing Area and Richmond Middle Fork Reservoir. However, the project is not expected to impact bald eagles because the nests are beyond IDNR-DFW's recommended buffer of 660 feet between any disturbance and an active eagle nest (Appendix C-59 and C-60). The other protected bird species are addressed further below.

The project qualifies for the Rangewide Programmatic Informal Consultation for the Indiana bat and NLEB, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. Bridge and culvert inspections occurred on June 14, 15, 20, and 27, July 26 and 28, September 18, 2022, and May 4, 2023. No evidence of bats was observed during the inspections. Refer to Appendix C-48 to C-56 for summary tables of the inspection dates and details for each bridge and culvert. An effect determination key was completed on May 5, 2023, and based on the responses provided, the project was found to "May Effect – Not Likely to Adversely Effect" the Indiana bat and/or the NLEB. INDOT reviewed and verified the effect finding on May 8, 2023, and requested USFWS's review of the finding (Appendix C-33 to C-47). No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Avoidance and Minimization Measures (AMMs) and/or commitments are included as firm commitments in the Environmental Commitments section of this document.

Twelve bridges along I-70 and the project's surrounding habitat are conducive for use (i.e. nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA). A list of bridges along I-70 and whether or not they are used by birds is found in Appendix C-48 and C-49. Prior to the start of nesting season (May 1) the structures must be inspected for birds or signs of birds. If birds or signs of birds are found during the inspections avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the RSP 107-C-273 "Migratory Bird Protection".

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

Geological and Mineral Resources

- Project located within the Indiana Karst Region
- Karst features identified within or adjacent to the project area
- Oil/gas or exploration/abandoned wells identified in the project area

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

Date Karst Evaluation reviewed by INDOT EWPO (if applicable): N/A

Discuss if project is located in the Indiana Karst Region and if any karst features have been identified in the project area (from RFI). Discuss response received from IGWS coordination. Discuss if any mines, oil/gas, or exploration/abandoned wells were identified and if impacts will occur. Include discussion of karst study/report was completed and results. (Karst investigation must comply with the current Protection of Karst Features during Planning and Construction guidance and coordinated and reviewed by INDOT EWPO)

Based on a desktop review and the Indiana Karst Region map, the project is located outside the designated Indiana Karst Region as outlined in the most current *Protection of Karst Features during Project Development and Construction*. According to the topo map of the project area (Appendix B-2), the RFI report (Appendix E-1 to E-44), and the *IndianaMap* (<http://www.indianamap.org/>), there are no karst features identified within or adjacent to the project area. In the early coordination response dated September 22, 2022, IGWS did not indicate that karst features exist in the project area. Their response noted that the project area has a high liquefaction potential, a high potential for bedrock resources, a high potential for sand and gravel resources, and abandoned industrial minerals, sand, and gravel pits (Appendix C-9 to C-11). Response from IGWS has been communicated with the designer on January 10, 2023. No impacts are expected.

SECTION C – OTHER RESOURCES

Drinking Water Resources

- Wellhead Protection Area(s)
- Source Water Protection Area(s)
- Water Well(s)
- Urbanized Area Boundary
- Public Water System(s)

Presence

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

Impacts

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

Is the project located in the St. Joseph Sole Source Aquifer (SSA):

- If Yes, is the FHWA/EPA SSA MOU Applicable?
- If Yes, is a Groundwater Assessment Required?

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

Check the appropriate boxes and discuss each topic below. Provide details about impacts and summarize resource-specific coordination responses and any mitigation commitments. Reference responses in the Appendix.

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

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

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on August 8, 2022, by Parsons. This project is located within a Wellhead Protection Area (WHPA) and Source Water Area managed by Indiana American Water. Water sources for the City of Richmond include the Middle Fork Reservoir, collector wells under the East Fork of the Whitewater River, 12 groundwater wells, and two springs. The Project Team, in conjunction with the INDOT Utilities and Rail Office, have ongoing utility engineering and coordination, which includes Indiana American Water (Appendix I-94). A Spill Prevention, Control, and Counter-Measure Plan (SPCCP) will be developed for the project and maintained throughout construction. The SPCCP will at a minimum comply with INDOT Standard Specifications and Indiana American Water's Wellhead Protection Management Plan. Therefore, no impacts are expected.

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on August 8, 2022, by Parsons. There are seven wells adjacent to the project area. The Project Team, in conjunction with the INDOT Utilities and Rail Office, have ongoing utility engineering and coordination, which includes Indiana American Water. A SPCCP will be developed for the project and maintained throughout construction. The SPCCP will at a minimum comply with INDOT Standard Specifications and Indiana American Water's Wellhead Protection Management Plan. Therefore, no impacts are expected. Should it be determined during the right-of-way phase that these wells will be affected, a cost to cure will likely be included in the appraisal to restore the wells.

Based on a desktop review of the INDOT Municipal Separated Storm Sewer System (MS4) website (<https://entapps.indot.in.gov/MS4/>) by Parsons on August 8, 2022, this project is located in an Urban Area Boundary (UAB). An early coordination letter was sent on August 16, 2022, to the City of Richmond Public Works and Engineering Department. The MS4 coordinator did not respond within the 30-day time frame.

Based on a desktop review, site visits on June 14-16, 20, 22-24, 27-28, July 6-7, 11-14, 18, and September 14-15, 2022, by CHA, and the aerial map of the project area (Appendix B-3 to B-9), this project is located where there is a public water system. The public water system is operated by Indiana American Water. The Project Team in conjunction with the INDOT Utilities and Rail Office, have ongoing utility engineering and coordination, which will continue throughout construction of the project. A SPCCP will be developed for the project and maintained throughout construction. The SPCCP will at a minimum comply with INDOT Standard Specifications and Indiana American Water's Wellhead Protection Management Plan. Therefore, no impacts are expected.

| | Presence | Impacts | |
|---|-----------------|----------------|-----------|
| | | Yes | No |
| Floodplains | | | |
| Project located within a regulated floodplain | X | X | |
| Longitudinal encroachment | | | |
| Transverse encroachment | X | X | |
| Homes located in floodplain within 1000' up/downstream from project | X | | X |

If applicable, indicate the Floodplain Level?

Level 1 Level 2 Level 3 Level 4 Level 5

Use the IDNR Floodway Information Portal to help determine potential impacts. Include floodplain map in appendix. Discuss impacts according to the classification system. If encroachment on a flood plain will occur, coordinate with the Local Flood Plain Administrator during design to insure consistency with the local flood plain planning.

Based on a desktop review of the IDNR Indiana Floodway Information Portal website (<http://dnrmaps.dnr.in.gov/appsphp/fdms/>) by Parsons on August 8, 2022, and the RFI report (Appendix E-1 to E-44), portions of this project are located in several regulatory floodplains as determined from approved IDNR and FEMA floodplain maps (Appendix F-1 to F-4). The resource floodplains and corresponding flood hazard area classifications, floodplain categories, and appendix references are provided in the table below. The floodplain categories were determined based on the scope of work within each floodplain. An early coordination letter was sent on

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

August 16, 2022, to the local Floodplain Administrator. The Floodplain Administrator did not respond within the 30-day time frame.

| Resource Floodplain | Flood Hazard Area | Floodplain Category | Associated Structures – Proposed INDOT Structure Nos. (Bridge Summary Table Nos.) | Appendix References | |
|--|--------------------------|---------------------|---|---------------------|----------------------|
| | | | | Floodplain Map | Plans |
| UNT 1 to Whitewater River | FEMA Zone A | 4 | CV I70-089-135.86 | F-2 | B-16 |
| Whitewater River | FEMA Zone AE Floodway | 3 | I70-136-05159 EEBL & EWBL (1 & 2) | | B-93 to B-99 |
| | | | I-70-136-05252 DEBL & DWBL | | |
| Beard Run | DNR Approximate Floodway | 2 | CV I70-089-137.13 | | B-20 |
| Martindale Creek | FEMA Zone AE Floodway | 3 | I70-137-04969 EWBL & EEBL | | B-100 to B-102 |
| Dry Branch (Plum Creek) | DNR Approximate Floodway | 3 | I70-139-04971 EWBL & EEBL | B-109 to B-111 | |
| Greens Fork | FEMA Zone AE Floodway | 3 | I70-141-04972 EEBL & EWBL | F-2 and F-3 | B-112 to B-115 |
| Nolands Fork | FEMA Zone AE Floodway | 3 | I70-145-04521 DEBL & DWBL | F-3 | B-53, B-116 to B-118 |
| UNT 1 to Nolands Fork | DNR Approximate Floodway | 2 | CV I70-089-145.60 | | B-54 |
| Lick Creek | FEMA Zone AE Floodway | 4 | CV I70-089-147.71 | | B-61 |
| Clear Creek | FEMA Zone AE Floodway | 3 | I70-148-04525 JCWB & CEBL | F-3 and F-4 | B-128 to B-130 |
| West Fork East Fork Whitewater River | FEMA Zone AE Floodway | 3 | I70-150-04258 DEBL & DWBL | F-4 | B-136 to B-141 |
| Middle Fork East Fork Whitewater River | FEMA Zone A | 3 | I70-152-4531 CEBL & JCWB | | B-142 to B-144 |
| East Fork Whitewater River | FEMA Zone AE Floodway | 4 | I70-154-10789 EBL & I70-154-10790 WBL | | B-150 to B-155 |

This project qualifies under Categories 2, 3, and 4 – which state:

Category 2 - This project will not involve the replacement or modification of any existing drainage structures or the addition of any new drainage structures. As a result, this project will not affect flood heights or floodplain limits. This project will not increase flood risks or damage, and it will not adversely affect existing emergency services or emergency routes; therefore, it has been determined that this encroachment is not substantial.

Category 3 - The modifications to drainage structures included in this project will result in an insubstantial change in their capacity to carry flood water. This change could cause a minimal increase in flood heights and flood limits. These minimal increases will not result in any substantial adverse impacts on the natural and beneficial floodplain values; they will not result in substantial change in flood risks or damage; and they do not have substantial potential for interruption or termination of emergency service or emergency routes; therefore, it has been determined that this encroachment is not substantial.

The proposed structures that meet the requirements of Category 4 will increase capacity and improve the flow of water during storm events. The two proposed replacement culverts for UNT 1 to the Whitewater River and Lick Creek are larger in diameter than the existing culverts (Appendix A-32 and A-33). The piers of the two bridges over the East Fork of the Whitewater River will be removed from the floodway. The proposed bridges will not have piers in the floodway.

Category 4 - There are no homes located within the base floodplain within 1,000 feet upstream and no homes located within the base floodplain within 1,000 feet downstream. The proposed structure will have an effective capacity such that backwater surface elevations are not expected to substantially increase. As a result, there will be no substantial adverse 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 evacuation routes; therefore, it has been determined that this encroachment is not substantial.

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

| Farmland | <u>Presence</u> | <u>Impacts</u> | |
|--|-------------------------------------|-------------------------------------|--------------------------|
| | | Yes | No |
| 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>139</u> | |
| <i>*If 160 or greater, see CE Manual for guidance.</i> | | | |

Discuss existing farmland resources in the project area, impacts that will occur to farmland, and mitigation and minimization measures considered.

Based on a desktop review, site visits on July 26 and 28, 2022, by Parsons, the aerial map of the project area (Appendix B-3 to B-9), there is farmland as defined by the Farmland Protection Policy adjacent to the project. The project will impact approximately 1.11 acres of farmland. A strip of agricultural land along the I-70 WB exit ramp to US 35 will be acquired for permanent ROW as show on Appendix B-13.

An early coordination letter was sent on August 16, 2022, to NRCS. In correspondence dated August 22, 2022, NRCS stated the proposed project will not cause conversion of prime farmland (Appendix C-12). As the design of the preferred alternative progressed through the project development process, there were resulting impacts to farmland. A second coordination letter was sent to NRCS on July 10, 2023, notifying that agency of the new farmland impacts. In correspondence dated July 17, 2023, NRCS responded that the project will cause a conversion of prime farmland and Form AD-1006 must be completed (Appendix C-13). The form was completed and submitted to NRCS on July 24, 2023 (Appendix C-14).

No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

SECTION D – CULTURAL RESOURCES

| | <u>Category(ies) and Type(s)</u> | <u>INDOT Approval Date(s)</u> | <u>N/A</u> |
|--------------------------|--|-------------------------------|------------|
| Minor Projects PA | Category A, Types 2, 3, 4, 5, and 6 Category B, Type 12 | October 31, 2022 | |

Full 106 Effect Finding

No Historic Properties Affected No Adverse Effect Adverse Effect

Eligible and/or Listed Resources Present

NRHP Building/Site/District(s) Archaeology NRHP Bridge(s)

Documentation Prepared (mark all that apply)

| | <u>ESD Approval Date(s)</u> | <u>SHPO Approval Date(s)</u> |
|---|-------------------------------------|------------------------------|
| APE, Eligibility and Effect Determination | | |
| 800.11 Documentation | | |
| Historic Properties Report or Short Report | | |
| Archaeological Records Check and Assessment | | |
| Archaeological Phase Ia Survey Report | <input checked="" type="checkbox"/> | |
| Archaeological Phase Ic Survey Report | <input type="checkbox"/> | |
| Other: | | |

Memorandum of Agreement (MOA)

MOA Signature Dates (List all signatories)

If the project falls under the MPPA, describe the category(ies) that the project falls under and any approval dates. If the project requires full Section 106, use the headings provided. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of the paper(s) and the comment period deadline. Include any further Section 106 work which must be completed at a later date, such as mitigation from a MOA or avoidance commitments.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

On October 31, 2022, the INDOT Cultural Resource Office (CRO) determined that this project falls within the guidelines of Category A, Types 2, 3, 4, 5, and 6, and Category B, Type 12 under the Minor Projects Programmatic Agreement, (Appendix D-1 to D-9).

- Category A-2: All work within interchanges and within medians of divided highways in previously disturbed soils.
- Category A-3: Replacement, repair, lining, or extension of culverts and other drainage structures that do not exhibit wood, stone or brick structures or parts therein and are in previously disturbed soils.
- Category A-4: Roadway work associated with surface replacement, reconstruction, rehabilitation, or resurfacing projects, including overlays, shoulder treatments, pavement repair, seal coating, pavement grinding, and pavement marking within previously disturbed soils where replacement, repair, or installation of curbs, curb ramps or sidewalks will not be required.
- Category A-5: Repair, in-kind replacement or upgrade of existing lighting, signals, signage, and other traffic control devices in previously disturbed soils.
- Category A-6: Repair, replacement, or upgrade of existing safety appurtenances such as guardrails, barriers, glare screens, and crash attenuators in previously disturbed soils.
- Category B-12: Replacement, widening, or raising the elevation of the superstructure on existing bridges, and bridge replacement projects (when both the superstructure and substructure are removed), under the specified conditions.

An archaeological Phase Ia records check and reconnaissance survey of the project area was conducted by Gray & Pape, Inc., which was approved by INDOT CRO on October 31, 2022 (Appendix D-1 to D-9). One newly documented and eight previously recorded sites were identified within or adjacent to the project area. None of the nine sites are eligible for listing on the National Register of Historic Places (NRHP). One cemetery, the Clark Family Cemetery, is located south of Frontage Road, approximately 90 feet from INDOT ROW. It was determined that due to the minimal size of five burials and fencing around the boundaries, this project has no potential to impact the cemetery and that a cemetery development plan would not be required. A remnant of the Whitewater Canal is located within the western end of the project area. This canal remnant is not eligible for the NRHP because it is disturbed and lacks integrity. Based on the scope of the preferred alternative, it was determined there are no archaeological concerns and the project be allowed to proceed as planned (Appendix D-9).

Gray & Pape, Inc. contacted the Ohio State Historic Preservation Office (OHPO) and ODOT Office of Environmental Services regarding Section 106 requirements for the portion of the project in Ohio (Appendix D-10 to D-13). The archaeological Phase Ia records check and reconnaissance survey covered the project area in Ohio. Coordination with OHPO will only be required if the project extends beyond the existing ROW. ODOT Office of Environmental Services requested a copy of the report and stated that coordination with ODOT is not required since the Ohio project area is small.

No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled. If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, construction in the immediate area of the find will be stopped. If found in Indiana, the INDOT CRO and the IDNR Division of Historic Preservation and Archaeology (DHPA) will be notified immediately. If found in Ohio, the ODOT Office of Environmental Services and OHPO will be notified immediately.

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

| | <u>Presence</u> | <u>Use</u> | |
|--|-------------------------------------|--------------------------|-------------------------------------|
| | | Yes | No |
| Parks and 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 type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Wildlife and Waterfowl Refuges | | | |
| National Wildlife Refuge | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| National Natural Landmark | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| State Wildlife Area | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| State Nature Preserve | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Historic Properties | | | |
| Site eligible and/or listed on the NRHP | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Evaluations Prepared

| | |
|---|--------------------------|
| Programmatic Section 4(f) | <input type="checkbox"/> |
| "De minimis" Impact | <input type="checkbox"/> |
| Individual Section 4(f) | <input type="checkbox"/> |
| Any exception included in 23 CFR 774.13 | <input type="checkbox"/> |

Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the discussion below. Individual Section 4(f) documentation must be included in the appendix and summarized below. Discuss proposed alternatives that satisfy the requirements of Section 4(f). FHWA has identified various exceptions to the requirement for Section 4(f) approval. Refer to 23 CFR § 774.13 - Exceptions.

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

Based on a desktop review, the aerial map of the project area (Appendix B-3 to B-9), the RFI report (Appendix E-1 to E-44), and Section 106 documentation (Appendix D-1 to D-9) there are three potential Section 4(f) resources located within the 0.5-mile search radius. According to additional research and by the site visit on July 26 and 28, 2022, by Parsons, there are two Section 4(f) resource located within or adjacent to the project area:

- Martindale State Fishing Area is maintained by the IDNR-DFW. It is located adjacent to the project area approximately 2 miles east of the I-70/SR1 Interchange in Cambridge City (Appendix B-4).
- Highland Lake Golf Course is owned by the City of Richmond. It is located on the north side of I-70 between the I-70/US 27 and I-70/US 227 interchanges (Appendix B-8). The golf course entrance is off Highland Road.

These are Section 4(f) resources because they are publicly-owned, recreational facilities. These properties are located adjacent to the project area. The project will not use recreational resources by taking permanent ROW (i.e., permanent incorporation) and will not indirectly use the resources in such a way that the protected activities, features, or attributes that qualify the resources for protection under Section 4(f) are substantially impaired (i.e., constructive use). Therefore, no Section 4(f) use is expected.

Two segments of the Cardinal Greenway trail are located within the project area just east of the I-70/US 35 interchange. The trail is owned by Cardinal Greenway, a private non-profit organization. Therefore, the Cardinal Greenway trail is not a Section 4(f) resource.

Early coordination was sent to IDNR-DFW and the Highland Lake Golf Course (Appendix C-1 to C-4). In correspondence dated September 16, 2022, IDNR-DFW noted that the Martindale State Fishing Area is located south of the project area but did not provide recommendations for this resource (Appendix C-5 to C-8). No response was received from the Highland Lake Golf Course.

Section 6(f) Involvement

Presence

Use

Section 6(f) Property

Yes

No

Discuss Section 6(f) resources present or not present. Discuss if any conversion would occur as a result of this project. If conversion will occur, discuss the conversion approval.

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

A review of Section 6(f) properties on the INDOT ESD website revealed a total of three properties in Wayne County (Appendix I-78). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to Section 6(f) resources.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

SECTION F – Air Quality

STIP/TIP and Conformity Status of the Project

- Is the project in the most current STIP/TIP?
- Is the project located in an MPO Area?
- Is the project in an air quality non-attainment or maintenance area?
- If Yes, then:
 - Is the project in the most current MPO TIP?
 - Is the project exempt from conformity?
- If No, then:
 - Is the project in the Transportation Plan (TP)?
 - Is a hot spot analysis required (CO/PM)?

| Yes | No |
|----------|----------|
| X | |
| | X |
| | X |
| | |
| | |
| | |
| | |
| | |
| | |

FY 2024-2028 Initial (Page 271 and 272 of the STIP) (Appendix H-1 and H-2)

Location in STIP: _____

Name of MPO (if applicable): _____

Location in TIP (if applicable): _____

Level of MSAT Analysis required?

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

Describe if the project is listed in the STIP and if it is in a TIP. Describe the attainment status of the county(ies) where the project is located. Indicate whether the project is exempt from a conformity determination. If the project is not exempt, include information about the TP and TIP. Describe if a hot spot analysis is required and the MSAT Level.

This project is included in the FY 2024-2028 Statewide Transportation Improvement Program (STIP) (Appendix H-1 and H-2).

This project is located in Wayne County, which is currently in attainment for all criteria pollutants according to the US EPA Green Book and IDEM's Current Status and Nonattainment History, by County list (https://www.in.gov/idem/sips/files/nonattainment_county_list.pdf). Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

The purpose of this project is to improve pavement conditions, correct geometric deficiencies, reduce crashes, increase mobility, and improve truck travel time reliability by constructing two additional travel lanes on I-70, reconstructing the US 40 interchange, modifying acceleration/deceleration lengths of exist and entrance ramps, improving bridges, and improving the stormwater drainage system. This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxic (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the No Build Alternative.

Moreover, US Environmental Protection Agency (USEPA) regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES3 model forecasts a combined reduction of over 76 percent in the total annual emissions rate for the priority MSAT from 2020 to 2060 while vehicle-miles of travel are projected to increase by 31 percent (Updated Interim Guidance on Mobile Source Air Toxic Analysis in National Environmental Policy Act (NEPA) Documents, FHWA, January 18, 2023). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

Greenhouse Gas Analysis
Quantifying, Disclosing, and Contextualizing Climate Impacts, and Addressing the Potential Climate Change Effects of Proposed Federal Actions

On January 9, 2023, the Council on Environmental Quality (CEQ) issued the National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change. This is interim guidance to assist agencies in analyzing greenhouse gas (GHG), the climate change effects of their proposed actions, and the potential impacts of climate change on the proposed action under NEPA. CEQ issued the guidance as interim guidance, is seeking public comment on the guidance, and intends to either revise it in response to public comments or finalize it. CEQ's intent with the interim guidance is to provide greater clarity and more consistency in how agencies address climate change in NEPA reviews.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

This analysis considers the global warming potential (GWP) and the social cost of greenhouse gas (GHG) emissions for the Preferred Alternative and the No Build Alternative for the design year 2048.

Quantifying a Proposed Action's GHG Emissions: USEPA identifies three major types of GHGs: carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄). These gases do not contribute to climate change equally. There is both a difference in the amount of each gas that is emitted by an activity, and there is a difference in the amount of heat that a given quantity of gas can trap in the atmosphere. The latter is known as a gas' Global Warming Potential (GWP). GWP is used to compare and aggregate the effects of these gases.

To understand the project's influence on climate change, the total GWP is considered for the Preferred Alternative and No Build Alternative by considering vehicular traffic, construction, and roadway operations and maintenance emissions. Vehicular traffic emissions are calculated from traffic forecasts for the project area and USEPA guidance on GHG emissions miles traveled (Table 1).

Table 1: GHG Emission Rates

| Vehicle Type | Fuel Type | GHG Sources | Emission Rate per Mile (g/mi) |
|--------------|-----------|-----------------------------------|-------------------------------|
| Auto | Gasoline | Carbon Dioxide (CO ₂) | 399 |
| | | Nitrous Oxide (N ₂ O) | 0.0066 |
| | | Methane (CH ₄) | 0.0173 |
| Trucks | Diesel | Carbon Dioxide (CO ₂) | 1,547 |
| | | Nitrous Oxide (N ₂ O) | 0.0048 |
| | | Methane (CH ₄) | 0.0051 |

Source: USEPA. (2016). *Greenhouse Gas Inventory Guidance: Direct Emissions from Mobile Combustion*
https://www.epa.gov/sites/default/files/2016-03/documents/mobileemissions_3_2016.pdf

To estimate vehicular GWP, the GHG emissions rates per mile are combined with vehicle-miles-traveled (VMT) projections through the project along I-70. Traffic forecasts for the Preferred Alternative and No Build Alternative provide the annual average daily traffic along road segments, which is combined with the project length to determine average daily VMT. Daily VMT is annualized and multiplied by the emissions rates to determine total emissions. Projected traffic forecasts are the same along I-70 for the Preferred Alternative and No Build Alternative. Emissions are converted to GWP in Table 2. Table 3 shows GWP by alternative from vehicular operations.

Table 2: GWP by GHG

| | Carbon Dioxide (CO ₂) | Nitrous Oxide (N ₂ O) | Methane (CH ₄) |
|------------------------------------|-----------------------------------|----------------------------------|----------------------------|
| GWP Factor (per metric ton of GHG) | 1.0 | 273 | 28.5 |

Table 3: GWP by Alternative from Vehicular Operations

| Alternative | Average Daily Traffic | GWP |
|------------------------------|-----------------------|---------|
| Existing (2019) | 40,829 | 121,401 |
| No Build (2048) | 45,400 | 134,992 |
| Preferred Alternative (2048) | 45,400 | 134,992 |

Emissions from construction and operations and maintenance were not calculated for this analysis since they are considered negligible compared to the emissions from vehicular operations.

Disclosing and Providing Context for a Proposed Action's GHG Emissions and Climate Effects: Conversion of GHG emissions to social costs is accomplished by applying the Social Cost of Greenhouse Gas estimates provided by the Interagency Working Group on Social Cost of Greenhouse Gases (2021). Social costs account for real-world impacts of climate change, such as rising sea levels, increased wildfire and flooding activity, and droughts. However, it should be noted that social cost estimates are inherently conservative as they are unable to account for all types of societal damages, such as ocean acidification.

The guidance from the Interagency Working Group provides values of social cost for the three GHGs in 2020 dollars per metric ton at a variety of discount rates. The discount rate of three percent has been chosen as it is in line with the US Department of Transportation's 2023 benefit-cost analysis guidance. The discount rate is used to adjust future impacts of GHG emissions to a current dollar value. As rates are provided on a five-year basis from 2020-2050, values have been interpolated between the five year-values to obtain costs for 2048, as shown in Table 4.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Table 4: Social Cost of GHGs (per metric ton) (2020 dollars) – 3% discount rate

| Year | CO ₂ (\$) | N ₂ O (\$) | CH ₄ (\$) |
|------|----------------------|-----------------------|----------------------|
| 2019 | 50 | 17,400 | 1,460 |
| 2020 | 51 | 18,000 | 1,500 |
| 2025 | 56 | 21,000 | 1,700 |
| 2030 | 62 | 23,000 | 2,000 |
| 2035 | 67 | 25,000 | 2,200 |
| 2040 | 73 | 28,000 | 2,500 |
| 2045 | 79 | 30,000 | 2,800 |
| 2048 | 83 | 32,000 | 3,000 |
| 2050 | 85 | 33,000 | 3,100 |

Source: https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf

Table 5 provides the social cost of GHGs in 2048 based on vehicular operations. Information to provide costs associated with construction and operations and maintenance are not available for this project but are expected to be negligible compared to the social costs associated with vehicular operations.

Table 5: Social Cost of GHGs in 2048 from Vehicular Operations

| Alternative | Social Cost of GHGs |
|------------------|---------------------|
| Existing (2019) | \$10,098,230 |
| No Build (2048) | \$11,228,775 |
| Preferred (2048) | \$11,228,775 |

Reasonable Alternatives: This analysis evaluates the reasonable alternatives developed for this project which include the Preferred Alternative and No Build Alternative. No other reasonable alternatives were identified through the NEPA process to address the project's purpose and need. As noted above, since the projected VMT through the project area are the same for the Preferred Alternative and No Build Alternative, any difference between alternatives in regard to GHG emissions, GWP, and the social cost of GHGs is considered negligible.

Baseline for Considering Environmental Effects: This analysis considers the baseline condition to be the no build alternative, and the evaluation of GHG emissions, GWP, and the social cost of GHGs is based on the change between the Preferred Alternative and No Build Alternative. The analysis for this project focuses on the vehicular operations due to limited information available regarding construction and operations and maintenance. Since the traffic forecasts for the project are the same for the Preferred Alternative and No Build Alternative, the projects effect on climate change are expected to be very similar between these two alternatives.

Direct and Indirect Effects: In terms of the analysis for this project, direct effects would be the GHG emissions from construction and the base vehicular operations. Indirect effects would be the change in vehicular emissions and roadway operations and maintenance emissions in the Preferred Alternative over the No Build Alternative. Analysis and data available for this project limits the analysis to vehicular operations, where there is no forecasted difference between the Preferred Alternative and No Build Alternative, although GHG emissions from construction and operations and maintenance would be slightly higher than the No Build Alternative. However, over time the GHG emissions from construction and operations and maintenance are likely to be offset by improved mobility through the project area which will produce better fuel efficiency.

Cumulative Effects: Cumulative effects consider the impact of the proposed alternatives in combination with other past, present, or reasonably foreseeable actions and outcomes regarding emissions. Reasonably foreseeable emissions are accounted for by future year no build traffic forecasts. Travel forecasting models used account for projected population and employment, and travel activity which occurs as a result of this development. "Other reasonably foreseeable actions" are incorporated into the travel forecasting model output.

A substantial external impact on emissions trends is the anticipated improvements in US vehicle fuel efficiency and vehicle electrification. The preceding analysis has been performed using fuel efficiency values from the base year (2019). The US Energy Information Administration (EIA) projects fleet fuel efficiency to steadily increase through 2050. The EIA forecasts account for both improved combustion fuel efficiency and increased electrification rates. Projected equivalent miles-per-gallon (MPGe) is given in Table 6. If this improved fuel efficiency is realized, GHG emissions, GWP, and the social cost of GHGs will all be lower in 2048 compared to existing conditions.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Table 6: EIA modeled fleet fuel efficiency (MPGe)

| | 2022 | 2048 |
|------------|------|------|
| Automobile | 24.4 | 35.9 |
| Truck | 7.5 | 10.3 |

Source: US EIA. (2023). Annual Energy Outlook 2023: Table 40: Light-Duty Vehicle Miles per Gallon by Technology Type; Case: Reference Case. See entry under "Average Vehicle Stock Miles per Gallon"

US EIA. (2023). Annual Energy Outlook 2023: Table 49: Freight Transportation Energy Use; Case: Reference Case. See entry under "Average Fuel Efficiency".

Short- and Long-Term Effects: This analysis has focused on the GHG emissions related to vehicular operations. Additional short-term impacts will be related to construction activity to build the project. Short term emissions increase with the Preferred Alternative are anticipated as a result of construction. These increases will be eliminated after construction is complete. However, over time the GHG emissions from construction are likely to be offset by improved mobility through the project area which will produce better fuel efficiency. Additionally, it is possible that improvements in vehicle fuel efficiency and electrification will reduce total emissions for the Preferred Alternative and No Build Alternative to levels below existing (2019) conditions.

Mitigation: In alignment with federal requirements and guidelines established in the Bipartisan Infrastructure Law (BIL) and other federal policies, INDOT has developed a draft carbon reduction strategy (CRS) (INDOT, 2022) to support efforts to reduce CO₂ emissions from the transportation sector in Indiana. The CRS is being developed in consultation with MPO partners and FHWA. The draft CRS identifies different potential transportation projects and/or strategies that can support carbon reduction. These include:

- Electric Vehicles, Alternative Fuels, and Energy Efficiency: Potential strategies that support electric or alternative fuel vehicle adoption or improve overall energy efficiency and lower carbon fuel sources for the transportation network.
- Active Modes: Potential strategies that encourage active transportation such as walking, biking, and transit.
- Transportation Demand Management: Potential strategies that reduce demand for travel on roadways by incentivizing reduced trip making and higher occupancy modes of travel.
- Technology Solutions: Potential strategies that deploy advanced technology solutions for roadway operations and communications and improve traffic flow and person throughput. Critical to success of all technology solutions are investments in communications network as well as data management, analytics and visualization capabilities.

Implementation of these strategies will help reduce GHG emissions and GWP throughout the state.

Special Considerations for Biological GHG Sources and Sinks: The No Build Alternative would not cause substantial changes in land use within the project area that would interrupt biological processes that emit/reduce carbon. The Preferred Alternative will impact approximately 49.5 acres of trees, which may be trimmed or cleared for construction. This impact will be mitigated by 5.6 acres of trees planted. Trees are a sink of greenhouse gases. Estimations for how much a single tree can sequester greenhouse gases is unclear. Many articles cite 48 lbs of carbon dioxide per year but there is no reference as to where this number originated. Winrock International has a forest landscape restoration carbon storage calculator. The data are based on hectares and general types of trees from a Global Removals Database funded by the International Union for Conservation of Nature. Based on the input of 20.03 hectares (49.5 acres), that the area is other broadleaf forests, the estimated carbon that would have been stored is approximately 234 tons of carbon per year. This equates to 212.28 metric tons per year. Assuming it is all CO₂, based on the social cost of CO₂ noted above (\$50/metric ton), this equates to approximately \$10,614.05 annually that will not be sequestered. In comparison to the social cost of vehicular operations, these changes in emissions due to biological sources and loss of trees is determined to be negligible.

Considering the Effects of Climate Change on a Proposed Action

Affected Environment: The Fourth National Climate Assessment (<https://nca2018.globalchange.gov/>) documents the vulnerabilities, risks, and impacts associated with natural climate variability and human-caused climate change across the U.S. and provides examples of response actions underway in many communities. It provides summaries of the affected environment for seven different regions. Key takeaways from the Midwest that are relevant to the I-70 project include:

- Transportation and Infrastructure: Stormwater management systems, transportation networks, and other critical infrastructure are already experiencing impacts from changing precipitation patterns and elevated flood risks. Green infrastructure is reducing some of the negative impacts by using plants and open space to absorb storm water. Heavy rainstorms can result in the temporary closure of roadways. In addition, faster streamflow caused by extreme precipitation can erode the bases of bridges, a condition known as scour. River floods have caused the closure of interstate highways in the Midwest and temporary inundation of secondary roads. Changes in temperature also can pose challenges to infrastructure. Extreme heat creates material stress on road pavements, bridge expansion joints, and railroad tracks. Milder

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

winter temperatures, however, may be expected to partially offset these damages by reducing the amount of rutting caused by the freeze–thaw cycle. Even taking into account the benefits of milder winters for paved surfaces, USEPA estimates that higher temperatures associated with unmitigated climate change would result in approximately \$6 billion annually in added road maintenance costs and over \$1 billion in impacts to rail transportation by 2090 (in 2015 dollars).

Effects: Based on available information, the potential effects of climate change on the project could include floodwaters overtopping the roadway and extreme heat causing stress on pavement and bridge joints.

Using Available Assessments and Scenarios to Assess Present and Future Impacts: A National Oceanic and Atmospheric Administration (NOAA) assessment of daily temperature forecasts in Wayne County forecasts temperature trends under two scenarios: low and high future emissions. The low scenario predicts a future where emissions stop increasing by 2040 and reduce through 2100. The high scenario predicts a future where emissions continually increase through 2100. The NOAA tool compares temperature forecasts to an average from 1961-1990. The high forecast results in an average growth of 11.0° F (6.1° C) in 2100, while the low forecast yields a growth of 5.8° F (3.2° C) by 2100.

Both values are above global goals of limiting climate change to 1.5° and 3° C. Thus, to approach the global goal of 3° C in Wayne County, it is necessary to be nearer to the low temperature forecast. When considering both alternatives in combination with anticipated improvements in vehicle electrification and fuel efficiency, it is anticipated that project-related emissions will be lower in 2048 than in 2019. This finding aligns with NOAA's low scenarios, which projects emissions to stop increasing by 2040.

Resilience and Adaptation: The project includes stormwater detention to avoid increasing the rate at which water leaves the project area. Flows leaving the project area will match or be reduced (where not contributing to a stream) from the existing condition. This will minimize impacts from potential flooding related to increased impervious surface from the project.

New bridges and culverts will be sized in accordance with INDOT design standards which account for 100-year storm event.

Conclusion

Analysis and data available for this project limits the quantitative analysis to vehicular operations, where there is no forecasted difference between the Preferred Alternative and no Build Alternative. Although GHG emissions from construction and operations and maintenance of the Preferred Alternative would be slightly higher than the No Build Alternative, over time the GHG emissions from construction and operations and maintenance are likely to be offset by improved mobility through the project area which will produce better fuel efficiency. Additionally, it is possible that improvements in vehicle fuel efficiency and electrification will reduce total emissions for the Preferred Alternative and no Build Alternative to levels below existing (2019) conditions.

This project is consistent with the federal initiative to reduce GHG emissions and INDOT's CRS. CO2 is the primary GHG emitted by on-road motor vehicles. Traffic congestion and travel speeds affect the efficiency with which motor vehicles burn fuel and produce emissions. Annual average daily traffic on I-70 is 39,600 vehicles per day within the project area and approximately 40 to 50 percent of these vehicles are trucks. As discussed in the Purpose and Need Section, there are congestion and excessive queuing issues on I-70 within the project area when there are lane closures due to crashes, maintenance work, and other events is an example of the congestion. The constant acceleration and braking of stop-and-go traffic reduces fuel efficiency and increases GHG emissions therefore releases more pollutants into the air. This project will improve the mobility and alleviate these queuing issues on I-70, which should reduce the amount of GHG emissions released into the atmosphere compared to the No Build Alternative.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

SECTION G - NOISE

Noise

Yes No

Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?
Date Noise Analysis was approved/technically sufficient by INDOT ESD: August 4, 2023

Describe if the project is a Type I or Type III project. If it is a Type I project, describe the studies completed to date and if noise impacts were identified. If noise impacts were identified, describe if abatement is feasible and reasonable and include a statement of likelihood.

The addition of an added travel lane classifies the proposed project as a Type I project. Therefore, in accordance with the FHWA noise regulations (23 CFR 772) and the INDOT's *Traffic Noise Analysis Procedure* (2022), this action requires a traffic noise analysis (Appendix J-1 to J-47).

Noise measurements were taken at 12 locations along I-70 on July 26 and 28, 2022, and March 2, 2023, by Parsons. The FHWA Traffic Noise Model (TNM) Version 2.5 was used to predict existing and future design year (2048) noise levels. A total of 175 receivers, which represent approximately 233 receptors were modeled in the existing and proposed conditions.

Existing noise levels range from 52 to 76 decibels (dB) (A). Under the future build conditions, the predicted noise levels range from 54 to 77 dB(A). Noise impacts were identified for 69 receptors. All noise impacts result from the predicted noise levels approaching or exceeding FHWA's Noise Abatement Criteria (NAC). Predicted noise level increases under the build conditions range from -0.9 dB(A) to 2.1 dB(A). No predicted noise level increases exceed 15 dB(A). Therefore, traffic noise impacts are predicted to occur within the project area, and noise abatement was analyzed.

Noise abatement, in the form of noise barriers were modeled at the following 11 locations within the project area where future noise impacts were identified. The 11 locations represent areas that have more than one impacted receptor. Noise barriers were not modeled for isolated impacted receptors because they would not meet the maximum square footage of abatement per benefited receptor. The 11 locations are shown on figures in Appendix J-21 to J-34.

- EB Barrier 1: South side of I-70, crosses Jacksonburg Road
- EB Barrier 2: South side of I-70, crosses Union Pike
- EB Barrier 3: South side of I-70, along the exit ramp to US 27
- EB Barrier 4: South side of I-70, along the entrance ramp from US 27
- EB Barrier 5: South side of I-70, along I-70 and the exit ramp to SR 227
- EB Barrier 6: South side of I-70, along the exit ramp to US 40
- EB Barrier 7: South side of I-70, along the entrance ramp from US 40
- WB Barrier 1: North side of I-70, crosses the Cardinal Greenway Trail and Union Pike
- WB Barrier 2: North side of I-70, near the intersection of Highland Road and Cart Road
- WB Barrier 3: North side of I-70, along the entrance ramp from SR 227
- WB Barrier 4: North side of I-70, crosses SR 121

The traffic noise model determined that none of the 11 noise barriers analyzed met INDOT's feasibility and reasonableness criteria.

Based on the studies thus far accomplished, INDOT has not identified any locations where noise abatement is likely. Noise abatement at these locations is based upon preliminary design criteria. Noise abatement has not been found to be reasonable based on no barriers being able to meet the less than 1,000 square feet/benefited receptor threshold.

A re-evaluation of the *Traffic Noise Impact Analysis* dated July 2023, will occur during final design. If during final design it is determined that conditions have changed such that noise abatement is feasible and reasonable, then abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes. The final report will be provided to the City of Richmond, the Wayne County, Indiana Office of Planning and Zoning, and the Preble County, Ohio Planning Commission. INDOT Environmental Services Division shall be copied on this correspondence.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

SECTION H – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors

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

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

Discuss how the project complies with the area's local/regional development patterns; whether the project will impact community cohesion; and impact community events. Discuss how the project conforms with the ADA Transition Plan.

The Revive I-70 Project complies with local and regional development plans including the Richmond Parks and Recreation Master Plan, 2020, Richmond Rising: A Community Action Plan, 2019; Wayne County Comprehensive Plan 2020; Eastern Indiana Transforms, Regional Economic Development Plan, 2018, City of Richmond Bike and Pedestrian Master Plan, 2015. The preferred alternative will support the local and regional transportation and development goals presented in these plans by: improving the local and regional roadway network; and creating a sense of place by providing gateway aesthetics to the City of Richmond. The gateway aesthetics will be stamped concrete features on bridge piers.

The preferred alternative will not result in substantial impacts to community cohesion because it involves the reconstruction of existing I-70, bridges, interchanges and roads within the existing ROW. There will be no change in access to surrounding properties. As discussed in the MOT Section, impacts during construction will be minimized to the greatest extent possible. Access for all residences and businesses will be maintained throughout construction. The MOT plan will include input obtained from meetings with TMP stakeholders to ensure impacts to the public transit, schools, and community events are minimized. All applicable commitments are included in the Environmental Commitments Section of this CE document.

The project will comply with the City of Richmond's ADA Transition Plan, 2017 (<https://richmondin.seamlessdocs.com/f/ADATransitionPlanRichmond>), and the City of Richmond Bike and Pedestrian Master Plan, 2015 (<https://www.richmondindiana.gov/resources/bicycle-and-pedestrian-master-plan>). The Bike and Pedestrian Master Plan states that one of the highest priorities is to provide facilities along US 40 to connect shopping areas. New 5.0-foot-wide sidewalks will be constructed on both the north and south sides of US 40 from the western project limits to the Ohio State Line (Appendix B-84). They will be ADA compliant and connect to a new sidewalk segment proposed by the City of Richmond along US 40. The proposed sidewalks along US 40 will provide a safe and accessible option for pedestrians and bicyclists. The proposed roundabouts at the US 40 interchange will provide safe crossings for pedestrians and bicyclists at the US 40 interchange. The sidewalk along US 27 will not be impacted by the project.

A total of 1.48 acres of permanent ROW will be required for this project as show on Appendix B-13. The permanent ROW impacts include a 1.42-acre strip of land along the I-70 EB exit ramp to US 35 and a 0.06-acre of land on the south side of I-70 between the Cardinal Greenway Trail and Union Pike. Therefore, it should not impact the local tax base. Based on the discussion above, no significant economic or community impacts are expected to develop as a result of the Revive I-70 Project.

Public Facilities and Services

Discuss what public facilities and services are present in the project area and impacts (such as MOT) that will occur to them. Include how the impacts have been minimized and what coordination has occurred. Some examples of public facilities and services include health facilities, educational facilities, public and private utilities, emergency services, religious institutions, airports, transportation or public pedestrian and bicycle facilities.

Based on a desktop review, the aerial map of the project area (Appendix B-3 to B-9), and the RFI report (Appendix E-1 to E-44), there are six religious facilities, three airports, one hospital, three schools, seven recreational facilities, six pipelines, six railroads, five trails, and two managed lands within 0.5-mile of the project. There are 20 public facilities mapped as within or adjacent to the project area. That number was updated to 21 by the desktop review and site visits on July 26 and 28, 2022, by Parsons.

There are three religious facilities adjacent to the project area in Richmond, which are shown on the aerial maps in Appendix B-6, B-8, and B-9:

- Lighthouse Assembly of God, 2339 West Cart Road is located adjacent to the project area west of the I-70/SR 227 interchange.
- Living Faith Church of God, 3777 Nolands Fork Road is located adjacent to the project area approximately 1.0 mile west of the I-70/US 35 interchange.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

- New Creation Cross, 6400 National Road East is located adjacent to the project area in the northeast quadrant of the I-70/US 40 interchange.

The project will not impact any of the properties because all work in the vicinity of these religious facilities will occur within the existing INDOT ROW limits. Access to all properties will be maintained during construction. Early coordination letters were sent to the Lighthouse Assembly of God, Living Faith Church, and New Creation Cross on August 16, 2022 and May 8, 2023, and no responses were received.

Two cemeteries, Clark Cemetery and Null Family Cemetery, are adjacent to the project area (Appendix B-4). The project will not impact either of the cemeteries because all work in the vicinity of these properties will occur within the existing INDOT ROW limits. According to the approved Phase Ia Archaeology survey, this project has no potential to impact the cemeteries and a cemetery development plan will not be required. If utility work or work outside of ROW near the cemeteries will be required, re-coordination with INDOT CRO will occur.

Three schools, Ivy Tech Community College, Indiana University East, and Purdue Polytechnic Institute are adjacent to the project area near the I-70/US 27 interchange in Richmond (Appendix B-8). All three of the schools are located beyond the construction limits of the project; therefore, there will be no impacts. Early coordination letters were sent to all three universities on August 16, 2022, and only one response was received. The University Director of Real Estate of Indiana University East expressed concern in an email dated September 6, 2022, that the project may impact electrical and telecom infrastructure near the East Campus in Richmond (Appendix C-16). The utility coordinator for the Project Team contacted Indiana University in December 2022 to discuss the locations of the utilities and potential impacts. It was determined that since construction of the preferred alternative will be within the existing ROW, there will be no impacts to the university's utilities.

Five recreational facilities are located adjacent to the project area, which are shown on the aerial maps on Appendix B-4 and B-8:

- The Highland Lake Golf Course, 1972 East Highland Road in Richmond is located on the north side of I-70 between the I-70/US 27 and I-70/US 227 interchanges
- Indiana-Ohio KOA Campground, 3101 Cart Road in Richmond, is located adjacent to the project area northwest of the I-70/SR 227 interchange.
- IU East/Ivy Tech Park William K. Richardson Park, 2357 Chester Boulevard in Richmond, is located adjacent to the project area near the I-70/US 27 interchange.
- Martindale State Fishing Area, 12108 West Kepler Road in Cambridge City, is located adjacent to the project area east of the I-70/SR 1 interchange.
- The Middlefork Reservoir, 1750 Sylvan Nook Drive in Richmond is located to the southwest and northeast of the I-70 and SR 227 interchange.

The project will not impact any of the five recreational facilities because all work in the vicinity of these properties will occur within the existing INDOT ROW limits. Access to all properties will be maintained during construction. Early coordination letters were sent to the Highland Lake Golf Course and the Indiana-Ohio KOA Campground August 16, 2022, and no responses were received. An early coordination letter was sent to IDNR-DFW (Appendix C-1 to C-4). In correspondence dated September 16, 2022, IDNR-DFW noted that the Martindale State Fishing Area is located south of the project area, but they did not provide any recommendations for this resource (Appendix C-5 to C-8).

Two segments of the Cardinal Greenway trail are located within the project area just east of the I-70/US 35 interchange. The trail is owned by Cardinal Greenway, a private non-profit organization. This multi-use trail spans 62 miles in east central Indiana from Marion to Richmond. Approximately four miles of the trail are located in Richmond. From the north, the trail passes under I-70 between the I-70/US 35 Interchange and Union Pike. It continues southward and ends at the D Street trailhead at 330 North 3rd Street (Appendix B-7). An early coordination letter was sent to Cardinal Greenways on August 16, 2022, and no response was received. Cardinal Greenway was contacted again in September 2022 by Parsons, to discuss the trail segment crossing under I-70. A representative from the organization stated that a 14-foot-high by 14-foot-wide box culvert encompassing the trail segment would accommodate trail users and maintenance equipment. The two I-70 bridges (Structure Nos. I70-149-02260 CEBL and I70-149-02260 CWBL) over the Cardinal Greenway Trail will be replaced with a 14-foot-high by approximately 250-foot-long four-sided concrete box structure. It will be placed under mainline I-70 and the entire median width, which will provide an area for the additional travel lanes to be constructed. This section of trail will be closed during construction. Access to the trail north and south of the closed section will be available at existing trailheads. The trail will be restored to preconstruction condition. A Joint Use and Maintenance Agreement between INDOT and Cardinal Greenway, Inc. signed in April 2023, has been implemented to delineate costs and responsibilities for the maintenance, improvements and removal of the trail (Appendix I-95 to I-116).

Sidewalks are located along US 27 and US 40. Improvements to US 27 will not impact the sidewalk since it is located south of the project area. New 5.0-foot- wide sidewalks will be constructed on both the north and south sides of US 40 from the western project limits to the

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

Ohio State Line. The new sidewalks will be ADA compliant and connect to a new sidewalk segment proposed by the City of Richmond along US 40.

The Reid Hospital heliport is located approximately 0.40 mile south of the project area near the I-70/US 27 interchange (Appendix B-8). An early coordination letter was sent to Reid Health on August 16, 2022, and no response was received. One public-use airport, Hagerstown Airport, is located within 3.8 miles (20,000 feet) of the project area. Pentecost Airport is a small airport located approximately 1200 feet south of I-70 between North Centerville Road and Round Barn Road in Centerville. Early coordination was sent to Hagerstown Airport, Pentecost Airport, and INDOT Office Of Aviation on August 16, 2022. One response was received from INDOT Office of Aviation on August 25, 2022, which stated that no tall structure permit is required for the project if all equipment being used is under 110 feet in height (Appendix C-15).

Utilities within the project area include electric, gas, water, sanitary sewer, storm sewer, and communications (Appendix I-94). Two pipeline segments owned by the Panhandle Eastern Pipeline and Centerpoint Energy cross the project area. This portion of I-70 is considered a Broadband corridor. Meta fiber runs parallel along I-70 for the length of the project area and Frontier Communications underground copper cable and fiber cable cross I-70 at the I-70/US 1 interchange. North of the I-70/US 40 interchange, an underground gas main, electric line and communications fiber cross I-70. There is one railroad crossing in the project area, which is a grade separated crossing that carries I-70 over a Norfolk Southern rail line. Due to the railroad, pipelines, and utilities within the project area, the Project Team, in conjunction with the INDOT Utilities and Rail Office, have ongoing utility engineering and coordination. There will be no disruption in services. Therefore, no impacts are expected.

All applicable recommendations are included in the Environmental Commitments section of this CE document.

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.

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"/> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Does the project require an EJ analysis?

If YES, then:

Are any EJ populations located within the project area?

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

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

Indicate if EJ issues were identified during project development. If an EJ analysis was not required, discuss why. If an EJ analysis was required, describe how the EJ population was identified. Include if the project has a disproportionately high or adverse effect on EJ populations and explain your reasoning. If yes, describe actions to avoid, minimize and mitigate these effects.

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT *Categorical Exclusion Manual*, an EJ Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent ROW. This project will require 1.48 acres of new ROW. Therefore, an EJ Analysis is required. The complete EJ Analysis is provided in Appendix I-79 to I-92.

Identification of EJ Populations

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exist, 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's are Wayne County, Indiana and Preble County, Ohio. The community that overlaps the project area is called the affected community (AC). An AC has an EJ population of concern 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 2020 American Community Survey (ACS) 5-year Estimates were obtained from the [census.gov](https://www.census.gov) website on August 10, 2022, by Parsons. The data collected for minority and low-income populations within the ACs are summarized in the tables below.

In Indiana, the ACs in this project consist of nine Census Tract Block Groups (CTBGs): (AC-A) Block Group 2, CT 105; (AC-B) Block Group 1, CT 105; (AC-C) Block Group 1, CT 6; (AC-D) Block Group 2, CT 101; (AC-E) Block Group 2, CT 4; (AC-F) Block Group 1, CT 4; (AC-G) Block Group 1, CT 101; (AC-H) Block Group 1, CT 11.02; (AC-I) Block Group 2, CT 11.02 (Appendix I-85).

In Ohio, the ACs in this project consist of two CTBGs: (AC-J) Block Group 3, CT 4001; (AC-K) Block Group 1, CT 4601 (Appendix I-85).

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Table 1: Wayne County, Indiana (Block Groups AC-A through AC-I)

| | COC | AC-A | AC-B | AC-C | AC-D | AC-E | AC-F | AC-G | AC-H | AC-I |
|--|----------------------|---------------------------------|---------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------|---------------------------------|-----------------------------------|-----------------------------------|
| | Wayne County Indiana | Block Group 2, Census Tract 105 | Block Group 1, Census Tract 105 | Block Group 1, Census Tract 6 | Block Group 2, Census Tract 101 | Block Group 2, Census Tract 4 | Block Group 1, Census Tract 4 | Block Group 1, Census Tract 101 | Block Group 1, Census Tract 11.02 | Block Group 2, Census Tract 11.02 |
| Minority Population | | | | | | | | | | |
| Percent Minority (%) | 10.7 | 4.3 | 5.2 | 4.0 | 6.1 | 12.7 | 5.8 | 0.5 | 0.0 | 15.6 |
| 125 Percent of COC (%) | 13.4 | | | | | | | | | |
| <i>Potential Minority EJ Population?</i> | | No | No | No | No | No | No | No | No | Yes |
| Low-Income Population | | | | | | | | | | |
| Percent Low-Income (%) | 16.8 | 15.1 | 10.4 | 21.4 | 2.7 | 41.9 | 18.7 | 8.8 | 5.6 | 9.9 |
| 125 Percent of COC (%) | 21.0 | | | | | | | | | |
| <i>Potential Low-Income EJ Population?</i> | | No | No | Yes | No | Yes | No | No | No | No |

Table 2: Preble County, Ohio (Block Groups AC-J and AC-K)

| | COC | AC-J | AC-K |
|--|--------------------|----------------------------------|----------------------------------|
| | Preble County Ohio | Block Group 3, Census Tract 4001 | Block Group 1, Census Tract 4601 |
| Minority Population | | | |
| Percent Minority (%) | 3.4 | 1.9 | 11.7 |
| 125 Percent of COC (%) | 4.2 | | |
| <i>Potential Minority EJ Population?</i> | | No | Yes |
| Low-Income Population | | | |
| Percent Low-Income (%) | 9.2 | 18.1 | 12.4 |
| 125 Percent of COC (%) | 11.5 | | |
| <i>Potential Low-Income EJ Population?</i> | | Yes | Yes |

Based on the data presented in the tables, the project area contains populations of EJ concern. The census data sheets, map, and calculations can be found in Appendix I-85 to I-88.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Minority Populations: In Wayne County, Indiana, AC-I has a percent minority population of 15.6% (Table 1) (Appendix I-86), which is below 50% but above the 125% COC threshold of 13.4%. Therefore, this AC is a minority population of EJ concern. In Preble County, Ohio, AC-K has a percent minority population of 11.7% (Table 2) (Appendix I-88), which is below 50% but above the 125% COC threshold of 4.3%. Therefore, this AC is a minority population of EJ concern.

Low-Income Populations: In Wayne County, Indiana, AC-C and AC-E have a percent low-income of 21.4% and 41.9%, respectively, which are greater than the 125% COC threshold of 21.0% (Table 1) (Appendix I-87). Therefore, AC-C and AC-E are low-income EJ populations of concern. In Preble County, Ohio, AC-J and AC-K have a percent low-income of 18.1% and 12.4%, respectively, which are greater than the 125% COC threshold of 11.5% (Table 2) (Appendix I-89). Therefore, AC-J and AC-K are low-income EJ populations of concern.

Area Resources: The US Department of Housing and Urban Development (HUD) Resource Locator (<https://resources.hud.gov/>) was used to identify EJ housing resources and potential populations. Based on the site data available, one resource was identified within 0.5 mile of the project area (Appendix I-90). This resource is the Carriage House Richmond Apartments, which is low-income housing located at 701 Dillon Drive in Richmond. No impacts to this resource are expected.

Impact Analysis

Access/Interchange Modifications: Within the project area there are various geometric deficiencies, including the existing ramp acceleration/deceleration lanes, and merge/diverge points, as well as acceleration/deceleration lanes and loop ramps at various interchanges, all of which do not meet current IDM standards. There are also operational issues associated with the acceleration/deceleration lanes and loop ramps at both the I-70/ US 35 and I-70/US 40 interchanges. To resolve these issues, modifications will be made to both interchanges and to I-70 on and off ramps throughout the project area.

The I-70/US 40 Interchange will be reconstructed to a Diamond Interchange with Roundabout Termini. The US 40 EB and WB travel lanes will connect to a tear-drop style roundabout intersection at each end of the interchange allowing for yield-controlled movements to access the EB and WB I-70 single lane ramps and to continue along US 40. US 40 will maintain two lanes in each direction for EB and WB travel. The reconstruction will also provide pedestrian facilities at this location, which are described below. There will be no permanent change in access.

The I-70/US 35 Interchange will be partially modified to improve safety and to improve the acceleration and deceleration lengths of each ramp movement. The merging loop ramp from US 35 SB to I-70 EB will be extended approximately 300 feet to provide additional length for acceleration. For the WB I-70 to US 35 exit ramps, a new barrier separated dual lane collector-distributor road will be constructed and provide proper deceleration lengths before accessing the existing US 35 NB and SB ramps. These ramp modifications will meet current INDOT design standards. There will be no permanent change in access.

The I-70 on and off ramps for the rest area, weigh station, and the SR 1, Centerville Road, US 35, US 27, and SR 227 interchanges will be reconstructed to the gore nose, which is where the ramps separate from the I-70 mainline. At some locations, reconstruction may extend further up a ramp due to profile or superelevation adjustments. Where possible, the acceleration/deceleration lengths of the ramps will be modified to meet current IDM standards. Sections of the ramps not reconstructed will have a mill and overlay preventative maintenance treatment.

A TMP will be developed for the project, which will detail ramp closures and detours. This plan will include input obtained from meetings with stakeholders to ensure impacts to community services, transit routes, and community events are minimized. The proposed interchange modifications and ramp improvements are not anticipated to disproportionately impact EJ populations.

ROW and Relocations: Most of the work will occur within existing, previously disturbed ROW. A total of 1.48 acres of permanent ROW are required for this project, which are located in AC-C and AC-E containing EJ populations. The ROW impacts include a 1.42-acre strip along the I-70 WB exit ramp to US 35, which is agricultural and undeveloped land. This ROW is needed to construct a new dual lane exit ramp from I-70 WB to US 35. On the southside of I-70 between the Cardinal Greenway Trail and Union Pike, an undeveloped 0.06-acre parcel will be acquired to replace a culvert outside of the existing ROW. Locations of the ROW impacts are provided in Appendix I-91. There will be no relocations of residences, businesses, or farms. Therefore, the proposed property acquisitions are not anticipated to disproportionately impact EJ populations.

Transit Service: The Rose View Transit System provides fixed-route and on-demand services in the project area. Currently, one fixed-route crosses the project area and AC-E containing EJ populations (Appendix I-92). This is Route 3, which uses US 27 between downtown Richmond and Towers Medical Center located north of I-70. This medical center is the only stop on Route 3 north of the I-70/US 27 interchange. The first stop south of the I-70/US 27 interchange is at Benchmark Human Services. There are no transit stops within the interchange.

At the I-70/US 27 Interchange, the ramps and a 0.31-mile section of US 27 will require patching. Partial and full depth concrete patches will be placed on US 27 from approximately 850 feet north of the center of the interchange to approximately 800 feet south of the center of the interchange. One lane in the NB and SB directions will remain open on US 27 during construction. The project will not affect

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Route 3 operations since US 27 and access to all stops along the transit line will remain open during construction. There will be ongoing coordination with the City of Richmond and Rose View Transit via phone calls, emails, and TMP meetings to minimize potential impacts to transit service. Therefore, the project is not anticipated to impact transit service.

Maintenance of Traffic: MOT will be conducted in three phases and detailed in the TMP. Two travel lanes will be maintained in the EB and WB directions of I-70 at all times. Construction zones will have a maximum length of 5.0 miles and a posted speed limit of 55 miles per hour. Short-term ramp closures of no more than 60 calendar days with detours will occur as necessary at SR 1, Jacksonburg Road, Centerville Road, Round Barn Road, US 35, Union Pike, US 27, US 227, and SR 121. The Washington Road interchange will be closed for approximately 120 calendar days with a detour provided for motorists. One lane in the NB and SB directions will remain open on US 27 during construction. At the I-70/US 40 interchange, ramps will be closed for approximately 60 calendar days as they are constructed. One lane of travel in each direction will remain open on US 40 at all times. Access to all residences and businesses will be maintained throughout construction.

Coordination with the Wayne County Highway Department, Richmond Department of Public Works, first responders, schools, and Rose View Transit will occur throughout construction of the entire project. Coordination and outreach will include phone calls, emails, and TMP meetings. Therefore, the proposed MOT is not anticipated to disproportionately impact EJ populations.

Bicycle and Pedestrian Facilities: Pedestrian facilities are present at three locations within the project area containing AC-E and AC-I. The Cardinal Greenway Trail crosses the project area via an underpass west of US 27. There are sidewalk segments along US 27 south of the I-70/US 27 interchange, which terminate at the project area boundary and do not connect to other pedestrian facilities within the project area. There are 200-foot-long sidewalk segments along US 40 which do not connect to other pedestrian facilities. No other bicycle or pedestrian facilities are located within the project area.

The Cardinal Greenway Trail will require a full closure in order to complete adjacent work, and due to the rural nature of the area, a detour will not be provided. Access to the trail north and south of the closed section will be available at existing trailheads. Pedestrian access will not be affected at US 27 since the sidewalks are outside of the project area. The sidewalks along US 40 within the project area will be closed during construction. New 5.0-foot wide sidewalks will be constructed on both the north and south sides of US 40 from the western project limits to the Indiana/Ohio State Line. They will comply with the City of Richmond's *ADA Transition Plan, 2017*. The new sidewalks will be ADA compliant and connect to a new sidewalk segment proposed by the City of Richmond along US 40. Therefore, the project is not anticipated to permanently impact pedestrian access or disproportionately impact EJ populations.

Conclusions

The project area contains four adjacent low-income EJ populations and two adjacent minority EJ populations. The project will provide transportation benefits to local and through travelers. A TMP is being developed for the construction in coordination with the Wayne County Highway Department, Richmond Department of Public Works, first responders, schools, Rose View Transit, and other stakeholders. This plan will be implemented throughout construction of the entire project to minimize impacts to motorists. There will be no permanent change in existing access for transit service, motorized vehicles and pedestrians. Temporary restricted access to the Cardinal Greenway Trail and sidewalks along US 40 will occur but these are not permanent changes. The Cardinal Greenway Trail will be restored and opened to the public after the new structure is constructed. New sidewalks along US 40 in the project area will be added and will be ADA compliant. They will become part of a new sidewalk network along US 40. The lane and ramp closures will pose a temporary inconvenience to traveling motorists; however, no significant delays are anticipated, and all inconveniences and delays will cease upon project completion. The proposed ROW impacts are limited to strip takes from undeveloped parcels. Potential impacts to public transit during construction will be minimized through coordination with Rose View Transit and local governmental officials. Based on this analysis, the Revive I-70 project will not have a disproportionately high and adverse effect on low-income or minority populations.

Outreach

To ensure that EJ populations are engaged and informed, the project's Public Involvement Plan discusses outreach to EJ populations and individuals with limited English proficiency. Engagement activities include a variety of approaches to overcome language, cultural, economic, and other potential barriers to effective participation in the project development process. Engagement also includes stakeholders who represent EJ populations including elected officials, public transit, local housing authorities, public schools, religious institutions, and civic organizations.

Four PIMs have been held to date for the Revive I-70 project on January 23 and 24, and August 9 and 10, 2023 (Appendix G-20 to G-77 and G-94 to G-136). The PIMs were advertised via Richmond local television stations, press releases in the *Palladium-Item*, project website, e-blasts, and advertisements on social media. Electronic fliers were sent to Forward Wayne County, Wayne County Foundation, and Bethel African Methodist Episcopal (AME) Church. Flier recipients were encouraged to share the PIM information with local residents. The flier offered the following special accommodations upon request:

With advance notice, the Indiana Department of Transportation (INDOT) can provide special accommodation for persons with disabilities and/or limited English-speaking ability and persons needing auxiliary aids or services such as interpreters, signers, readers or large print. Should special accommodation be needed, please contact Berry Craig, public involvement specialist, Parsons, at berry.craig@parsons.com or 270-705-1640.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

The January 23 and August 9, 2023, PIMs were held at Whitewater Hall at Indiana University East, located at 2325 Chester Boulevard in Richmond. Indiana University East is a stop on the Rose View Transit Route 3 service. The PIM handouts and comment sheets were provided in both English and Spanish. The January 24 and August 10, 2023, meetings were held virtually on Microsoft Teams. Whitewater Community Television recorded the January 23rd PIM and broadcasted it on a local channel. The Whitewater Community Television received a recording of the August 10, 2023, virtual meeting to play on community and government channels.

A public hearing was held on October 4, 2023, at the Ivy Tech Community College, located at 2357 Chester Boulevard in Richmond. Ivy Tech Community College is a stop on the Rose View Transit Route 3 service. The hearing welcome letter, handout and comment sheets were provided in both English and Spanish (Appendix G-152 to G-157). During the hearing, the Project Team gave a presentation that covered the project development process, details about the preferred alternative, project delivery, maintenance of traffic project schedule, and how to submit public comments (Appendix G-163 to G-168). Project Team members were available before and after the hearing to answer questions.

On July 25, 2023, INDOT ESD stated, "INDOT-Environmental Services Division (ESD) has reviewed the project information along with the EJ Analysis for the above referenced project. With the information provided, the project may require minimal right-of-way, require no relocations, and would not disrupt community cohesion or create a physical barrier. With the information provided, INDOT-ESD would not consider the impacts associated with this project as causing a disproportionately high and adverse effect on minority and/or low-income populations of EJ concern relative to non-EJ populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23a. No further EJ Analysis is required." (Appendix I-93).

Relocation of People, Businesses or Farms

Will the proposed action result in the relocation of people, businesses or farms?
Is a BIS or CSRS required?

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

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

Discuss any relocations that will occur due to the project. If a BIS or CSRS is required, discuss the results in the discussion below.

No relocations of people, businesses, or farms will take place as a result of this project.

SECTION I – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)

Documentation

- Red Flag Investigation (RFI)
- Phase I Environmental Site Assessment (Phase I ESA)
- Phase II Environmental Site Assessment (Phase II ESA)
- Design/Specifications for Remediation required?

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

Date RFI concurrence by INDOT SAM (if applicable): _____

Include a summary of the potential hazardous material concerns found during review. Discuss in depth sites found within, directly adjacent to, or ones that could impact the project area. Refer to current INDOT SAM guidance. If additional documentation (special provisions, pay quantities, etc.) will be needed, include in discussion. Include applicable commitments.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Based on a review of GIS and available public records, the RFI was completed on January 11, 2023, by Parsons and INDOT SAM provided their concurrence on February 24, 2023 (Appendix E-1 to E-44). Eleven Resource Conservation and Recovery Act (RCRA) generator/ Treatment, Storage, and Disposal (TSD) sites, two State Cleanup sites, 17 underground storage tank (UST) sites, two voluntary remediation program sites, one construction demolition waste site, two solid landfill sites, 22 leaking UST (LUST) sites, one confined feeding operation, three Brownfield sites, six institutional control sites, 34 National Pollutant Discharge Elimination System (NPDES) facilities, and two NPDES pipe locations were identified within 0.5-mile of the project area. The RFI identified the following 14 hazmat sites that could affect the project area:

One Voluntary Remediation site, Carpenter Industries Incorporated, 1100 Industries Road, Richmond, AID 56770, is located adjacent to the project area south of the I-70/US 35 interchange. On July 19, 2007, IDEM issued a No Further Action (NFA) determination pursuant to Risk Integrated System of Closure (RISC) guidance regarding a petroleum release and UST closure. This site is active and currently undergoing quarterly monitoring. Coordination will be conducted with the IDEM project manager identified in the Virtual File Cabinet (VFC) (Nicole Wheeler, Program Director, nwheeler@idem.in.gov) before ready for contracts (RFC).

Seven LUST Sites are located near or adjacent to the project area:

- Road 1 Shell, 1598 North SR 1, Cambridge City, AID 56028, is located adjacent to the project area, southwest of the I-70/US 1 interchange. A Well Abandonment Report dated December 2, 2015, indicates the presence of seven environmental wells onsite. No evidence of a release was identified. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Coordination will be conducted with the IDEM project manager identified in the VFC, Nicole Wheeler, nwheeler@idem.in.gov, before further site activities occur. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.
- GasAmerica #52 (DBA Speedway 8033), 1589 North SR 1, Centerville, AID 55824, is located adjacent to the project area south of the I-70/SR 1 interchange. According to an IDEM letter dated January 7, 2021, the facility had returned to compliance following a violation issuance. No evidence of a release was reported. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Coordination will be conducted with the IDEM project manager identified in the VFC, Nicole Wheeler, nwheeler@idem.in.gov, before further site activities occur. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.
- INDOT Cambridge City Unit, 14178 Frontage Road, Cambridge City, AID 54316, is located adjacent to the project area southeast of the I-70/SR 1 interchange. According to a Further Site Investigation (FSI) Report dated March 2007, evidence of a release was discovered during UST closure activities in March 1998. Documentation indicates proper closure sampling and documentation was completed. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Coordination will be conducted with the IDEM Project Manager Nawal Hopkins, nhopkins@idem.in.gov, before further site activities occur. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.
- Dana Corporation World Technology Center, 1400 Dana Parkway, Richmond, AID 55242, is adjacent to the project area southwest of the I-70/US 35 interchange. This inactive facility was formerly an engine testing facility. Based on the March 6, 2006, NFA letter, the analytical results from the subsurface soil samples indicate that total petroleum hydrocarbons (TPH) for diesels range organics (DRO) for soils and groundwater samples for COC are also at or below the 1994 guidance Corrective Action Guidelines. Based on the results of laboratory analysis of soil and groundwater samples at the site, it appears that the contaminated groundwater is confined to the vicinity of monitoring well MW-1, located near the center off the property. If excavation occurs in this area, it is possible that petroleum contamination may be encountered. Before proper removal and disposal of soil and/or groundwater, analysis for lead will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.
- Love's Country Store, 2698 US 35 North Richmond, AID 56476, is located adjacent to the project area northwest of the I-70/US 35 interchange. An Emergency Response Incident was filed on May 25, 2021, that reported a release of oil from on onsite oil-water separator into a retention pond and nearby flooded area. IDEM issued a Return to Compliance letter on September 1, 2022, related to a violation letter issued on June 2, 2022. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.
- Fast Max/ Sunoco #145 (now Speedway 7005), 2510 Chester Boulevard, Richmond, AID 10490, is located adjacent to the project area south of the I-70/US 27 interchange. According to the April 19, 2013, NFA letter, the contamination is located in the northwest corner of the property of the former convenience store. The analytical results from the subsurface soil samples indicate total hydrocarbons (TPH) for gasoline range organics (GRO), benzene, toluene, ethyl benzene, xylenes, and methyl tertiary butyl ether (MTBE) are below IDCLs with the exception of benzene and TPH (GRO) concentrations in several soil samples. Groundwater monitoring showed that contamination has not leached into the groundwater. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater will be necessary. Refer to

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

- Shell Food Mart (also referenced as Herdrich Petroleum / Ken's Interstate Shell), 5890 East National Road, Richmond, AID 54758, is located adjacent to the project area west of the I-70/US 40 interchange. Correspondence dated January 29, 2015 identified two IDEM LUST release incidents (#199407519 in July 1994 and #200509506 in September 2005). Incident #199407519 involved soil exceedance of total petroleum hydrocarbon (TPH). Incident # 200509506 involved the release of light non-aqueous phase liquid (LNAPL) approximately 10 feet from the east side of the dispenser canopy. A third incident occurred in 2014, Incident #201503508, which involved increased levels of BTEX in MW-6 located on the northwestern portion of the property. Following remediation, an NFA was issued September 10, 2015. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

One Brownfield, Carpenter Industries Incorporated, 1100 Industries Road, Richmond, AID 56770, is located adjacent to the project area, south of the I-70/US 35 interchange. An IDEM self-audit request letter dated August 10, 2022, indicated that an ERC prohibiting residential, groundwater, excavation, and agricultural development was in currently in place. On July 19, 2007, IDEM issued a NFA determination pursuant to RISC guidance regarding a petroleum release and UST closure. This site is an active facility that is currently undergoing quarterly monitoring. Coordination will be conducted with the IDEM project manager identified in the VFC (Nicole Wheeler, Program Director, nwheeler@idem.in.gov) before RFC.

One Institutional Control site, Carpenter Industries, Inc., 1304 Rose City Boulevard, Richmond, AID 56770, is located adjacent to the project area south of the I-70/US 35 interchange. The site was formerly a bus facility and routinely used paints and petroleum and stored paint, undercoating, and adhesive wastes. An Environmental Restrictive Covenant (ERC) was placed on the property on January 20, 2006. The ERC specifically prohibits agriculture and residential use, the extraction of groundwater, and the removal, excavation, disturbance, and disposal of any soil. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Coordination will be conducted with the IDEM Institutional Controls section (institutionalcontrols@idem.IN.gov) before RFC. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

Two NPDES Facilities are located near or adjacent to the project area:

- Richmond Solar Park 2, 6200 National Road East, Richmond, is adjacent to the project area north of the I-70/US 40 interchange has an active permit. Permit No. INRA05014 was issued February 10, 2020, and is scheduled to terminate on February 9, 2025. Coordination with the permit owner will occur.
- HOME2 SUITES, 5950 National Road East, Richmond, is adjacent to the project area at the I-70/US 40 intersection has an active permit. Permit No. INRA03588 was issued June 17, 2019, and is scheduled to terminate on June 16, 2024. Coordination with the permit owner will occur.

Two NPDES pipe locations are adjacent to the project area. Both pipes are located at XPO Logistics Freight Inc., 3200 West Industries Road, Richmond. The facility is adjacent to the project area at the I-70/US 35 interchange. Coordination with the permit owner will occur.

The 14 hazardous material sites are included as firm environmental commitments. No other hazardous concerns were identified and no further investigation is required.

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Part IV – Permits and Commitments

| |
|--------------------------|
| PERMITS CHECKLIST |
|--------------------------|

Permits (mark all that apply)

Likely Required

Army Corps of Engineers (404/Section10 Permit)

| | |
|-------------------------------|-------------------------------------|
| Nationwide Permit (NWP) | <input type="checkbox"/> |
| Regional General Permit (RGP) | <input type="checkbox"/> |
| Individual Permit (IP) | <input checked="" type="checkbox"/> |
| Other | <input type="checkbox"/> |

IN Department of Environmental Management (401/Rule 5)

| | |
|---|-------------------------------------|
| Nationwide Permit (NWP) | <input type="checkbox"/> |
| Regional General Permit (RGP) | <input type="checkbox"/> |
| Individual Permit (IP) | <input checked="" type="checkbox"/> |
| Isolated Wetlands | <input type="checkbox"/> |
| Construction Stormwater General Permit (Rule 5) | <input checked="" type="checkbox"/> |
| Other | <input type="checkbox"/> |

IN Department of Natural Resources

| | |
|----------------------------|-------------------------------------|
| Construction in a Floodway | <input checked="" type="checkbox"/> |
| Navigable Waterway Permit | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |

Mitigation Required

| | |
|---|-------------------------------------|
| US Coast Guard Section 9 Bridge Permit | <input checked="" type="checkbox"/> |
| Others (Please discuss in the discussion below) | <input type="checkbox"/> |

List the permits likely required for the project and summarize why the permits are needed, including permits designated as "Other."

More than 1 acre of land will be disturbed; therefore, an IDEM Construction Stormwater General Permit is anticipated.

An USACE Section 404 Individual Permit is required.

An IDEM Section 401 Individual Water Quality Certification is required.

Mitigation for stream impacts exceeding 300 linear feet and regulated wetland impacts is anticipated and will be in accordance with the in-lieu fee program.

IDNR CIF Permits will be required for the following water resources: Whitewater River and Wetland 5, Martindale Creek, Nolands Fork, Dry Fork, Greens Fork, Lick Creek, Clear Creek, West Fork of the East Fork of the Whitewater River, Middle Fork of the East Fork of the Whitewater River, and East Fork of the Whitewater River.

If any object will exceed 110 feet in height, regardless of location, a tall structure permit will need to be acquired prior to construction and further coordination will be required with INDOT Aviation.

Applicable recommendations provided by resource agencies are included in the Environmental Commitments section of this document. If permits are found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

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

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

ENVIRONMENTAL COMMITMENTS

List all commitments and include the name of agency/organization requesting/requiring the commitment(s). Listed commitments should be numbered.

Firm:

- 1) 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 Environmental Services Division [ESD] and INDOT Greenfield District)
- 2) If the scope of work or permanent or temporary right-of-way amounts change, the INDOT ESD and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD)
- 3) Wetlands 10, 11, 17, 21B, 38, 39, 43, 48, 49, 55, 61, 65, 67, 78, and 81 and sections of wetlands, streams and rivers outside the construction limits will not be impacted and will be labeled "Do Not Disturb-Environmentally Sensitive Area" on the plans. (INDOT ESD)
- 4) Tree clearing in floodways will be mitigated at a 1:1 ratio, with the exception of the Middle Fork of the East Fork of the Whitewater River, which will be mitigated at a 2:1 ratio. Credits will be purchased in accordance with the in-lieu fee program. (IDNR-DFW)
- 5) Mitigation for stream impacts exceeding 300 linear feet and regulated wetland impacts will be in accordance with the in-lieu fee program. (USACE, IDEM, IDNR)
- 6) No tree clearing over 300 feet from paved surfaces will be permitted without re-coordinating INDOT ESD and USFWS. (USFWS)
- 7) Existing wildlife passages will be maintained in their current locations at the following water resources: Whitewater River, Wetland 5, Martindale Creek, Greens Fork, Nolands Fork, West Fork of the East Fork of the Whitewater River, and Middle Fork of the East Fork of the Whitewater River. Wildlife passages will be created at Dry Branch and the East Fork of the Whitewater River. (IDNR-DFW)
- 8) If any object will exceed 110 feet in height, regardless of location, a tall structure permit will need to be acquired prior to construction and further coordination will be required with INDOT Aviation. (INDOT Office of Aviation)
- 9) General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
- 10) Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
- 11) Lighting AMM 2: When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable. (USFWS)
- 12) Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
- 13) Tree Removal AMM 2: Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS and IDNR-DFW)
- 14) Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
- 15) Tree Removal AMM 4: Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or documented foraging habitat any time of year. (USFWS)

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

- 16) Several structures have shown evidence of use (i.e. nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA) during the inspections. Avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the Migratory Bird Protection RSP, 107-C-273. (INDOT ESD)
- 17) USFWS Bridge/Structure Assessments shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after June 14, 2024, inspections of the structures by a qualified individual, must be performed. Inspections of the structures should check for presence of bats/bat indicators and/or presence of birds. The results of the inspections must indicate no signs of bats or birds. If signs of bats or birds are documented during the inspections, the INDOT District Environmental Manager must be contacted immediately. (INDOT ESD)
- 18) Beard Run, Martindale Creek, West Fork of East Fork Whitewater River, and Whitewater River are listed for E. coli. Workers who are working in or near water with E. coli should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure. (INDOT SAM)
- 19) Nolands Fork and UNT 1 to Nolands Fork are impaired for Impaired Biotic Communities (IBCs). Concerning IBCs, Best Management Practices (BMPs) will be used to avoid further degradation to the streams. (INDOT SAM)
- 20) Whitewater River is impaired for PCBs in fish tissue. Exposure to PCBs in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. Workers will be informed. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary. (INDOT SAM)
- 21) Carpenter Industries Incorporated, 1100 Industries Road, Richmond, AID 56770, is located adjacent to the project area south of the I-70/US 35 interchange. This site is active and currently undergoing quarterly monitoring. The Design-Build Contractor will coordinate with the IDEM project manager, Nicole Wheeler, nwheeler@idem.in.gov, before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 22) Road 1 Shell, 1598 North SR 1, Cambridge City, AID 56028, is located adjacent to the project area, southwest of the I-70/US 1 interchange. A Well Abandonment Report dated December 2, 2015, indicates the presence of seven environmental wells onsite. No evidence of a release was identified. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. The Design-Build Contractor will coordinate with the IDEM project manager identified in the VFC, Nicole Wheeler, nwheeler@idem.in.gov, before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 23) GasAmerica #52 (DBA Speedway 8033), 1589 North SR 1, Centerville, AID 55824, is located adjacent to the project area at the I-70/SR 1 interchange. According to an IDEM letter dated December 28, 2020, this active facility has several violations, but no evidence of a release was reported. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. The Design-Build Contractor will coordinate with the IDEM project manager identified in the VFC, Nicole Wheeler, nwheeler@idem.in.gov, before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 24) INDOT Cambridge City Unit, 14178 Frontage Road, Cambridge City, AID 54316, is located adjacent to the project area, southeast of the I-70/SR 1 interchange. According to a Further Site Investigation (FSI) Report dated March 2007, evidence of a release was discovered during UST closure activities in March 1998. Documentation indicates proper closure sampling and documentation was completed. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. The Design-Build Contractor will coordinate with the IDEM project manager Nawal Hopkins, nhopkins@idem.in.gov, before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 25) Dana Corporation World Technology Center, 1400 Dana Parkway, Richmond, AID 55242, is located adjacent to the project area southwest of the I-70/US 35 interchange. According to a letter dated September 30, 2009, IDEM was notified that Dana Corporation had settled claims filed by the landowner, Hagerstown Land, LLC and IDEM for permit violations. No information beyond 2009 is in the VFC related to this AID. A review of Beacon data indicates that a new address was assigned to the location and a new business occupies the site (Worldwide Wolverine, 1400 Industries Rd., Richmond, AID 115419) however, no information could be located in the VFC. The Design-Build Contractor will coordinate with the IDEM project manager identified in the VFC, Nicole Wheeler, nwheeler@idem.in.gov, before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)

Indiana Department of Transportation

County Wayne Route I-70 Des. No. 2002424

- 26) Love's Country Store, 2698 US 35 North, Richmond, AID 56476, is located adjacent to the project area, northwest of the I-70/US 35 interchange. An Emergency Response Incident was filed on May 25, 2021, that reported a release of oil from on onsite oil-water separator into a retention pond and nearby flooded area. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. The Design-Build Contractor will coordinate with the IDEM project manager identified in the VFC, Nicole Wheeler, nwheeler@idem.in.gov, before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 27) Fast Max/ Sunoco #145 (now Speedway 7005), 2510 Chester Boulevard, Richmond, AID 10490, is located adjacent to the project area south of the project area, at the I-70/US 27 interchange and was formerly the site of a gas station. According to the April 19, 2013, NFA letter, the contamination is located in the northwest corner of the property of the former convenience store. The analytical results from the subsurface soil samples indicate total hydrocarbons (TPH) for gasoline range organics (GRO), benzene, toluene, ethyl benzene, xylenes, and methyl tertiary butyl ether (MTBE) are below IDCLs with the exception of benzene and TPH (GRO) concentrations in several soil samples. Groundwater monitoring showed that contamination has not leached into the groundwater. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater will be necessary and included in the Environmental Consultation Form (ECF). The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 28) Amoco Dealer One-Stop Store, 5801 National Road East, Richmond, AID 54128, is located adjacent to the project area west of the I-70/US 40 interchange. According to an IDEM letter dated April 28, 2022, this active facility has several violations, but no evidence of a release was reported. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. The Design-Build Contractor will coordinate with the IDEM project manager identified in the VFC, Nicole Wheeler, nwheeler@idem.in.gov, before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 29) Shell Food Mart, 5890 East National Road, Richmond, AID 54758, is located adjacent to the project area west of the I-70/US 40 interchange. Correspondence dated January 29, 2015, identified two IDEM LUST release incidents (#199407519 in July 1994 and #200509506 in September 2005). Incident #199407519 involved soil exceedance of total petroleum hydrocarbon (TPH). Incident # 200509506 involved the release of light non-aqueous phase liquid (LNAPL) approximately 10 feet from the east side of the dispenser canopy. A third incident occurred in 2014, Incident #201503508, which involved increased levels of BTEX in MW-6 located on the northwestern portion of the property. Following remediation, an NFA was issued September 10, 2015. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater will be necessary and included in the ECF. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 30) Richmond Solar Park 2, 6200 National Road East, Richmond, is adjacent to the project area north of the I-70/US 40 interchange has an active permit. Permit No. INRA05014 was issued February 10, 2020, and is scheduled to terminate on February 9, 2025. The Design-Build Contractor will coordinate with the permit owner before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 31) HOME2 SUITES, 5950 National Road East, Richmond, is adjacent to the project area at the I-70/US 40 intersection has an active permit. Permit No. INRA03588 was issued June 17, 2019, and is scheduled to terminate on June 16, 2024. The Design-Build Contractor will coordinate with the permit owner before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 32) Two NPDES pipes are located adjacent to the project area at XPO Logistics Freight Inc., 3200 W Industries Road, Richmond. The facility is adjacent to the project area at the I-70/US 35 interchange. The Design-Build Contractor will coordinate with the permit owner before RFC. The Design-Build Contractor shall adhere to the requirements of Section 100 and Section 202 of the Standard Specifications related to Hazardous Materials. (INDOT SAM)
- 33) The INDOT Project Manager will be responsible for ongoing coordination with the City of Richmond, Rose View Transit, and local officials in order to minimize potential impacts to transit service. (INDOT ESD)
- 34) If utility work or work outside of ROW near the cemeteries will be required, re-coordination with INDOT CRO will occur. (INDOT CRO)
- 35) If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, construction in the immediate area of the find will be stopped. If found in Indiana, the INDOT CRO and the IDNR Division of Historic Preservation and Archaeology (DHPA) will be notified immediately. If found in Ohio, the ODOT Office of

Indiana Department of Transportation

County Wayne

Route I-70

Des. No. 2002424

Environmental Services and OHPO will be notified immediately. (INDOT CRO)

- 36) A SPCCP will be developed for the project and maintained throughout construction. The SPCCP will at a minimum comply with INDOT Standard Specifications and Indiana American Water's Wellhead Protection Management Plan. (IDEM)
- 37) A re-evaluation of the *Traffic Noise Impact Analysis* dated July 2023, will occur during final design. If during final design it is determined that conditions have changed such that noise abatement is feasible and reasonable, then abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes. The final report will be provided to the City of Richmond, the Wayne County, Indiana Office of Planning and Zoning, and the Preble County, Ohio Planning Commission. INDOT Environmental Services Division shall be copied on this correspondence. (INDOT ESD)
- 38) The Contractor will evaluate the implementation of protective barriers between Elmhurst Drive and I-70 near mile marker 156. The Contractor will coordinate implementation options with INDOT prior to final plans being approved by INDOT as part of the design build process (INDOT ESD)
- 39) The Contractor will evaluate the implementation of protective barriers between West Cart Road and I-70 from mile markers 151 to 153. The Contractor will coordinate implementation options with INDOT prior to final plans being approved by INDOT as part of the design build process. (INDOT ESD)
- 40) INDOT will coordinate with the City of Richmond on the construction of a shared use path along US 40. (INDOT ESD)

For Further Consideration

- 41) 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. (IDNR-DFW)
- 42) Evaluate wildlife crossings under bridge/culverts projects in appropriate situations. Suitable crossings include flat areas below bridge abutments with suitable ground cover, high water shelves in culverts, amphibian tunnels, and diversion fencing. (IDNR-DFW)
- 43) Impacts to non-wetland forest of one 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 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 inches dbh or greater (5:1 mitigation based on the number of large trees). (IDNR-DFW)
- 44) Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure. (IDNR-DFW)
- 45) Do not construct any temporary runarounds, access bridges, diversions, or pumparounds. (IDNR-DFW)
- 46) Use minimum average 6-inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR-DFW)

Table of Contents

Appendix A: INDOT Supporting Documentation

| | |
|---|------|
| Categorical Exclusion Level Thresholds Table | A-1 |
| Designation Numbers Table | A-2 |
| Purpose and Need (Excerpts)..... | A-3 |
| Bridges within the Project Area: Existing Conditions and Proposed Work | A-31 |
| Culverts within the Project Area: Existing Conditions and Proposed Work | A-32 |

Appendix B: Graphics

| | |
|--|------|
| Project Location Map | B-1 |
| USGS Topographic Map | B-2 |
| 2020 Aerial Map | B-3 |
| Project Photographs | B-10 |
| Permanent Right of Way Impacts | B-13 |
| Project Roadway Plans (Excerpts) | B-14 |
| Project Bridge Plans (Excerpts)..... | B-93 |

Appendix C: Early Coordination

| | |
|---|------|
| Sample Early Coordination Letter | C-1 |
| IDNR-DFW Letter | C-5 |
| IGWS Electronic Letter | C-9 |
| NRCS Letter | C-12 |
| NRCS Letter #2 and Form AD-1006 | C-13 |
| INDOT Office of Aviation Email | C-15 |
| Indiana University Email | C-16 |
| USFWS Official Species List | C-17 |
| USFWS Concurrence Verification Letter | C-33 |
| Bridge Inspection Summary Table | C-48 |
| Culvert Inspection Summary Table | C-50 |
| IDNR Email..... | C-59 |

Appendix D: Section 106 of the National Historic Preservation Act

| | |
|--|------|
| MPPA Project Submittal and Assessment Form (Excerpts)..... | D-1 |
| OHPO and ODOT Office of Environmental Services Coordination Emails | D-10 |

Appendix E: Red Flag Investigation and Hazardous Materials

| | |
|--|-----|
| Red Flag Investigation (Excerpts)..... | E-1 |
|--|-----|

Appendix F: Water Resources

| | |
|---|------|
| IDNR Floodplain Index Map | F-1 |
| IDNR Floodplain Maps | F-2 |
| National Wetlands Inventory Index Map | F-5 |
| National Wetlands Inventory Maps | F-6 |
| Waters of the US Report (Excerpts) | F-10 |

Appendix G: Public Involvement

Notice of Entry Letter G-1

Public Involvement Plan (Excerpts) G-3

January 2023 Public Meeting Notice G-20

January 2023 Public Meeting Reminder G-21

January 2023 PIM Advertisement from the Palladium-Item G-23

January 2023 PIM Facebook Advertisement G-24

January 23, 2023 PIM Sign-in Sheets G-25

January 24, 2023 Virtual PIM Attendance Register G-34

January 23 and 24, 2023 PIM Presentation Slides G-35

January 23, 2023 PIM Boards G-40

January 2023 PIM Handout – English & Spanish G-42

January 2023 PIM Comment Form – English & Spanish G-44

January 23, 2023 PIM Public Comments G-48

January 24, 2023 Virtual PIM Comments G-70

January 23, 2023 PIM Summary G-71

January 24, 2023 PIM Summary G-74

Whitewater Community TV Recording of the January 23, 2023 PIM G-77

INDOT4U Comments G-78

Revive I-70 Questionnaire Results G-80

August 2023 PIM Notification Issued on July 26, 2023 G-94

August 2023 Public Meeting Notice G-96

August 2023 PIM Advertisement form the Palladium-Item G-97

August 2023 PIM Facebook Advertisement G-98

August 2023 Public Meeting Reminder G-99

August 9, 2023 PIM Sign-in Sheets G-101

August 10, 2023 Virtual PIM Attendance Register G-106

August 2023 PIM Handout – English & Spanish G-107

August 2023 PIM Comment Form – English & Spanish G-109

August 9 and 10, 2023 PIM Presentation Slides G-111

August 9, 2023 PIM Boards G-116

August 9, 2023 PIM Summary G-119

August 9, 2023 PIM Public Comments G-123

August 10, 2023 PIM Summary G-133

August 10, 2023 PIM Comments G-136

Legal Notice of Public Hearing and Mailing List G-137

Palladium-Item Affidavit and Legal Notice G-142

October 4, 2023 Public Hearing Sign-in Sheets G-150

October 4, 2023 Public Hearing Welcome Letter English & Spanish G-152

October 4, 2023 Public Hearing Handout English & Spanish G-154

October 4, 2023 Public Hearing Comment Form English & Spanish G-156

October 4, 2023 Public Hearing Display Boards G-158

October 4, 2023 Public Hearing Presentation Slides G-163

October 4, 2023 Public Hearing Transcript G-169

Public Hearing Comments Submitted through the Project Website G-172

Public Hearing Comments and Responses Matrix G-174

Appendix H: Air Quality

STIP FY 2024-2028 (Excerpts) H-1

Appendix I: Engineering Studies and Other Documents

Project Intent Memo I-1
Abbreviated Engineers Report (Excerpts) I-11
Engineering Assessment (Excerpts)..... I-22
Engineer’s Report (Excerpts)..... I-43
Call Application Report (Mini Scope) I-74
LWCF County Property List for Indiana I-78
Environmental Justice Analysis I-79
INDOT Environmental Analysis Email I-93
Utility Coordination Log I-94
INDOT and Cardinal Greenway, Inc. Joint Use and Maintenance Agreement I-95

Appendix J: Noise Analysis

Traffic Noise Impact Analysis (Excerpts) J-1

Appendix A

INDOT Supporting Documentation

Categorical Exclusion Level Thresholds

| | PCE | Level 1 | Level 2 | Level 3 | Level 4 ¹ |
|---|--|---|-------------------------------------|------------------------------|--|
| Section 106 | Falls within guidelines of Minor Projects PA | “No Historic Properties Affected” | “No Adverse Effect” | - | “Adverse Effect” Or Historic Bridge involvement ² |
| Stream Impacts³ | No construction in waterways or water bodies | < 300 linear feet of stream impacts | ≥ 300 linear feet of stream impacts | - | USACE Individual 404 Permit ⁴ |
| Wetland Impacts³ | No adverse impacts to wetlands | < 0.1 acre | - | < 1.0 acre | ≥ 1.0 acre |
| Right-of-way⁵ | Property acquisition for preservation only or none | < 0.5 acre | ≥ 0.5 acre | - | - |
| Relocations⁶ | None | - | - | < 5 | ≥ 5 |
| Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)* | “No Effect”, “Not likely to Adversely Affect” (With select AMMs ⁷) | “Not likely to Adversely Affect” (With any AMMs or commitments) | - | “Likely to Adversely Affect” | Project does not fall under Species Specific Programmatic ⁸ |
| Threatened/Endangered Species (Any other species)* | Falls within guidelines of USFWS 2013 Interim Policy or “No Effect” | “Not likely to Adversely Affect” | - | - | “Likely to Adversely Affect” |
| Environmental Justice | No disproportionately high and adverse impacts | - | - | - | Potential ⁹ |
| Sole Source Aquifer | No Detailed Groundwater Assessment | - | - | - | Detailed Groundwater Assessment |
| Floodplain | No Substantial Impacts | - | - | - | Substantial Impacts |
| Section 4(f) Impacts | None | - | - | - | Any ¹⁰ |
| Section 6(f) Impacts | None | - | - | - | Any |
| Permanent Traffic Alteration | None | - | - | - | Any |
| Noise Analysis Required | No | - | - | - | Yes |
| Air Quality Analysis Required | No | - | - | - | Yes ¹¹ |
| Approval Level | Concurrence by DE or ESD | DE or ESD | DE or ESD | DE and/or ESD | DE and/or ESD; and FHWA |
| <ul style="list-style-type: none"> • District Env. (DE) • Env. Serv. Div. (ESD) • FHWA | | | | | |

¹ Coordinate with INDOT Environmental Services Division. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.

² Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.

³ Total permanent impacts to streams (linear feet) and wetlands (acres).

⁴ US Army Corps of Engineers Individual 404 Permit

⁵ Total permanent and temporary right-of-way. This does not include reacquisition of existing apparent right-of-way.

⁶ If any relocations are within an area with a known or suspected Environmental Justice (EJ) or disadvantaged population, or has greater than 5 relocations, a conversation with FHWA, through INDOT ESD, is needed to confirm NEPA classification and outreach plan for the project.

⁷ Avoidance and Mitigation Measures (AMMs) determined by the IPAC determination key to be required that are not tree AMMs, bridge AMMs, or structure AMMs.

⁸ Projects that do not fall under a Species Specific Programmatic and results in a “Likely to Adversely Affect”. Other findings can be processed as a lower-level CE.

⁹ Potential for causing a disproportionately high and adverse impact.

¹⁰ Section 4(f) use resulting in an Individual, Programmatic, or *de minimis* evaluation. The only exception is a *de minimis* evaluation for historic properties (Effective January 2, 2020). If a historic property *de minimis* and no other use, mark the *None* column.

¹¹ Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

* Includes the threatened/endangered species critical habitat

Note: Substantial public or agency controversy may require a higher-level NEPA document.

DESIGNATION NUMBERS

| Designation | Project Description | Type |
|-------------|---|---------|
| 2002424* | I-70 from West of SR1 to West of Centerville Rd. and All Culverts | Road |
| 2002422 | I-70 from West of Centerville Rd. to West of US27 | Road |
| 2002423 | I-70 from West of US27 to OH State Line | Road |
| 2200762 | I70 EB over Whitewater River | Bridge |
| 2200763 | I70 WB over Whitewater River | Bridge |
| 2002426 | I70 WB over Whitewater River Overflow | Bridge |
| 2002434 | I70 EB over Whitewater River Overflow | Bridge |
| 2002427 | I70 WB over Martindale Creek | Bridge |
| 2002567 | I70 EB over Martindale Creek | Bridge |
| 2002428 | I70 EB over Jacksonburg Rd. | Bridge |
| 2002429 | I70 WB over Jacksonburg Rd. | Bridge |
| 2002430 | I70 EB over Plum Creek | Bridge |
| 2002431 | I70 WB over Plum Creek | Bridge |
| 2002432 | I70 EB over Greens Fork | Bridge |
| 2002433 | I70 WB over Greens Fork | Bridge |
| 2002575 | Washington Rd. over I70 | Bridge |
| 2002436 | I70 EB over Nolands Fork | Bridge |
| 2002437 | I70 WB over Nolands Fork | Bridge |
| 2002574 | CR40 over I70 | Bridge |
| 2002438 | I70 EB over NSRR | Bridge |
| 2002439 | I70 WB over NSRR | Bridge |
| 2002440 | I70 EB over Round Barn Rd. | Bridge |
| 2002441 | I70 WB over Round Barn Rd. | Bridge |
| 2002442 | I70 EB over Clear Creek | Bridge |
| 2002443 | I70 WB over Clear Creek | Bridge |
| 2002445 | US35 NB over I70 EB/WB | Bridge |
| 2002446 | US35 SB over I70 EB/WB | Bridge |
| 2002447 | I70 EB over Cardinal Greenway | Bridge |
| 2002448 | I70 WB over Cardinal Greenway | Bridge |
| 2002449 | I70 EB over CR 500 E Old SR 627 (Union Pike) | Bridge |
| 2002450 | I70 WB over CR 500 E Old SR 627 (Union Pike) | Bridge |
| 2002451 | I70 EB over W FK/E Fk Whitewater River | Bridge |
| 2002452 | I70 WB over W FK/E Fk Whitewater River | Bridge |
| 2002453 | I70 EB over M FK/E Fk Whitewater River | Bridge |
| 2002454 | I70 WB over M FK/E Fk Whitewater River | Bridge |
| 2002573 | CR38 (Smyrna Rd.) over I70 | Bridge |
| 2002565 | I70 EB over SR121 | Bridge |
| 2002566 | I70 WB over SR121 | Bridge |
| 2002455 | I70 EB over E FK/E FK Whitewater River | Bridge |
| 2002456 | I70 WB over E FK/E FK Whitewater River | Bridge |
| 2002457 | I70 EB over Access Road | Bridge |
| 2002458 | I70 WB over Access Road | Bridge |
| 2002484 | I70 WB over US40 | Bridge |
| 2002485 | I70 EB over US40 | Bridge |
| 2002564 | Small Structure Pipe Lining | Culvert |
| 2002568 | Small Structure Replacement | Culvert |
| 2002569 | Small Structure Replacement | Culvert |
| 2002570 | Small Structure Replacement | Culvert |
| 2002571 | Small Structure Replacement | Culvert |
| 2200807 | US 27 Concrete Pavement Restoration | Road |

* - Lead Des. No.

April 25, 2023

MEMORANDUM

To: Nathan Riggs, INDOT
From: Juliet Port and Jennifer Graf, Parsons

RE: Purpose and Need
Revive I-70
Wayne County
Des. 2002424 (Lead)

Introduction

The Indiana Department of Transportation (INDOT), with federal funding from the Federal Highway Administration (FHWA), plans to proceed with a roadway improvement project along a 21-mile section of Interstate 70 (I-70) in Wayne County, Indiana, from approximately 1.5 miles west of the I-70/State Road (SR) 1 interchange to approximately the Indiana/Ohio State Line. The project area includes six interchanges and 47 bridges. Existing and proposed conditions were summarized in the project's August 17, 2022, early coordination letter (ECL), provided in the Attachments, pages 1 to 13.

The purpose of this memorandum is to establish a draft purpose and need as part of this project's environmental analysis, planning, and design. This project requires an Interstate Access Document (IAD) for proposed modifications to the I-70 and US 40 interchange, which is currently under development. Following FHWA's "Determination of Engineering and Operational Acceptability", this preliminary draft purpose and need statement will be included in the draft National Environmental Policy Act (NEPA) document.

Preliminary Purpose and Need

NEEDS

The needs for this project stem from existing pavement conditions and geometric deficiencies within the project area, as well as safety and congestion issues along this 22-mile section of I-70.

Pavement Conditions

Pavement conditions for I-70 from 7.65 miles east of SR 1 to 0.62 mile west of US 27 are documented in the *Engineering Assessment* report, amended July 13, 2020 (Amended EA). The *Abbreviated Engineers* report, amended July 13, 2020, assessed I-70 from 0.47-mile west of SR 1 to 7.65 miles east of SR 1. Additionally, pavement conditions at select ramps at the I-70 and SR 227 interchange, and the I-70 and US 40 interchange, were evaluated in a *Geotechnical Exploration Report* dated June 26, 2019. Referenced excerpts are provided in the Attachments, pages 14 to 25.

These sections of I-70 were originally constructed with reinforced cement concrete pavement between 1962 and 1963. From circa 1981 to 2015, segments of I-70 within the project area received various maintenance treatments such as asphalt overlays and resurfacing. The existing 60-year old concrete pavement is now showing age-related distress such as joint failure, polishing, faulting, and transverse cracking, as well as poor rideability. At the interchange ramps, transverse cracking consistent with joint spacing was noted in the existing concrete pavement. There were also voids and stripping observed along I-70 throughout the project area.

The International Roughness Index (IRI) is a measure of ride quality. An IRI measurement of 95 inches per mile (in/mi) or below is considered “good” and new pavements should be below 70 in/mi. Pavement conditions for the majority of I-70, between 0.62-mile west of US 27 and 0.26-mile east of US 40, were documented in an INDOT *Pavement Scoping Application* dated September 8, 2020. The IRI for this section of I-70 was reported to be 123 in/mi (Attachments, pages 26 and 27).

Geometric Deficiencies

Geometric deficiencies were evaluated in INDOT’s *Project Intent Memo* dated January 13, 2021 (Attachments, pages 28 to 30). Within this section of I-70, most of the existing ramp acceleration and deceleration lanes and merge/diverge points do not meet current Indiana Design Manual (IDM) standards, and mainline shoulder widths are too narrow in many locations. For example, the eastbound acceleration lane at SR 1 is 350 feet long, which is below the 600-foot minimum required per the IDM (Attachments, page 30). There are also specific operational issues associated with the acceleration/deceleration lanes and loop ramps at both the I-70 and US 35/Williamsburg Pike interchange and the I-70 and US 40 interchange. A table of geometric deficiencies from the *Project Intent Memo* is provided on page 30 of the Attachments.

Safety

The four-lane sections of I-70 across Indiana, have higher than average index values for crash rates and/or crash severity, based on functional class and current traffic volumes. According to the 2022 *I-65 and I-70 Safety and Mobility Needs Summary* (Attachments, pages 31 to 41), approximately 19 percent of I-70 crash indices are in the medium or high categories, which indicates potential safety issues (Attachments, page 34).

The 2023 *Revive I-70 Traffic and Safety Analysis* assessed existing safety conditions on I-70 within the project area using five years of crash data from 2017 through 2021. A total of 735 crashes over the five-year period were analyzed. The following table shows the I-70 mainline crash data by manner of collision and crash severity. This includes crashes on the mainline at on-ramp/off-ramp merge/diverge points. There were nine crashes on the US 35 interchange ramps with three involving injuries. There were eight crashes on the US 40 interchange ramps with four involving injuries.

I-70 Mainline Crashes by Manner of Collision and Severity

| Manner of Collision | Crash Severity | | | | TOTAL |
|---------------------|----------------------------|-----------------------------|-------------------------|----------|------------|
| | Property Damage Only (PDO) | Injury (non-incapacitating) | Injury (incapacitating) | Fatality | |
| Angle | 13 | 0 | 2 | 0 | 15 |
| Head On | 2 | 1 | 0 | 0 | 3 |
| Other | 60 | 1 | 12 | 0 | 73 |
| Out of Control | 228 | 24 | 31 | 4 | 287 |
| Rear End | 123 | 24 | 15 | 2 | 164 |
| Sideswipe | 179 | 5 | 9 | 0 | 193 |
| TOTAL | 605 | 55 | 69 | 6 | 735 |

Source: *Revive I-70 Traffic and Safety Analysis, March 2023*

The mainline crashes in the I-70 corridor during the five-year period were plotted and heat maps were created. Separate heat maps were created for the EB and WB directions of travel on I-70 (Attachments, page 42). The heat maps highlight areas of the corridor with the highest crash densities indicating hotspots where crashes have occurred most frequently over the five-year period (2017-2021). There is crash activity throughout the corridor including the Richmond area and areas to the west. In the EB direction of travel the largest hotspot is at the US 35 interchange. This

corresponds to the area containing the EB weaving section between the loop ramps. A secondary EB hot spot is located between the US 27 and the SR 227 interchanges.

In the WB direction the largest hotspots are at the US 40 and US 27 interchanges. Secondary WB hot spots are located between the US 40 and SR 227 interchanges, and between the US 27 and the US 35 interchanges.

The 2023 *Revive I-70 Traffic and Safety Analysis* documented an analysis of crash frequency and crash severity performed using INDOT’s Road Hazard Analysis Tool (RoadHAT) version 4.1. The I-70 corridor was divided into mainline segments and interchange segments. The interchange segments consider the area contained within the outside ramps and an additional 1,500-foot area of influence upstream and downstream. The segments between the interchanges are analyzed as mainline segments. The RoadHAT software considers the number and severity of crashes (in terms of injuries and fatalities), the exposure (average annual daily traffic [AADT]), and the length of the segment. These data are compared to expected crashes from similar highway segments averaged across the state. The RoadHAT software calculates two indices, which indicate the number of standard deviations that a particular segment’s safety performance is above or below the expected number of crashes for similar segments in Indiana. An index above 0.0 is considered elevated crash activity in terms of frequency or severity and an index 1.0 or above is considered substantially elevated. The index of crash frequency (ICF) indicates the frequency of all crashes within a segment and the index of crash cost (ICC) indicates the severity of all crashes within a segment. The crash data from 2017 through 2021 were used for this analysis with one exception. Because of ongoing construction activity between the US 40 interchange and the SR 227 interchange during 2017 and 2018, those two years of data were not included in the analysis for the four segments at the eastern edge of the corridor (as noted in the table below). All other segments used the full five years of crash data.

The results of the RoadHAT analysis for the Revive I-70 corridor are presented in the following table and in figures located on page 43 of the Attachments. There is elevated crash activity throughout the corridor, including west of Richmond. Ten of the segments have elevated indices for either ICF, ICC, or both. The segment between the SR 227 interchange and the US 40 interchange shows the highest crash frequency indices in the corridor in both the EB and WB directions of travel, at 2.06 and 2.97 respectively.

RoadHAT Results: Crash Frequency and Crash Severity

| Direction of Travel | Segment Description | Index of Crash Frequency (ICF) | Index of Crash Cost (ICC) | Number of Crashes (2017 – 2021) | | |
|---------------------|----------------------------|--------------------------------|---------------------------|------------------------------------|--------------------------------|----------------------------|
| | | | | Fatal & Incapacitating Injury (FI) | Non-Incapacitating Injury (NI) | Property Damage Only (PDO) |
| EB | West Project Limit to SR 1 | -0.51 | -0.53 | 1 | 3 | 16 |
| EB | Interchange - SR 1 | -0.59 | -0.34 | 3 | 2 | 25 |
| EB | SR 1 to Centerville | -0.62 | -0.84 | 6 | 4 | 85 |
| EB | Interchange - Centerville | -0.33 | 0.07 | 4 | 3 | 28 |
| EB | Centerville to US 35 | 1.63 | -0.2 | 3 | 0 | 47 |
| EB | Interchange - US 35 | -0.86 | -1.46 | 2 | 2 | 52 |
| EB | US 35 to US 27 | -0.01 | -1.11 | 0 | 1 | 16 |
| EB | Interchange - US 27 | -0.74 | -0.99 | 2 | 3 | 38 |
| EB | US 27 to SR 227 | 1.59 | 1.4 | 4 | 1 | 30 |
| EB | Interchange - SR 227 | -1.24 | -1.04 | 2 | 0 | 5 |
| EB | SR 227 to US 40* | 2.06 | 1.31 | 5 | 3 | 27 |

| Direction of Travel | Segment Description | Index of Crash Frequency (ICF) | Index of Crash Cost (ICC) | Number of Crashes (2017 – 2021) | | |
|---------------------|---------------------------------|--------------------------------|---------------------------|------------------------------------|--------------------------------|----------------------------|
| | | | | Fatal & Incapacitating Injury (FI) | Non-Incapacitating Injury (NI) | Property Damage Only (PDO) |
| EB | Interchange - US 40* | 0.49 | 0.56 | 1 | 2 | 7 |
| WB | Interchange - US 40* | -0.55 | -0.24 | 2 | 4 | 24 |
| WB | US 40 to SR 227* | 2.97 | 0.14 | 1 | 6 | 38 |
| WB | Interchange - SR 227 | -1.29 | -1.49 | 1 | 0 | 4 |
| WB | SR 227 to US 27 | -0.11 | 0.42 | 2 | 0 | 13 |
| WB | Interchange - US 27 | -0.70 | -1.33 | 1 | 2 | 40 |
| WB | US 27 to US 35 | 0.42 | 1.83 | 7 | 1 | 15 |
| WB | Interchange - US 35 | -1.09 | -0.65 | 6 | 1 | 22 |
| WB | Interchange - WB Weigh Station | -1.06 | -1.55 | 1 | 0 | 18 |
| WB | WB Weigh Station to Centerville | 1.34 | 1.46 | 7 | 1 | 32 |
| WB | Interchange - Centerville | -1.19 | -1.78 | 1 | 0 | 15 |
| WB | Centerville to Welcome Center | -1.07 | -1.02 | 0 | 0 | 5 |
| WB | Interchange - Welcome Center | -1.29 | -1.69 | 0 | 1 | 8 |
| WB | Welcome Center to SR 1 | -0.18 | 0.10 | 8 | 12 | 83 |
| WB | Interchange - SR1 | -0.90 | -1.21 | 1 | 0 | 19 |
| WB | SR 1 to West Project Limit | -0.55 | 0.00 | 2 | 1 | 15 |

* 2017 and 2018 data excluded for these segments due to construction.
Source: Revive I-70 Traffic and Safety Analysis, March 2023

Two other studies analyzed safety conditions within the project area using RoadHat. According to INDOT’s 2022 *I-65 and I-70 Safety and Mobility Needs Summary*, the following segments of I-70 within the project area have an ICC value close to or greater than 1 between 2017 and 2019 (Attachments, page 40):

- Wilbur Wright Road to SR 1
- US 27 to SR 227 / Middleboro Pike

The Amended EA included a safety analysis on the US 35 to eastbound I-70 acceleration ramp lane at the I-70 and US 35 cloverleaf interchange. The results of the RoadHAT analysis for EB I-70 at the US 35 interchange provided an ICF of 2.18 and an ICC of 1.29 (Attachments, page 18).

INDOT studied crash data for rural interstate facilities in Indiana that were increased from two lanes in each direction to three lanes in each direction. Nine locations covering over 77 miles of interstate and over 5,600 crashes were analyzed over a 14-year period between 2005 and 2019. These locations included a total of 187.1-mile-years (8,434,000,000 vehicle miles traveled). An analysis of crash data before and after the lane expansion was conducted using an equal number of years before and after construction (a maximum of 5 years and a minimum of 1 year were used). The crashes were on interstate mainlines and included crashes that occurred near on- and off-ramps. Using the before and after data, the analysis showed the following decreases in crash rates (crashes

per 100 million vehicle miles traveled) when expanding an interstate from two lanes to three lanes in each direction:

- Reduction in Fatal Crash Rate (*Small Sample Size*) = 32%
- Reduction in All Injury Crash Rate = 15%
- Reduction in Injury + Fatal Crash Rate = 16%
- Reduction in PDO Crash Rate = 20%
- Reduction in All Crash Rate = 19%

Congestion

Annual average daily traffic on I-70 is 39,600 vehicles per day within the project area and approximately 50 percent of these vehicles are trucks. Substantial congestion along the I-70 corridor has been addressed in INDOT's transportation plans. INDOT's 2018 *Indiana Multi-Modal Freight Plan Update* identifies I-70 from the Illinois State Line to the Ohio State Line as a heavily traveled freight and passenger corridor that experiences significant congestion (Attachments, pages 44 to 46). INDOT's 2045 *Long-Range Transportation Plan* identifies the I-70 corridor as critical to the state's mobility and economic activity. The long-range plan recommends maximizing its performance to ensure the efficient movement of people and goods, increase regional connectivity and freight truck mobility, and plan for the future (Attachments, pages 47 to 50).

During normal traffic flow conditions, congestion meets levels of service (LOS) criteria on I-70 within the project area. The traffic analysis presented in the 2023 *Revive I-70 Traffic and Safety Analysis* determined that existing LOS range between A and C and future (2048) LOS will range between A and C within the project area. However, with high truck percentages and projected growth, future 2048 LOS is projected to be LOS C in multiple segments during the PM peak hour. Levels of Service is a performance measure that represents quality of service, measured on an A – F scale, with LOS A representing a free flow of traffic and LOS F representing a breakdown in flow (e.g., start-and-stop congestion). The project area is both rural and urban. The minimum criteria during peak travel hours (i.e., rush hour) is LOS C in the rural section and LOS D in the urban area. The *Highway Capacity Manual (7th Edition)* description of LOS C notes that freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. This condition is exacerbated by the high truck volumes in the I-70 corridor and the resultant platooning that requires more following time and then passing maneuvers in order to travel at desired speeds.

Queuing Due to Maintenance of Traffic

Excessive queuing occurs on I-70 when there are lane closures due to crashes, maintenance work, and other events. Lane closures on this four-lane section of I-70 result in traffic back-ups beyond INDOT policy limits. The Indiana Highway Congestion Policy (IHCP) defines acceptable queuing at interstate work zones, based on the length of the queue and the time it remains in place. According to INDOT's 2022 *I-65 and I-70 Safety and Mobility Needs Summary*, on about 85 percent of the I-70 four-lane sections, a lane closure will result in queues beyond INDOT policy limits more than 50 percent the time (Attachments, pages 31 to 41). Work zones requiring lane closure are common since routine maintenance is required on I-70. INDOT's queue analysis tool was used to identify expected queues from closing one lane in each direction on four-lane segments of I-70. The queue analysis determined that the traffic backups exceed INDOT's policy limits 98 to 100 percent of the time within the project area as presented in the table below. It is important to note that work zone lane closures are only allowed at night. The queue analysis is equally applicable for crashes and other incidents where lane closure is required.

Indiana Highway Congestion Policy Queue Analysis Results

| I-70 Segment | Length (miles) | EB Queues | | WB Queues | |
|----------------------------|----------------|--------------------------|-----------------------------|--------------------------|-----------------------------|
| | | % Time Over Policy Limit | % Time Greater Than 5 miles | % Time Over Policy Limit | % Time Greater Than 5 Miles |
| Wilbur Wright Road to SR 1 | 6.3 | 98 | 85 | 100 | 87 |
| SR 1 to Centerville Road | 7.9 | 98 | 85 | 100 | 87 |
| Centerville Road to US 35 | 3.8 | 98 | 85 | 100 | 87 |
| US 35 to US 27 | 2.0 | 100 | 95 | 100 | 95 |
| US 27 to SR 227 | 1.5 | 100 | 95 | 100 | 95 |

Source: I-65 and I-70 Safety and Mobility Needs Summary, July 2022

Travel time reliability for trucks is also a concern on I-70. The *Indiana Multimodal Freight Plan Update 2018* (Multimodal Freight Plan) assesses truck travel time reliability (TTTR), which is an indicator of a highway system’s ability to consistently meet demand for travel. The TTTR index (TTTRI) is a measure of how much additional time shippers must plan for in order to arrive on-time 95 percent of the time. FHWA defines TTTI as “the consistency or dependability in travel times, as measured from day-to-day and/or across different times of day”. Federal performance measures require states to report the worst TTTR Index across five times of day. The segment of I-70 through Richmond is documented as unreliable in the Multimodal Freight Plan (Attachments, page 51).

PURPOSE

The purpose of the Revive I-70 project is to:

- Restore the pavement to extend the service life of these sections of roadway to at least 30 years, and provide a ride quality with an IRI of at least 95 in/mi;
- Correct geometric deficiencies to meet current IDM standards;
- Reduce the frequency and severity of crashes;
- Fulfill state and federal long-range plans for increasing mobility; and
- Improve truck travel time reliability.



PROJECT INTENT MEMO

I-70 from SR 1 to Ohio State Line

Wayne County

13 January 2021

Corridor Development Office

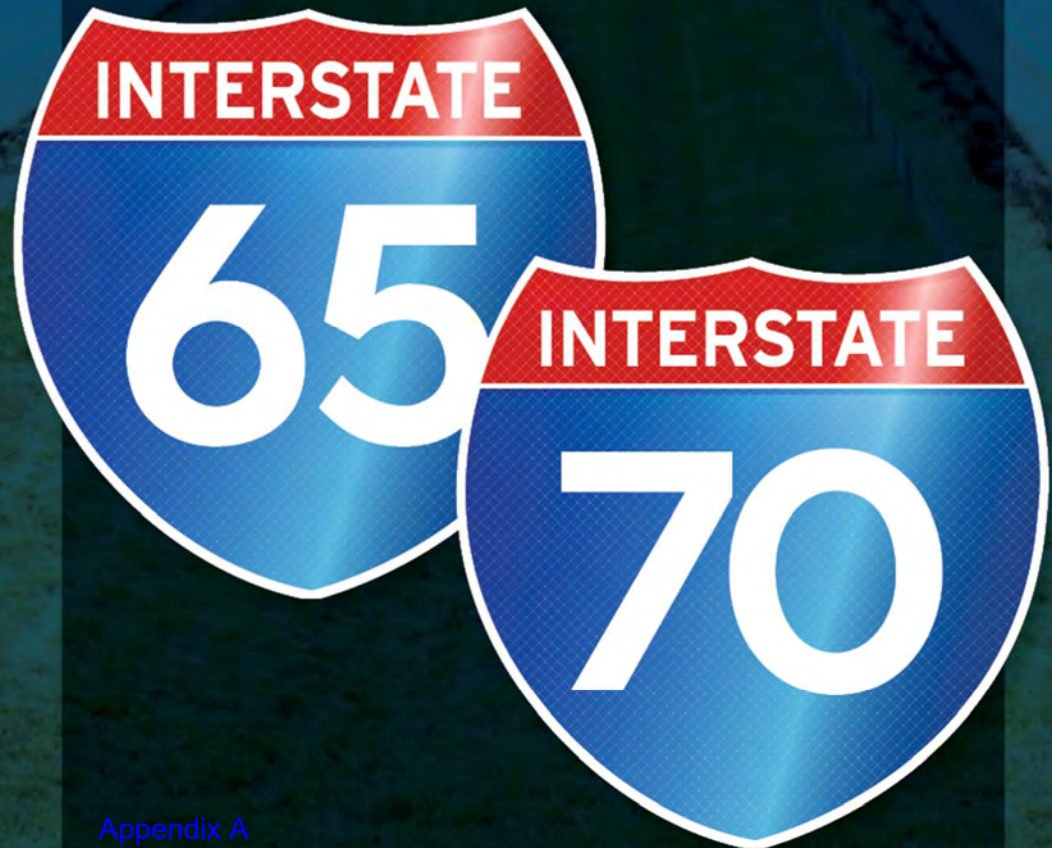
Traffic Engineering Division

Table of Geometric Deficiencies

| Interchange | Direction | Element | IDM Figure | Approx. Existing Length (ft) | Min. required per IDM (ft) | Notes |
|----------------|-----------|-----------------------------|------------|------------------------------|----------------------------|--|
| SR 1 | EB | Deceleration Lane Taper | 48-4A | 150 | 300 | |
| SR 1 | EB | Exit Ramp Gore | 48-4A | 200 | 400 | May require ramp lane and taper modifications to address |
| SR 1 | EB | Acceleration Lane Taper | 48-4C | 350 | 600 | |
| SR 1 | WB | Deceleration Lane Taper | 48-4A | 200 | 300 | |
| SR 1 | WB | Exit Ramp Gore | 48-4A | 200 | 400 | May require ramp lane and taper modifications to address |
| SR 1 | WB | Acceleration Lane Taper | 48-4C | 400 | 600 | |
| Rest Area | WB | Deceleration Lane Taper | 48-4A | 100 | 300 | |
| Rest Area | WB | Acceleration Lane Taper | 48-4C | 300 | 600 | |
| Centerville Rd | EB | Deceleration Lane Taper | 48-4A | 100 | 300 | |
| Centerville Rd | EB | Exit Ramp Gore | 48-4A | 200 | 400 | May require ramp lane and taper modifications to address |
| Centerville Rd | EB | Entrance Ramp Gore | 48-4C | 150 | 200 | May require ramp lane and taper modifications to address |
| Centerville Rd | EB | Acceleration Lane Taper | 48-4C | 200 | 600 | |
| Centerville Rd | WB | Deceleration Lane Taper | 48-4A | 100 | 300 | |
| Centerville Rd | WB | Exit Ramp Gore | 48-4A | 200 | 400 | May require ramp lane and taper modifications to address |
| Centerville Rd | WB | Entrance Ramp Gore | 48-4D | 150 | 200 | May require ramp lane and taper modifications to address |
| Centerville Rd | WB | Acceleration Lane Taper | 48-4C | 200 | 600 | |
| Weigh Station | WB | Acceleration Lane Taper | 48-4C | 300 | 600 | |
| US 35 | EB | Deceleration Lane Taper | 48-4A | 100 | 300 | |
| US 35 | EB | Exit Ramp Gore | 48-4A | 200 | 400 | May require ramp lane and taper modifications to address |
| US 35 | EB | Loop Ramp Entrance Gore | 48-4C | 100 | 200 | May require loop ramp to be realigned to join I-70 at shallower angle |
| US 35 | EB | Loop Ramp Exit Gore | 48-4A | 100 | 400 | May require loop ramp to be realigned to leave I-70 at shallower angle |
| US 35 | EB | Acceleration Lane Taper | 48-4C | 300 | 600 | |
| US 35 | WB | Deceleration Lane Taper | 48-4A | 100 | 300 | |
| US 35 | WB | Exit Ramp Gore | 48-4A | 220 | 400 | May require ramp lane and taper modifications to address |
| US 35 | WB | Deceleration Lane Taper | 48-4A | 150 | 300 | |
| US 35 | WB | Deceleration Lane Length | 48-4A | 210 | 400 | Will likely require US 35 SB bridge reconstruction to address |
| US 35 | WB | Exit Ramp Gore | 48-4A | 70 | 400 | May require loop ramp to be realigned to leave I-70 at shallower angle |
| US 35 | WB | Entrance Ramp Gore | 48-4E | 160 | 300 | |
| US 35 | WB | Second ramp lane drop | 48-4E | 400 | 700 | |
| US 35 | WB | Second ramp lane drop taper | 48-4E | 340 | 600 | |
| SR 27 | EB | Deceleration Lane Taper | 48-4A | 100 | 300 | |
| SR 27 | EB | Acceleration Lane Taper | 48-4C | 350 | 600 | |
| SR 27 | WB | Deceleration Lane Taper | 48-4A | 100 | 300 | |
| SR 27 | WB | Acceleration Lane Taper | 48-4C | 200 | 600 | |
| SR 227 | EB | Deceleration Lane Taper | 48-4A | 200 | 300 | |
| SR 227 | EB | Exit Ramp Gore | 48-4A | 120 | 400 | May require ramp lane and taper modifications to address |
| SR 227 | EB | Entrance Ramp Gore | 48-4C | 75 | 200 | May require loop ramp to be realigned to join I-70 at shallower angle |
| SR 227 | EB | Acceleration Lane Taper | 48-4C | 200 | 600 | |
| SR 227 | WB | Deceleration Lane Taper | 48-4A | 200 | 300 | |
| SR 227 | WB | Deceleration Lane Length | 48-4A | 560 | TBD | Potentially lengthen deceleration lane due to tight loop ramp? |
| SR 227 | WB | Exit Ramp Gore | 48-4A | 100 | 400 | May require loop ramp to be realigned to leave I-70 at shallower angle |
| SR 227 | WB | Entrance Ramp Gore | 48-4C | 100 | 200 | |
| SR 227 | WB | Acceleration Lane Length | 48-4C | 250 | 400 | |
| SR 227 | WB | Acceleration Lane Taper | 48-4C | 175 | 300 | |

I-65 and I-70 Safety and Mobility Needs Summary

INDOT
July 1, 2022





6 I-70 EAST

I-70 East is a major motor carrier freight route between Indianapolis and Columbus, Ohio. Traffic operations and mobility are relatively good in this corridor, although the level of service is affected by truck volumes. Commercial vehicles comprise up to 50% of the traffic using the I-70 east corridor.

The study corridor of I-70 East is 67 miles long, from I-465 in Indianapolis to the Ohio state line near Richmond. Except for a six-lane section just east of I-465, the entire corridor is served by four lanes, as shown in **Figure 11**.

Traffic Operations and Mobility

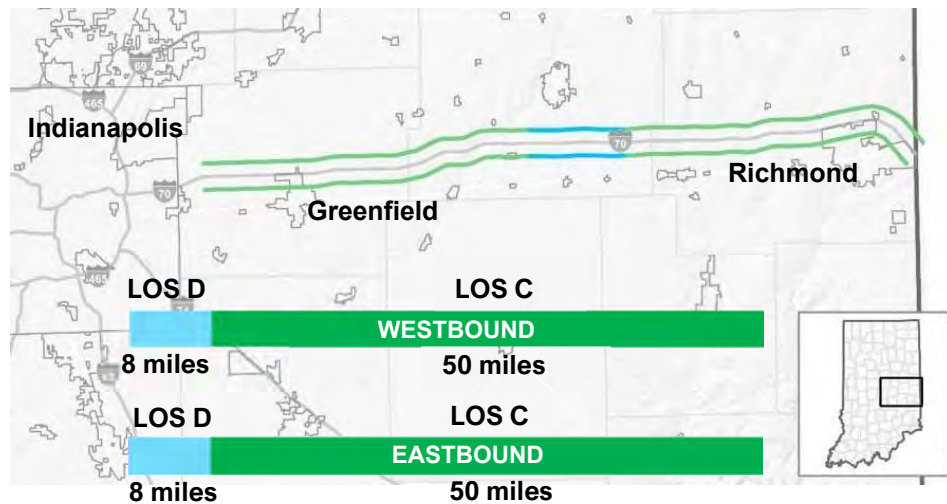
I-70 East operates at LOS C for nearly its entire length, as shown in **Figure 12**. The LOS drops to LOS D in both directions near the center of the section.

The posted speed along the I-70 East corridor is 70 mph for passenger vehicles and 65 mph for trucks east of Mount Comfort Road. The average free flow speed is during off peak periods, ranging from 60 mph to 65 mph, except near the Ohio state line, where I-70 westbound in Indiana has an average free flow speed of 50 mph.

Figure 11: I-70 East Traffic Lanes



Figure 12: I-70 East Level of Service





Traffic Safety

As shown in **Figure 12**, the LOS is relatively good on most of this segment, indicating an absence of severe congestion. Nevertheless, the review of crash history indicates that crash rates and crash severity are higher than expected for the prevailing conditions.

Most four-lane sections of the corridor do not have crash indices above average or they fall in the low range for this facility type. Crash history is in the medium category for about 30 percent of the corridor, as shown in **Figure 13**.

The medium crash areas are located between Indianapolis and Greenfield, and near the center of the segment east of Richmond.

Work Zone Congestion

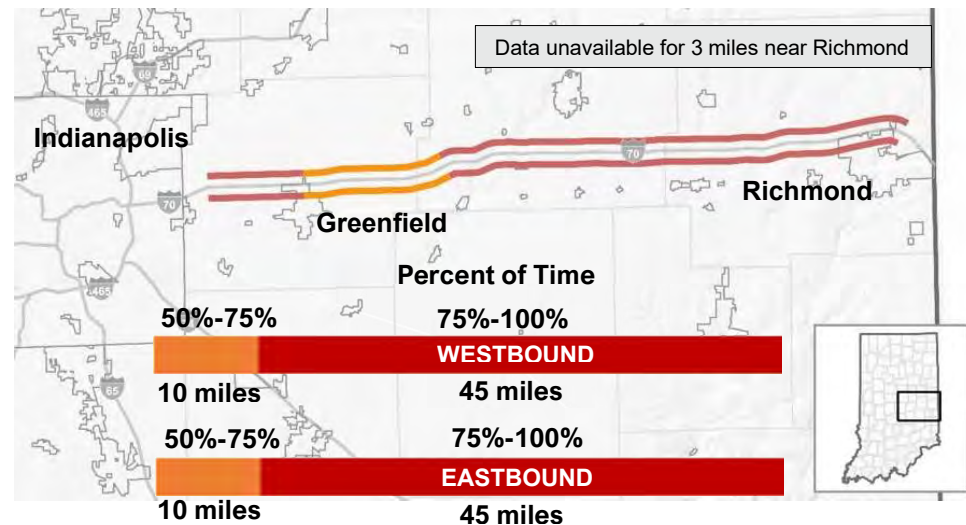
As shown in **Figure 14**, lane closures for pavement maintenance or other types of infrastructure repair as part of routine maintenance would result in queues beyond policy limits on all four-lane portions of I-70 East.

Unacceptable back-ups would be expected to occur on all sections between Indianapolis and Richmond any time routine pavement maintenance or reconstruction is performed. Crashes or incidents would increase the frequency of these excessive queues.

Figure 13: I-70 East Crash History



Figure 14: I-70 East Excessive Work Zone Queues





8 CONCLUSIONS

This study provides a system-level review of the existing four-lane sections of I-65 and I-70 in Indiana. It considers traffic operations and mobility, traffic safety, and work zone congestion on each of the four segments of I-65 and I-70 extending from Indianapolis. The purpose of this review is to provide a system context of needs to support future project-level studies.

The overall findings of this review are summarized below.

8.1 Existing Lanes on I-65 and I-70

I-65 and I-70 were originally constructed as four-lane freeways in Indiana. Over time, lanes have been added to about 30% of I-65 and I-70, mostly near urbanized areas where traffic volumes are higher and traffic flow is affected by ramp movements. About 90% of the segments with more than four lanes are on I-65.

8.2 Level of Service

Almost 95% of the four-lane sections of I-65 and I-70 operate at LOS C or better, which achieves the minimum standard for rural freeway operations in Indiana. This can be misleading, however, since ramp movements are not considered at this level of study, and trucks comprise 30% to 50% of the traffic mix. Trucks cause frequent queues of vehicles as they pass each other, which restricts driver options and increases delay. Ramp movements and truck factors should be considered in project-level need studies.

8.3 Crash History

Four-lane sections of both I-65 and I-70 have higher than average index values for crash rates and/or crash severity, based on functional class and current traffic volumes. About 69% of I-65 and 19% of I-70 crash indices are in the medium or high category, indicating potential safety issues. Causes and potential mitigation should be studied using location-specific crash data in project-level need studies.

8.4 Work Zone Congestion

On about 85% of the I-65 and I-70 four-lane sections, a lane closure will result in queues beyond INDOT policy limits more than half the time. Work zones requiring lane closure are common since routine maintenance is required. Assets have different life cycles at different locations, making lane closures frequent somewhere each year on I-65 and I-70. Additional lane closures occur due to crashes and incidents. Needs related to excess queuing should be assessed in greater detail in project-level studies.

I-65 AND I-70 SAFETY AND MOBILITY NEEDS
TECHNICAL APPENDIX

INDOT
July 1, 2022

I-65 AND I-70 SAFETY AND MOBILITY NEEDS

METHODOLOGY

This study evaluates traffic operations and mobility, traffic safety, and work zone congestion on four-lane sections of I-65 and I-70 in Indiana. Freeway segments that already have more than four lanes or have active or committed widening projects are excluded. The basis for this evaluation is discussed below.

Traffic Operations and Mobility

Using 2020 as a base year, level of service (LOS) and travel speeds are the primary measures of effectiveness used to represent traffic operations and mobility. Traffic data from 2016 to 2019, which are the most recent pre-pandemic traffic volumes available, are factored up to 2020 as necessary.

LOS is calculated using the Highway Capacity Manual methodology for basic mainline freeway segments. The influences of entrance or exit ramps, auxiliary lanes, and weaving are important at a project level, but are not considered in this study since the focus is on larger scale corridor operations. LOS C is typically the minimum criteria in rural settings and LOS D is the minimum for urban settings.

A comparison of off-peak and peak hour speeds for each segment is used to identify locations where speeds substantially drop in the peak hours. Each segment is also evaluated to identify locations where speeds dropped below 45mph, which is also an indication of congestion. These speed deficits indicate a lack of capacity and a need for added travel lanes.

Travel speed data from the National Performance Management Research Data Set (NPMRDS) was provided by INDOT for representative months during years 2017 and 2018. “Representative” months are those when traffic seasonal adjustment factors are closest to 1, which are not during inclement weather in the winter or during summer when travel is high due to vacations.

Traffic Safety

Locations of high crash rates and/or high crash severity are identified on each study segment. INDOT uses as an index of crash frequency (I_{cf}) as a screening tool to identify locations with higher-than-expected crash rates, and an index of crash cost (I_{cc}) to identify locations with high crash severity. A crash index greater than zero indicates higher than average values for the functional classification and traffic volume of the section. An index of 1 indicates that the crashes are one standard deviation higher. Indices were calculated by INDOT for crashes occurring between years 2017 and 2019.

Work Zone Congestion

Work zones are a common source of congestion on interstate highways since routine maintenance such as patching and resurfacing is required throughout the lifecycle of the pavement. This routine maintenance requires lane closures, which can result in extensive traffic back-up, especially on four-lane sections. Reducing these queues is a priority due to the potential for severe back-of-queue crashes as vehicles travelling at freeway speeds approach stopped traffic near the construction area.

I-65 AND I-70 SAFETY AND MOBILITY NEEDS

The Indiana Highway Congestion Policy (IHCP) defines an acceptable amount of queuing resulting from an interstate work zone. The policy is based on the length of the queue in miles and the time the queue remains in place. These acceptable limits are shown below:

| Maximum Queue Length | Maximum Time Period |
|----------------------|---|
| 0 miles | 6 continuous hours or any 12 hours per calendar day |
| 0.5 miles | 4 continuous hours |
| 1.0 miles | 2 continuous hours |
| 1.5 miles | 0 hours |

Queuing that exceeds these levels must be mitigated as part of the construction process due to the potential for back-of-queue crashes. Mitigation tools commonly used to address safety and congestion concerns during construction include back-of-queue trucks or other warning devices. In some instances, shoulders are strengthened, or temporary pavement is used to avoid lane closures, which increases project costs and provides little or no benefit upon completion of a project.

INDOT's Queue Analysis Spreadsheet (Version 1.29) uses work zone characteristics and traffic volumes to estimate queue lengths on an hourly basis. This tool was used to identify expected queues from closing one lane in each direction of the four-lane segments of I-65 and I-70, as typically done for patching and resurfacing projects. Analysis was not performed for six-lane or wider freeway segments.

The queuing analysis was based on the following assumptions:

- Work zones are in place 24 hours a day, 7 days a week during the construction season
- Queues are reported for the month of July, when traffic volumes historically peak
- Work zones utilize 12-foot lane widths
- Permanent and work zone speed limits are 70 mph and 45 mph, respectively
- No diversion occurs from the interstate to alternate routes

Each segment was evaluated in terms of the following:

- Is queuing beyond the policy limits? (yes/no)
- Percent of time queuing is beyond the policy limits
- Percent of time queuing is greater than 5 miles

ANALYSIS RESULTS

Analysis results are presented for I-65 and I-70 in four segments: I-65 north and south of Indianapolis, and I-70 east and west of Indianapolis. Tables are provided in Appendix A with detailed information regarding the number of lanes, traffic volumes, crash data, and the results of queuing analysis for each segment. Since 2020 is the base year of this analysis, some segments have already been widened. These segments are not included in the summary tables.

I-65 AND I-70 SAFETY AND MOBILITY NEEDS

I-70 East

I-70 east is a major freight route between Indianapolis and Cincinnati. Commercial vehicles comprise more than 50% of the traffic on much of the I-70 east corridor. The study corridor is 67 miles long, from I-465 to the Ohio state line. Committed projects along this segment include the following:

- Mount Comfort Road to SR 9 – four to six lanes
- SR 1 to Ohio state line – four to six lanes

Traffic Operations and Mobility

The posted speed along the I-70 east corridor is 70 mph for passenger vehicles and 65 mph for trucks west of Mount Comfort Road. The average free flow speed during off peak periods ranges from 60 mph to 65 mph, except near the Ohio state line, where I-70 westbound in Indiana has an average free flow speed of 50 mph. Traffic operations analysis shows that I-70 east operates at LOS C.

Traffic Safety

The following locations have been flagged for having an Icc or Icf value between 0 and 1, which indicates that there *may* be a safety issue based on the crash history.

- SR 9 to Wilbur Wright Road west of Indianapolis
- Centerville Road to US35 / Williamsburg Pike near Richmond
- US 27 to SR 227 / Middleboro Pike near Richmond

An Icc or Icf value greater than 1 indicates that crashes are a standard deviation higher than expected and that there is *likely* a safety issue based on the crash history. The following segments have an Icc value greater than 1.

- Mount Comfort Rd to SR 9 west of Indianapolis
- Wilbur Wright Road to SR 1 near Richmond

Work Zone Congestion

Lane closures for pavement maintenance or rehabilitation will result in queues beyond policy limits on four-lane portions of I-70. It is anticipated that queues between Indianapolis and Richmond would be present at all times. Based on this analysis, mitigation measures to reduce queues or alternatives to lane closures should be pursued.

I-70 West

I-70 west is a major freight corridor connecting Kansas City to Indianapolis, via Terre Haute, Greencastle, Cloverdale, and Plainfield. Commercial vehicles comprise more than 50% of the traffic on most of the I-70 west corridor. The study corridor is 73 miles long from the Illinois state line to I-465 in Indianapolis. The following project was recently completed or committed for near-term completion on this segment:

- SR 39 to the Indianapolis International Airport – four to six lanes

Table 3: I-70 East Traffic Operations

| Station | Name | Rural or Urban | Lanes | AADT 2017-2018 | Truck % | Posted Speed | Eastbound | | | | | Westbound | | | | |
|---------|---|----------------|-------|----------------|---------|--------------|-----------|----------|--------|----------|--------|-----------|----------|--------|----------|--------|
| | | | | | | | FFS | AM Speed | AM LOS | PM Speed | PM LOS | FFS | AM Speed | AM LOS | PM Speed | PM LOS |
| 973240 | I 465 to Post Rd | Urban | 3 | 109,600 | 81% | 55 | | | | | | | | | | |
| 973250 | Post Rd to Mount Comfort Rd | Urban | 3 | 64,600 | 73% | 65 | | | | | | | | | | |
| 973270 | Mount Comfort Rd to SR 9 | Rural | 2 | 56,100 | 67% | 70 | 64 | 64 | B | 63 | C | 64 | 64 | C | 64 | C |
| 973280 | SR 9 to SR 109 | Rural | 2 | 42,500 | 57% | 70 | 65 | 64 | B | 65 | C | 65 | 64 | B | 64 | B |
| 973290 | SR 109 to SR 3 | Rural | 2 | 38,900 | 53% | 70 | 65 | 64 | C | 65 | C | 65 | 65 | C | 65 | C |
| 973300 | SR 3 to Wilbur Wright Road | Rural | 2 | 35,300 | 47% | 70 | 65 | 64 | B | 65 | B | 64 | 63 | B | 64 | B |
| 973310 | Wilbur Wright Rd to SR 1 | Rural | 2 | 33,400 | 61% | 70 | 65 | 65 | B | 65 | C | 65 | 64 | B | 65 | C |
| 973320 | SR 1 to Centerville Rd | Rural | 2 | 36,200 | 49% | 70 | 65 | 65 | C | 65 | C | 65 | 65 | C | 65 | C |
| 973330 | Centerville Rd to US 35 / Williamsburg Pike | Urban | 2 | 36,400 | 49% | 70 | 65 | 64 | C | 64 | C | 64 | 60 | C | 62 | C |
| 973350 | US 35 / Williamsburg Pike to US 27 | Urban | 2 | 35,800 | 53% | 70 | 63 | 63 | B | 63 | C | 63 | 62 | B | 63 | C |
| 973360 | US 27 to SR 227 / Middleboro Pike | Urban | 2 | 39,400 | 56% | 70 | 64 | 62 | C | 62 | C | 64 | 64 | C | 63 | C |
| 973370 | SR 227 / Middleboro Pike to US 40 | Urban | 2 | 36,000 | 57% | 70 | 61 | 60 | B | 61 | C | 62 | 62 | C | 62 | C |
| 973380 | US 40 to Ohio State Line | Urban | 2 | 33,200 | 48% | 70 | 64 | 62 | B | 64 | B | 50 | 50 | C | 49 | C |

Table 7: I-70 East Safety Screening

| Station | Name | Icc | Icf | Incapacitating Injury or Fatal | Injury | Property Damage Only | Total Crashes |
|---------|---|-------|-------|--------------------------------|--------|----------------------|---------------|
| 973240 | I 465 to Post Rd | | | | | | |
| 973250 | Post Rd to Mount Comfort Rd | | | | | | |
| 973270 | Mount Comfort Rd to SR 9 | 1.36 | 0.83 | 10 | 2 | 125 | 137 |
| 973280 | SR 9 to SR 109 | 0.78 | 0.38 | 3 | 2 | 83 | 88 |
| 973290 | SR 109 to SR 3 | 0.60 | 0.66 | 11 | 9 | 126 | 146 |
| 973300 | SR 3 to Wilbur Wright Road | 0.07 | 0.56 | 8 | 7 | 97 | 112 |
| 973310 | Wilbur Wright Road to SR 1 | 1.19 | -0.62 | 4 | 3 | 19 | 26 |
| 973320 | SR 1 to Centerville Rd | -0.04 | -0.01 | 3 | 4 | 46 | 53 |
| 973330 | Centerville Rd to US 35 / Williamsburg Pike | 0.32 | 0.37 | 10 | 2 | 67 | 79 |
| 973350 | US 35 / Williamsburg Pike to US 27 | -0.71 | -0.44 | 2 | 2 | 57 | 61 |
| 973360 | US 27 to SR 227 / Middleboro Pike | 0.78 | -0.01 | 4 | 3 | 57 | 64 |
| 973370 | SR 227 / Middleboro Pike to US 40 | -- | -- | -- | -- | -- | 0 |
| 973380 | US 40 to Ohio state line | -0.52 | -0.03 | 3 | 4 | 51 | 58 |

Table 8: I-70 West Safety Screening

| Station | Name | Icc | Icf | Incapacitating Injury or Fatal | Injury | Property Damage Only | Total Crashes |
|---------|---|-------|-------|--------------------------------|--------|----------------------|---------------|
| 973010 | Illinois state line to US 40 | -0.61 | -0.16 | 0 | 1 | 7 | 8 |
| 973020 | US 40 to Darwin Rd | 0.11 | -0.22 | 6 | 2 | 51 | 59 |
| 973030 | Darwin Rd to US 41 / US 150 | 0.12 | -0.33 | 7 | 1 | 51 | 59 |
| 973040 | US 41 / US 150 to SR 46 | 0.00 | -0.95 | 2 | 1 | 5 | 8 |
| 950106 | SR 46 to SR 59 | 0.48 | 0.87 | 10 | 4 | 78 | 92 |
| 973060 | SR 59 to SR 243 | 0.48 | 0.87 | 10 | 4 | 78 | 92 |
| 973070 | SR 243 to US 231 | 0.11 | -0.14 | 4 | 2 | 29 | 35 |
| 973080 | US 231 to Cr 1100 W (Exit 51 - Little Point Rd) | 0.39 | -0.18 | 7 | 3 | 58 | 68 |
| 973090 | Cr 1100 W (Exit 51 - Little Point Rd) to SR 39 | 0.88 | -0.15 | 6 | 2 | 47 | 55 |
| 973100 | SR 39 to SR 267 | 2.08 | 1.96 | 15 | 7 | 74 | 96 |
| 973110 | SR 267 to Ameriplex/ Ronald Reagan Pkwy | | | | | | |
| 973110 | Ameriplex/Ronald Reagan Pkwy to Indpls Intl Airport | | | | | | |
| 973110 | Indpls Intl Airport to I 465 | | | | | | |

Table 11: I-70 East IHCP Lane Closures

| Station | Name | Lanes Each Way | Allowable Lane Closures | Eastbound Queues | | | Westbound Queues | | |
|---------|---|----------------|-------------------------|-------------------|--------------------|-----------------------------|-------------------|--------------------|-----------------------------|
| | | | | Over Policy Limit | % Time Over Policy | % Time Greater than 5 Miles | Over Policy Limit | % Time Over Policy | % Time Greater than 5 Miles |
| 973240 | I 465 to Post Rd | 3 | Nighttime Only | | | | | | |
| 973250 | Post Rd to Mount Comfort Rd | 3 | | | | | | | |
| 973270 | Mount Comfort Rd to SR 9 | 2 | | YES | 98% | 85% | YES | 100% | 87% |
| 973280 | SR 9 to SR 109 | 2 | Nighttime Only | No | 0% | 0% | No | 0% | 0% |
| 973290 | SR 109 to SR 3 | 2 | | | | | | | |
| 973300 | SR 3 to Wilbur Wright Road | 2 | | | | | | | |
| 973310 | Wilbur Wright Road to SR 1 | 2 | | YES | 98% | 85% | YES | 100% | 87% |
| 973320 | SR 1 to Centerville Rd | 2 | | | | | | | |
| 973330 | Centerville Rd to US 35 / Williamsburg Pike | 2 | | | | | | | |
| 973350 | US 35 / Williamsburg Pike to US 27 | 2 | | YES | 100% | 95% | YES | 100% | 95% |
| 973360 | US 27 to SR 227 / Middleboro Pike | 2 | | | | | | | |
| 973370 | SR 227 / Middleboro Pike to US 40 | 2 | | | | | | | |
| 973380 | US 40 to Ohio state line | 2 | No | 0% | 0% | No | 0% | 0% | |

CRASH HEAT MAP – I-70 EASTBOUND DIRECTION OF TRAVEL



CRASH HEAT MAP – I-70 WESTBOUND DIRECTION OF TRAVEL



Source: Revive I-70 Traffic and Safety Analysis, March 2023

RoadHAT INDEX OF CRASH FREQUENCY



RoadHAT INDEX OF CRASH SEVERITY

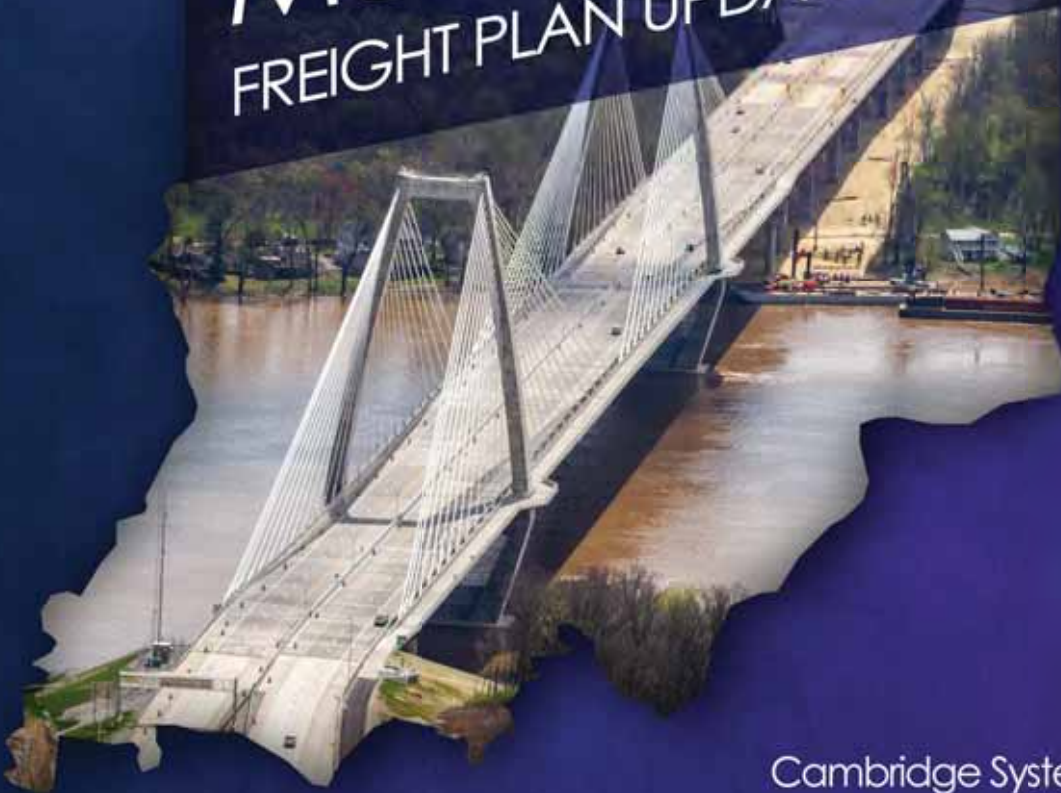


Source: Revive I-70 Traffic and Safety Analysis, March 2023



INDIANA

MULTIMODAL FREIGHT PLAN UPDATE 2018



prepared for
INDOT

prepared by
Cambridge Systematics, Inc.

with
Global Logistics Development Partners
Hanson Professional Services Inc.

from daily urban congestion. Cline Avenue, the main arterial adjacent to the two harbors, operates between LOS A and LOS D, depending on the segment. In 2035 some segments are expected to degrade to LOS B through E.

INDIANA AIR CARGO SYSTEM ISSUES

Indiana has more than 450 private-use airports and 115 public-use airports. Of the public-use airports, 69 are considered of statewide importance and are therefore included in the Indiana ISASP. The Indiana aviation system has been continuously developed over the years using Federal, state and local funds, and it provides statewide access for business, tourism and recreation.

At present, five primary (includes hub and non-hub) airports provide commercial passenger service. These include; Indianapolis International Airport, Fort Wayne-Allen County Airport, South Bend Airport, and Evansville Regional Airport.

Another seven airports serve as reliever airports to those larger commercial airports. The balance of the 69 airports covered by the ISASP is 57 general aviation airports.

Air Cargo Accessibility

Highway access roads to Indianapolis International Airport were designated as NHS intermodal freight connectors of national significance. The old Airport Expressway served as the main access point to the Indianapolis International Airport prior to the opening of the new passenger terminal in late 2008 and is still an active gateway to the FedEx freight operation at the airport. At that time, this roadway was operating at LOS A, and it is expected to continue to operate at an acceptable level of service into the future. The new primary passenger access point to the Indianapolis International Airport is located off of I-70 on the west side of the airport. U.S. 40 also connects Indianapolis International Airport with I-465. Several segments of U.S. 40 between I-465 and the Ronald Reagan Parkway have peak period congestion at LOS F. More segments of U.S. 40 near the airport are expected to become congested by 2035.

Fort Wayne International Airport is another cargo airport of national significance. It can be accessed from I-69 and I-469 via a variety of roads, including Indianapolis Road, Airport Expressway, and Bluffton Road. These roads, as well as the neighboring interstates, are expected to continue to operate at LOS A or B through 2035.

INDOT CUSTOMER FEEDBACK

As part of the planning process, an interactive map was distributed to MPOs throughout the state to gather comments regarding how the system is performing. A full list is included in Appendix B, while highlights are as follows:

- Development of industrial and logistics parks throughout the state is increasing the truck traffic on most interstates (and routes to/from) and several US highways. This is expected to increase, especially along I-65, I-70, US 30 and US 31.
- US 30 and US 31 experience high truck traffic volume and would benefit from treatments for free flow conversion.
- I-65 and I-70 experience frequent congestion statewide.
- I-465, I-65, and I-70 in and around Indianapolis experience significant recurring congestion during peak hours.
- Vertical bridge clearances remain an issue throughout the state, mostly on non-interstates.
- A number of frequently-used state and US highways run through cities and towns, causing traffic safety issues and physical clearance issues.



Projects in-progress or in the five-year program:

- North Vernon Bypass, between US 50 and State Road 3. This project is currently underway, and will relieve freight and passenger vehicle congestion through the City of North Vernon. Estimated cost for the entire project \$33.8 million.
- Construction of the Boonville Bypass is currently underway. This new roadway connecting State Road 61 north of Boonville to State Road 62 west of Boonville will move freight traffic out of town and relieve congestion. Estimated cost for the entire project is \$17.3 million.
- Interchange modification at I-65 and State Road 267, to accommodate increased freight traffic at the logistics facilities located near the interchange (including Amazon). This project is in the current 5-year program with an estimated \$46.6 million total cost.
- Interchange improvement at I-70 and State Road 39, to accommodate increased traffic and relieve congestion due to business and residential development in the area. This project is in the current 5-year program and is associated with an added travel lanes project on I-70.

Projects needed, not yet programmed (no funding identified):

- I-69, Section 6 between Martinsville and Indianapolis is the final link in the new interstate between Indianapolis and Evansville. While INDOT has committed to completing this project, total cost and funding sources have not been identified. Environmental study of this project is underway. A Record of Decision from the Federal Highway Administration is expected in 2018, allowing the project to proceed.
- Ohio River Crossing bridge on I-69, between Evansville and Henderson, Kentucky. This project supports the completion of the I-69 corridor and provides needed mobility across the Ohio River. Indiana and Kentucky are currently cooperating on a study that has identified three alternative routes, with the preferred alternative expected to be identified in Fall 2018. This project will serve two major freight corridors in Indiana – I-69 and US 41 – improving traffic flow and connectivity between the States. While INDOT has committed to completing this project, total costs and funding sources have not been identified.
- Widen I-65 to minimum of six lanes from I-90 to the Kentucky State Line. I-65 is a heavily-traveled freight and passenger corridor, and experiences significant congestion. Estimated cost \$2 billion.
- Widen I-69 to a minimum of six lanes from Indianapolis north to State Road 332. I-69 is a heavily-traveled freight and passenger corridor, and experiences significant congestion. Estimated cost \$310 million.
- Widen I-70 to a minimum of six lanes from the Illinois State Line to the Ohio State Line. I-70 is a heavily traveled freight and passenger corridor and experiences significant congestion. Estimated cost \$1.43 billion.





5 multimodal needs & plan integration

Indiana's multimodal transportation network facilitates the efficient, reliable, and safe movement of persons and goods. It is the foundation of the State's economic success—supporting jobs and businesses. However, the demands on and cost to maintain and improve the system will continue to increase. This chapter provides an overview of transportation issues and needs for each mode.

The corridors, listed below, are critical to mobility and economic activity throughout all regions of Indiana. The following table lists major corridor improvement projects, but do not resemble a priority or ranking of importance.

Major Corridors

| NO. | NAME | DESCRIPTION |
|-------------------------------------|---|---|
| HIGHWAY EXPANSIONS & MODERNIZATIONS | | |
| 1 | I-69, Section 6 | New 26-mile north-south interstate from south side of Martinsville to I-465 south junction in Indianapolis |
| 2 | I-69 Ohio River Crossing | New bridge crossing in Evansville |
| 3 | I-70 | From 4-lane sections to 6 lanes across the state |
| 4 | I-65 | From 4-lane sections to 6 lanes across the state |
| 5 | I-465 | From West 86th Street to US 31 north junction northwest Indianapolis |
| 6 | I-465 | From White River bridge north junction to Fall Creek northeast Indianapolis |
| 7 | I-465 | From I-70 east junction to I-70 west junction Indianapolis south |
| 8 | I-94 | Transportation Systems Management (TSM) treatments from Illinois state line to I-65 |
| 9 | I-69 expansion | From SR 9/SR 109 Anderson north 15 miles to SR 332 Muncie |
| 10 | Items 10-14: I-65 and I-70 | I-70 segment from 3 miles west of I-65 south junction to I-65 south junction |
| 11 | reconstruction inside the I-465 | Eliminate weaving areas on the west leg of I-65/I-70 inner belt from South Split interchange to North Split interchange |
| 12 | beltway in Indianapolis | I-70 segment from the I-65 north junction east 7 miles to I-465 east junction |
| 13 | (north/south split as well as adjacent | I-65 segment from I-70 north junction north 6 miles to West 38th Street |
| 14 | spokes) | I-65 segment from I-465 south junction north 4 miles to I-70 south junction |
| 15 | US 31 | From SR 38 in Hamilton County to south of Kokomo, the goal is freeway improvements; from Kokomo north to US 30, improvements to improve traffic flow and safety |
| 16 | US 30 | Upgrade 100-mile stretch (from Fort Wayne to Valparaiso) to improve traffic flow and safety |
| 17 | US 36 | From SR 267 east 7 miles to I-465 west junction, Indianapolis and Avon |
| 18 | US 20 | Northern Indiana bridge and pavement preservation |
| 19 | I-64 and I-265 | From Sherman-Minton bridge to SR 64, and from I-64 to I-65 |

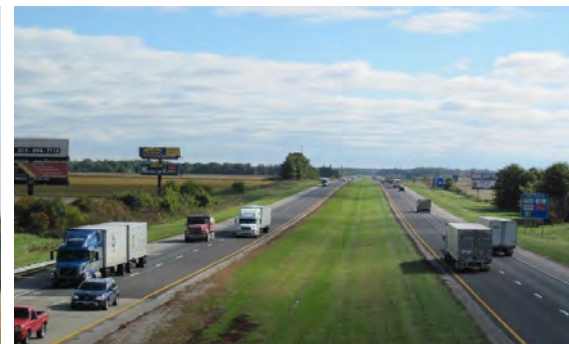
Major Corridors continued

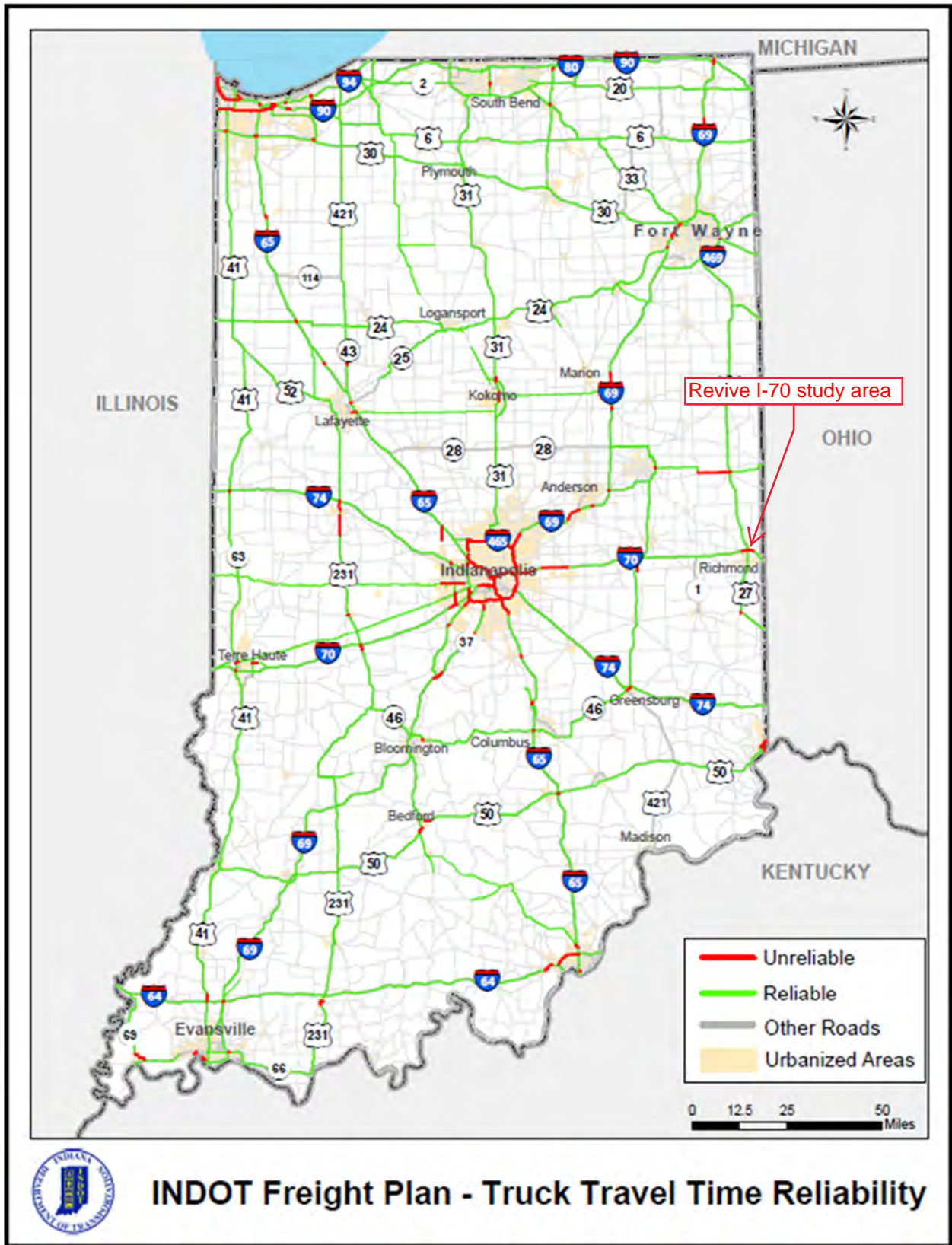
| NO. | NAME | DESCRIPTION |
|--------------------------|--|--|
| FREIGHT/LOGISTICS | | |
| 20 | Heavy-Haul Corridor, Mount Vernon Port | New road Improvements to SR-69 from to I-64 in Posey County to provide truck access to Mount Vernon Port |
| 21 | Heavy-Haul Corridor, Segment A | New road to connect the Ports of Indiana-Jeffersonville with SR 265 |

There are ongoing statewide efforts to consider long-term improvement needs, including investments along corridor systems and interchange areas. The Statewide Corridor Planning Study aims to develop corridor visions for state jurisdictional roadway facilities. The Statewide Interchange Planning Study aims to identify interchange enhancements and evaluate potential new interchange locations. These studies will serve as an input into the statewide and MPO planning process and help to support mobility asset management activities.

States are encouraged to take action to deploy alternative fuels and vehicles. To improve the mobility of alternative fuel vehicles, FHWA has helped build momentum

towards greater alternative fuel corridor planning and coordination among states. In Indiana, no corridors have been designated for alternative fuel vehicles. However, the Greater Indiana Clean Cities Coalition has recommended several corridors for nomination where there is demonstrated eligibility for designation. The I-465 loop and portions of I-70 could be designated corridor-ready for electric vehicle charging. The I-465 loop as well as portions of I-65, I-94, and I-70 could be designated as corridor-ready or corridor-pending for compressed natural gas. The I-465 loop as well as portions of I-65, I-69, and I-70 could be designated as corridor-ready or corridor-pending for liquefied petroleum gas.





Source: Indiana Multimodal Freight Plan Update 2023 (Draft)

Culverts within the Project Area: Existing Conditions and Proposed Work

| NO. | CULVERT NUMBER | APPENDIX PAGE | LOCATION | WATERBODY | SCOPE OF WORK | CULVERT TYPE | | STRUCTURE LENGTH (FEET) | | LENGTH OF CHANNEL WORK (FEET) |
|-----|-------------------|---|--------------------------------------|---|---|----------------|---|-------------------------|----------|-------------------------------|
| | | | | | | EXISTING | PROPOSED | EXISTING | PROPOSED | |
| 1 | CV I70-089-135.86 | B-16 | 2.6 mi East of Wayne/Henry Line | Unnamed Tributary 1 to Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 108"x83" CMP | 120" Pipe | 199 | 199 | 80 |
| 2 | CLV-75503 | B-19 | 0.64 mi West of SR 1 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 42" CMP | 72" Pipe | 196 | 196 | 48 |
| 3 | CLV-75509 | B-26 | 1.27 mi East of SR 1 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 18" RCP | 42" Pipe | 162 | 162 | 28 |
| 4 | CLV-75510 | B-27 | 1.56 mi East of SR 1 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 24" RCP | 54" Pipe | 163 | 184 | 36 |
| 5 | CLV-75511 | B-28 | 1.85 mi East of SR 1 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 36" CMP | 108" Pipe | 174 | 174 | 72 |
| 6 | CLV-75506 | B-39 and B-22 | Westbound I-70 Exit Ramp to SR 1 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 24" CMP | 38"x24" Elliptical | 55 | 67 | 25 |
| 7 | CLV-75507 | B-39 and B-37 and B-22 | SR 1 to Eastbound I-70 Entrance Ramp | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 24" CMP | N/A | 61 | N/A | 24 |
| 8 | CLV-75514 | B-35 | Washington Road North of I-70 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 24" CMP | 54" Pipe | 162 | 162 | 36 |
| 9 | CLV-75513 | B-35 | Washington Road South of I-70 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 42" CMP | 54" Pipe | 157 | 157 | 36 |
| 10 | CV I70-089-137.13 | B-20 B-38 | 3.9 mi East Wayne/Henry Line | Beard Run | Existing Culvert to be Lined under DES. No. 1900219 (To be completed prior to this project) | 128" x 83" CMP | Existing Culvert to be Lined under DES. No. 1900219 (To be completed prior to this project) | 265 | N/A | N/A |
| 11 | CLV-75505 | B-21 and B-38 | SR 1 to Westbound I-70 Entrance Ramp | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 24" CMP | 60" Pipe | 168 | 167 | 40 |
| 12 | CLV-75512 | B-33 | 0.70 mi West of Washington Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 18" CMP | 36" Pipe | 192 | 188 | 24 |
| 13 | Unknown | Not shown on plans due to location beyond construction area | Eastbound I-70 Exit Ramp to SR 1 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 24" CMP | 36" Pipe | 153 | 153 | 24 |
| 14 | CLV-75504 | B-19 | 0.50 mi West of SR 1 | N/A | Removal (Not to be replaced) | 18" CMP | 36" Pipe | 161 | N/A | 24 |
| 15 | CLV-75508 | B-24 | 0.95 mi East of SR 1 | N/A | Removal (Not to be replaced) | 18" RCP | 36" Pipe | 155 | N/A | 24 |
| 16 | CLV 75515 | B-41 | 0.57 mi East of Washington Street | Unnamed Tributary 2 to Greens Fork | Existing structure to be replaced, grading around upstream and downstream of culvert. | 36" CMP | 48" RCP | 197 | 197 | 50 |
| 17 | CV I70-089-142.19 | B-42 | 0.93 mi East of Washington Street | College Corner Branch | Existing structure to be replaced, grading around upstream and downstream of culvert. | 60" CMP | 72" RCP | 232 | 232 | 50 |
| 18 | CV I70-089-143.12 | B-46 | 0.32 mi East of Mineral Springs Road | Black Water Branch | Existing structure to be replaced, grading around upstream and downstream of culvert. | 66" CMP | 72" RCP | 198 | 198 | 50 |
| 19 | CV I70-089-144.08 | B-49 | 1.30 mi East of Mineral Springs Road | Far Run | Existing structure to be replaced, the downstream end will be regraded | 54" CMP | 64" RCP with 6" sump | 390 | 286 | 100 |

| NO. | CULVERT NUMBER | APPENDIX PAGE | LOCATION | WATERBODY | SCOPE OF WORK | CULVERT TYPE | | STRUCTURE LENGTH (FEET) | | LENGTH OF CHANNEL WORK (FEET) |
|-----|--------------------|---|----------------------------------|---|--|-----------------|----------------------|-------------------------|----------|-------------------------------|
| | | | | | | EXISTING | PROPOSED | EXISTING | PROPOSED | |
| 20 | CLV 75519 | B-53 | 0.11 mi West of Centerville Road | Unnamed Tributary to Nolands Fork Creek | Existing structure to be replaced and ditch grading on the downstream side | 36" CMP | 42" RCP | 90.5 | 197 | 60 |
| 21 | CLV 75520 | B-53 | 0.0 mi South of Centerville Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 15" CMP | 36" RCP with 6" sump | 131 | 131 | 400 |
| 22 | CLV 75521 | B-53 | 0.0 mi North of Centerville Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 15" CMP | 36" RCP with 6" sump | 143 | 143 | 400 |
| 23 | CLV 75522 | B-53 | 0.07 mi West of Centerville Road | N/A | Existing structure to be replaced, grading around upstream and downstream of culvert. | 24" CMP | 36" RCP | 180 | 180 | 200 |
| 24 | CV I70-089-145.60 | B-54 | 0.31 mi East of Centerville Road | UNT 1 to Nolands Fork | Existing structure to remain | 10.5'x4.5' Arch | N/A | 165 | | |
| 25 | CLV 75523 | B-57 | 1.0 mi West of Round Barn Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 24" CMP | 36" RMP | 178 | 178 | 100 |
| 26 | CLV 75524 | B-58 | 0.62 mi West of Round Barn Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 36" CMP | 36" RCP | 164 | 164 | 100 |
| 27 | CV I70-089-147.71 | B-61 | 0.13 mi East of Round Barn Road | Lick Creek | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 10'x10' RCB | 13'x11' RCB | 156 | 156 | 100 |
| 28 | CLV 94736 | B-63 | 0.18 mi West of Salisbury Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 36"x22" CMP | 36" RCP | 218 | 218 | 50 |
| 29 | CLV 75529 | B-64 | 0.09 mi West of Salisbury Road4 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 24" CMP | 36" RCP | 188 | 193 | 50 |
| 30 | CLV 75530 | B-66 | 0.28 mi West of US 35 | Unnamed Tributary 1 to Clear Creek | Existing structure to be replaced and ditch grading on the upstream and downstream side | 36" CMP | 54" RCP | 166 | 166 | 750 (upstream) |
| 31 | CLV 75531 | B-66 | 0.15 mi West of US 35 | N/A | Existing Structure will be replaced | 36" CMP | 42" RCP | 60.5 | 208 | 50 (downstream) 600 upstream |
| 32 | CLV 75532 | B-66 | 0.04 mi West of US 35 | N/A | Existing Structure will be moved based on new interchange layout | 36" CMP | 42" RCP | 64.5 | 92 | 100 |
| 33 | CLV 75533 | B-66 | 0.13 mi West of US 35 | N/A | Existing Structure will be moved based on new interchange layout | 36" CMP | 48" RCP | 85 | 100 | 100 |
| 34 | CLV 75534 | B-66 | 0.00 mi East of US 35 | N/A | Existing Structure will be replaced | 24" CMP | 36" RCP | 128 | 171 | 100 |
| 35 | CLV 75536 | Not shown on plans due to location beyond construction area | 0.06 mi East of US 35 | N/A | No work is proposed | 18" CMP | N/A | 152 | N/A | N/A |
| 36 | CLV 75538 | B-67 | 0.00 mi East of US 35 | N/A | Existing Structure will be replaced | 30" CMP | 42" RCP | 142 | 168 | N/A |
| 37 | CLV 75539 | B-67 | 0.00 mi East of US 35 | N/A | Existing Structure will be replaced | 18" CMP | 36" RCP | 153 | 205 | N/A |
| 38 | CLV 75540 | B-67 | 0.06 mi East of US 35 | N/A | Existing structure will be eliminated based on new interchange layout | 18" CMP | N/A | 95 | N/A | 20 |
| 39 | CLV 75541 | B-68 | 0.34 mi East of US 35 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 42" CMP | 7' x 4' RCB | 165 | 180 | N/A |
| 40 | CLV I70-089-149.61 | B-69 | 0.65 mi East of US 35 | Unnamed Tributary 1 to West Fork East Fork Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 72" CMP | 72" RCP | 192 | 192 | 50 (upstream) 450 downstream |

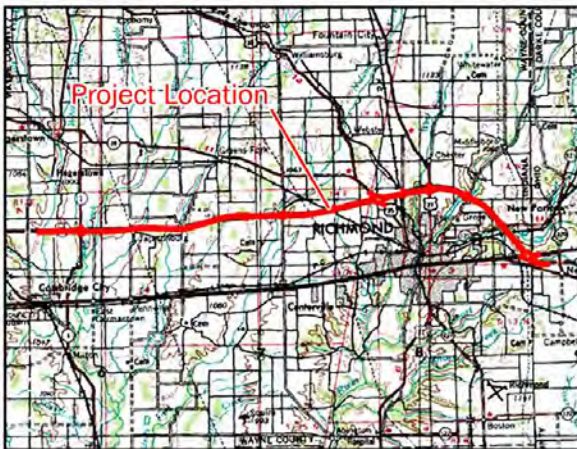
| NO. | CULVERT NUMBER | APPENDIX PAGE | LOCATION | WATERBODY | SCOPE OF WORK | CULVERT TYPE | | STRUCTURE LENGTH (FEET) | | LENGTH OF CHANNEL WORK (FEET) |
|-----|-------------------|---------------|--|---|---|---------------|----------|-------------------------|----------|-------------------------------|
| | | | | | | EXISTING | PROPOSED | EXISTING | PROPOSED | |
| 41 | CLV 75542 | B-69 | 0.73 mi East of US 35 | Unnamed Tributary 2 to West Fork East Fork Whitewater River | Existing structure will be removed and replaced with a single structure that will carry flow from CLV 75543 as well | 42" CMP | N/A | 243 | N/A | N/A |
| 42 | CLV 75543 | B-69 | 0.74 mi East of US 35 | Unnamed Tributary 2 to West Fork East Fork Whitewater River | Existing structure will be replaced with a single crossing | 42" CMP | 66" RCP | 203 | 210 | 50 upstream and downstream |
| 43 | CLV 75544 | B-69 | 0.26 mi West of Union Pike Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 42" CMP | 48" RCP | 240 | 240 | 50 upstream and downstream |
| 44 | CLV 75545 | B-70 | 0.16 mi West of Union Pike Road, RP 790+70 | N/A | Culvert will be removed as the ditch drains to CLV 75544 and does not go to this culvert. | 24" CMP | N/A | 277 | N/A | 20 |
| 45 | CLV 75546 | B-70 | 0.14 mi West of Union Pike Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 42" CMP | 48" RCP | 291 | 295 | 50 upstream and downstream |
| 46 | CLV 75548 | B-70 | 0.10 mi West of Union Pike Road | N/A | Culvert will be removed as the ditch drains to CLV 75546 and does not go to this culvert | 36" CMP | N/A | 260 | N/A | 20 |
| 47 | CLV 75549 | B-70 | 0.02 mi West of Union Pike Road | N/A | Culvert is listed as abandoned and will not be replaced | 12" CMP | N/A | N/A | N/A | 20 |
| 48 | CLV 75551 | B-70 | 0.07 mi East of Union Pike Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 30" CMP | 36" RCP | 181 | 185 | 50 upstream and downstream |
| 49 | CLV 75553 | B-75 | 0.04 mi East of US-27 | N/A | Existing structure will be abandoned as the upstream ditch continues east and the skew is very bad | 15" CMP | N/A | 325 | N/A | 20 |
| 50 | CV I70-089-151.67 | B-76 | 0.57 mi East of US-27 | Unnamed Tributary 1 to Middle Fork East Fork Whitewater River | No work is proposed | 54" CMP | N/A | N/A | N/A | N/A |
| 51 | CLV 75554 | B-76 | 0.67 mi East of US-27 | Unnamed Tributary 2 to Middle Fork East Fork Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 36" x 22" CMP | 36" RCP | 184 | 184 | 20 |
| 52 | CV I70-089-151.90 | B-77 | 0.81 mi East of US-27 | Unnamed Tributary 3 to Middle Fork East Fork Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 60" CMP | 72" RCP | 314 | 314 | 20 |
| 53 | CLV 94999 | B-77 | 0.86 mi East of US-27 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 36" CMP | 36" RCP | 260 | 260 | 20 |
| 54 | CLV 94732 | B-78 | 0.47 mi West of SR 227 | Unnamed Tributary 4 to Middle Fork East Fork Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 24" HDPE | 36" | 293 | 242 | 20 |
| 55 | CLV 75555 | B-78 | 0.28 mi West of SR 227 | N/A | Existing structure to be abandoned | 36" HDPE | N/A | 189 | N/A | N/A |
| 56 | CLV 75556 | B-79 | 0.12 mi West of SR 227 | N/A | Existing structure to be replaced and ditch grading on the downstream side | 18" CMP | 42" RCP | 65 | 70 | 400 downstream |
| 57 | CLV 65955 | B-79 | 0.09 mi West of SR 227 | N/A | Existing structure to be replaced and ditch grading on downstream side | 18" CMP | 24" RCP | 68 | 70 | 400 downstream |
| 58 | CLV 75557 | B-75 | 0.03 mi West of SR 227 | N/A | Existing structure to be replaced and ditch grading on downstream side | 36" CMP | 42" RCP | 179 | 180 | 400 downstream |
| 59 | CLV 65929 | B-79 | 0.05 mi West of SR 227 | N/A | Existing structure to be replaced and ditch grading on downstream side | 42" CMP | 60" RCP | 130 | 180 | 50 downstream |
| 60 | CLV 75559 | B-81 | 0.0 mi East of Smyrna Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 24" CMP | 30" RCP | 86 | 90 | 20 |

| NO. | CULVERT NUMBER | APPENDIX PAGE | LOCATION | WATERBODY | SCOPE OF WORK | CULVERT TYPE | | STRUCTURE LENGTH (FEET) | | LENGTH OF CHANNEL WORK (FEET) |
|-----|-------------------|---|--------------------------------|---|--|--------------|----------------------|-------------------------|----------|-------------------------------|
| | | | | | | EXISTING | PROPOSED | EXISTING | PROPOSED | |
| 61 | CLV 75560 | B-81 | 0.0 mi East of Smyrna Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 18" CMP | 30" RCP | 96 | 100 | 20 |
| 62 | CV I70-089-153.15 | B-81 | 0.11 mi East of Smyrna Road | Unnamed Tributary 5 to Middle Fork of East Fork of Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 36"x22" CMP | 45" x 29" Elliptical | 244 | 244 | 50 |
| 63 | CLV 75561 | B-82 | 0.27 mi East of Smyrna Road | Unnamed Tributary 6 to Middle Fork of East Fork of Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 36"x22" CMP | 36" RCP | 177 | 177 | 20 |
| 64 | CLV 75563 | B-82 | 0.38 mi West of Reservoir Road | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 42" CMP | 42" RCP | 270 | 270 | 50 |
| 65 | CLV 75562 | B-83 | 0.30 mi West of Reservoir Road | Unnamed Tributary 2 to East Fork of East Fork of Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 30" RCP | 36" RCP | 240 | 240 | 50 |
| 66 | CLV 94738 | B-83 | 0.22 mi West of Reservoir Road | Unnamed Tributary 3 to East Fork of East Fork of Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 36" RCP | 42" RCP | 184 | 185 | 20 |
| 67 | CLV 75564 | B-83 | 0.13 mi West of Reservoir Road | Unnamed Tributary 4 to East Fork of East Fork of Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream sides | 43"x27" CMP | 45"x29" RCP | 201 | 201 | 20 |
| 68 | CLV 94740 | B-85 | 0.19 mi West of SR 121 | | Existing culvert to be removed | 24" CMP | N/A | 215 | N/A | 20 |
| 69 | CV I70-089-154.44 | B-85 | 0.13 mi West of SR 121 | Unnamed Tributary 5 to East Fork of East Fork of Whitewater River | Existing structure to be replaced and ditch grading on the upstream and downstream side | 42" RCP | 48" RCP | 255 | 255 | 50 |
| 70 | CV 170-089-154.81 | B-87 | 0.27 mi East of SR 121 | N/A | The existing culvert to be removed and replaced with a ditch | 60" RCP | N/A | 72 | N/A | 100 |
| 71 | CV 170-089-154.82 | B-87 | 0.27 mi East of SR 121 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 48" CMP | 48" RCP | 248 | 248 | 50 |
| 72 | CV I70-089-155.63 | B-89 | 0.67 mi West of US 40 | N/A | No work is proposed | 48" CMP | 48" RCP | 230 | 230 | 20 |
| 73 | CLV 75565 | B-90 | 0.14 mi West of US 40 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 30" CMP | 36" RCP | 155 | 155 | 100 |
| 74 | CLV 75567 | B-91 | 0.08 mi West of US 40 | N/A | Culvert to be removed with new interchange layout | 24" CMP | N/A | 145 | N/A | 20 |
| 75 | CLV 75568 | Not shown on plans due to location beyond construction area | 0.02 mi West of US 40 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 18" CMP | 36" RCP | 58 | 100 | 100 |
| 76 | CLV 75569 | Not shown on plans due to location beyond construction area | 0.02 mi East of US 40 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 30" CMP | 36" RCP | 88 | 100 | 100 |
| 77 | CLV 75570 | Not shown on plans due to location beyond construction area | 0.02 mi West of US 40 | N/A | Culvert to be removed with new interchange layout | 18" CMP | 36" RCP | 62 | 100 | 100 |
| 78 | CLV 75571 | B-91 | 0.02 mi East of US 40 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 24" CMP | 36" RCP | 270 | 270 | 100 |

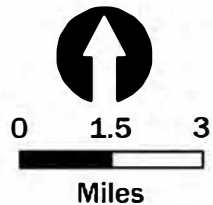
| NO. | CULVERT NUMBER | APPENDIX PAGE | LOCATION | WATERBODY | SCOPE OF WORK | CULVERT TYPE | | STRUCTURE LENGTH (FEET) | | LENGTH OF CHANNEL WORK (FEET) |
|-----|----------------|---|-----------------------|-----------|---|--------------|----------|-------------------------|----------|-------------------------------|
| | | | | | | EXISTING | PROPOSED | EXISTING | PROPOSED | |
| 79 | CLV 75572 | B-91 | 0.10 mi East of US 40 | N/A | Culvert to be removed with new interchange layout | 18" CMP | N/A | 134 | N/A | 20 |
| 80 | CLV 75573 | Not shown on plans due to location beyond construction area | 0.02 mi East of US 40 | N/A | Existing structure to be replaced and ditch grading on the upstream and downstream side | 30" CMP | 36" RCP | 55 | 100 | 100 |
| 81 | CLV 77500 | B-91 | 0.02 mi West of US 40 | N/A | Culvert to be removed with new interchange layout | 18" CMP | N/A | 78 | N/A | 20 |

Appendix B

Graphics



- Study Area
- Interstate
- Incorporated Areas
- State Road
- County Boundaries
- Local Road



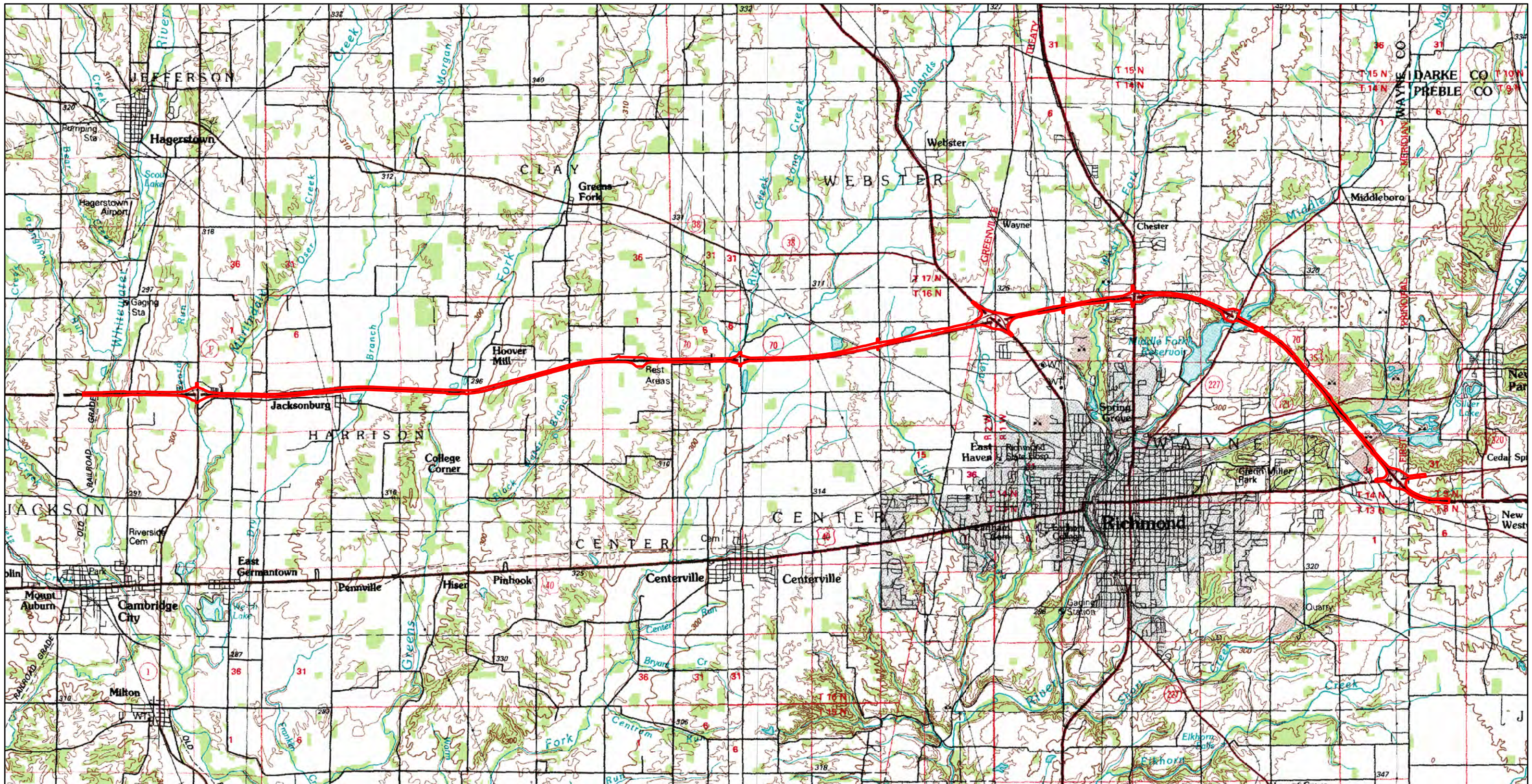
Revive I-70
Wayne County, Indiana
Project Location

Sources:
Non Orthophotography Data -
Obtained from the State of Indiana Geographical
Information Office Library
Orthophotography -
Obtained from Indiana Map
Framework Data (www.indianamap.org)

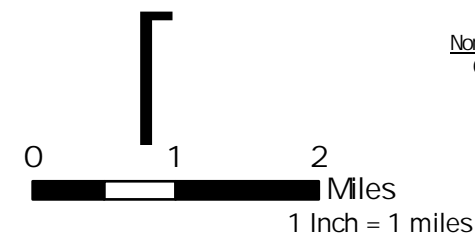
Des. 2002424
Date: 7/14/2022



Created by: KDV



Project Area



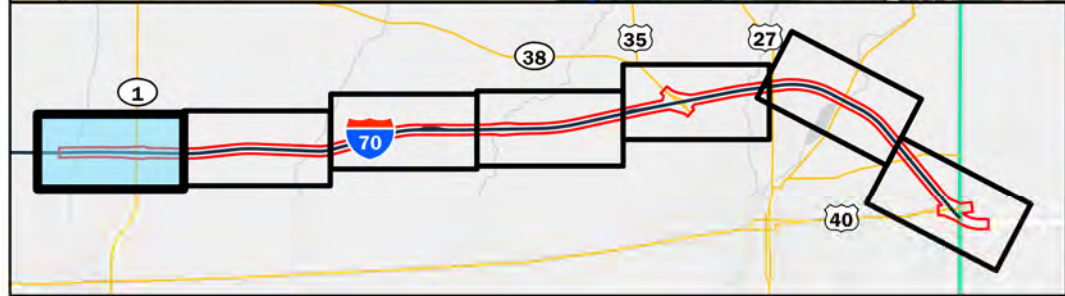
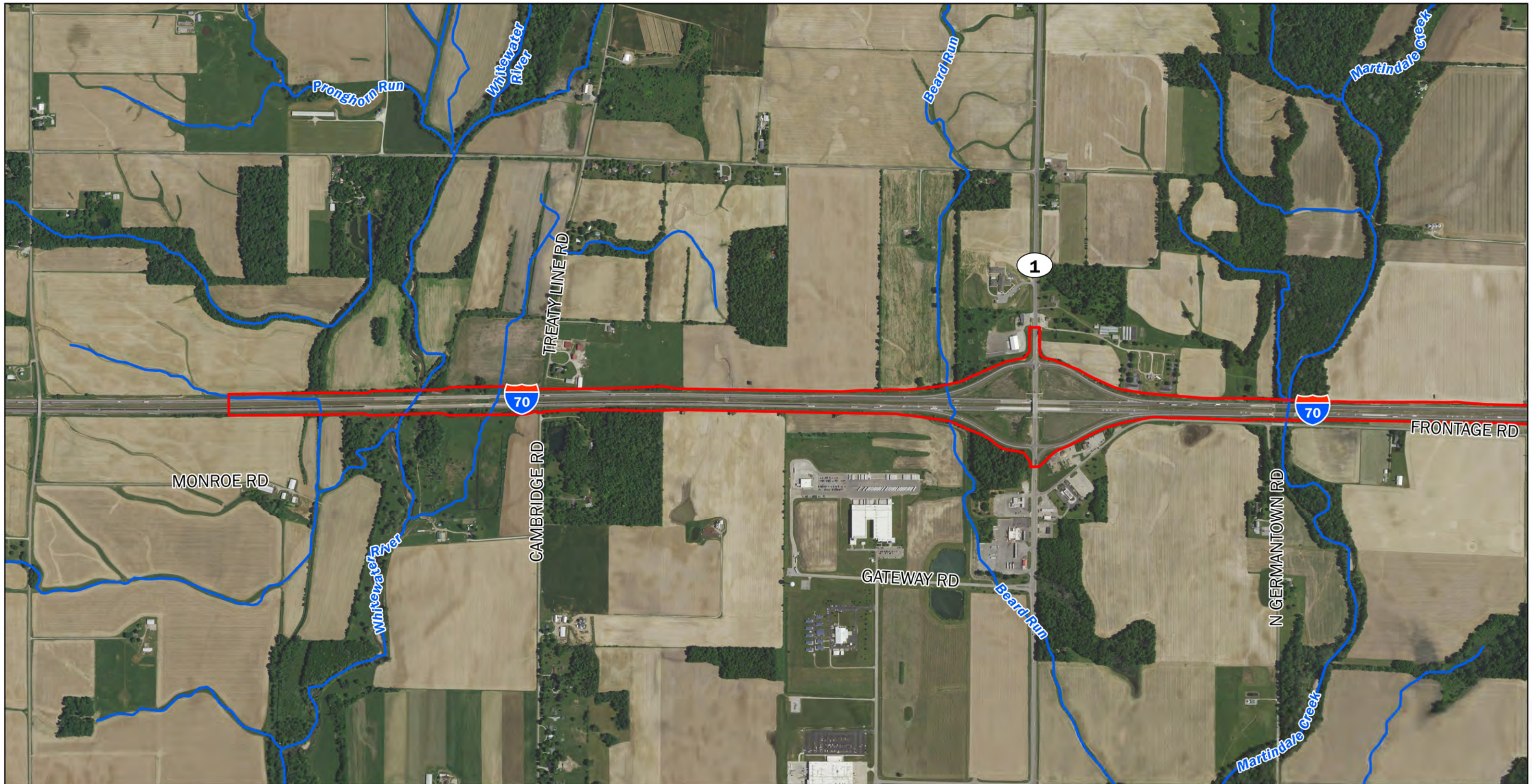
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 Obtained from the State of
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 Orthophotography -
 Obtained from Indiana
 Map Framework Data
www.indianamap.org

Revive I-70
 Wayne County, Indiana
 USGS Topographic

Des. 2002424
 Date: 7/14/2022



PARSONS



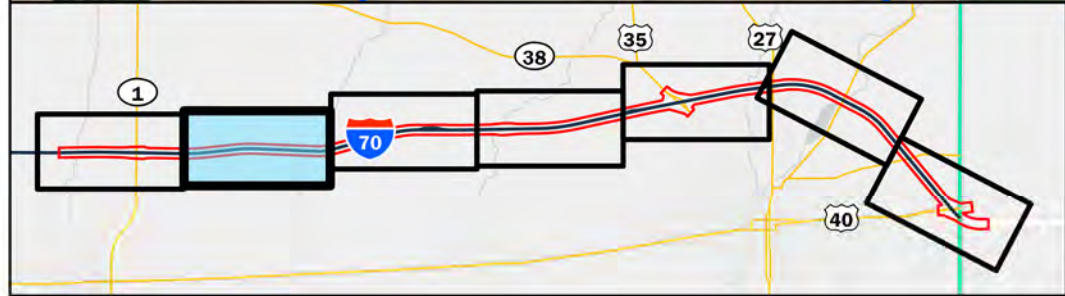
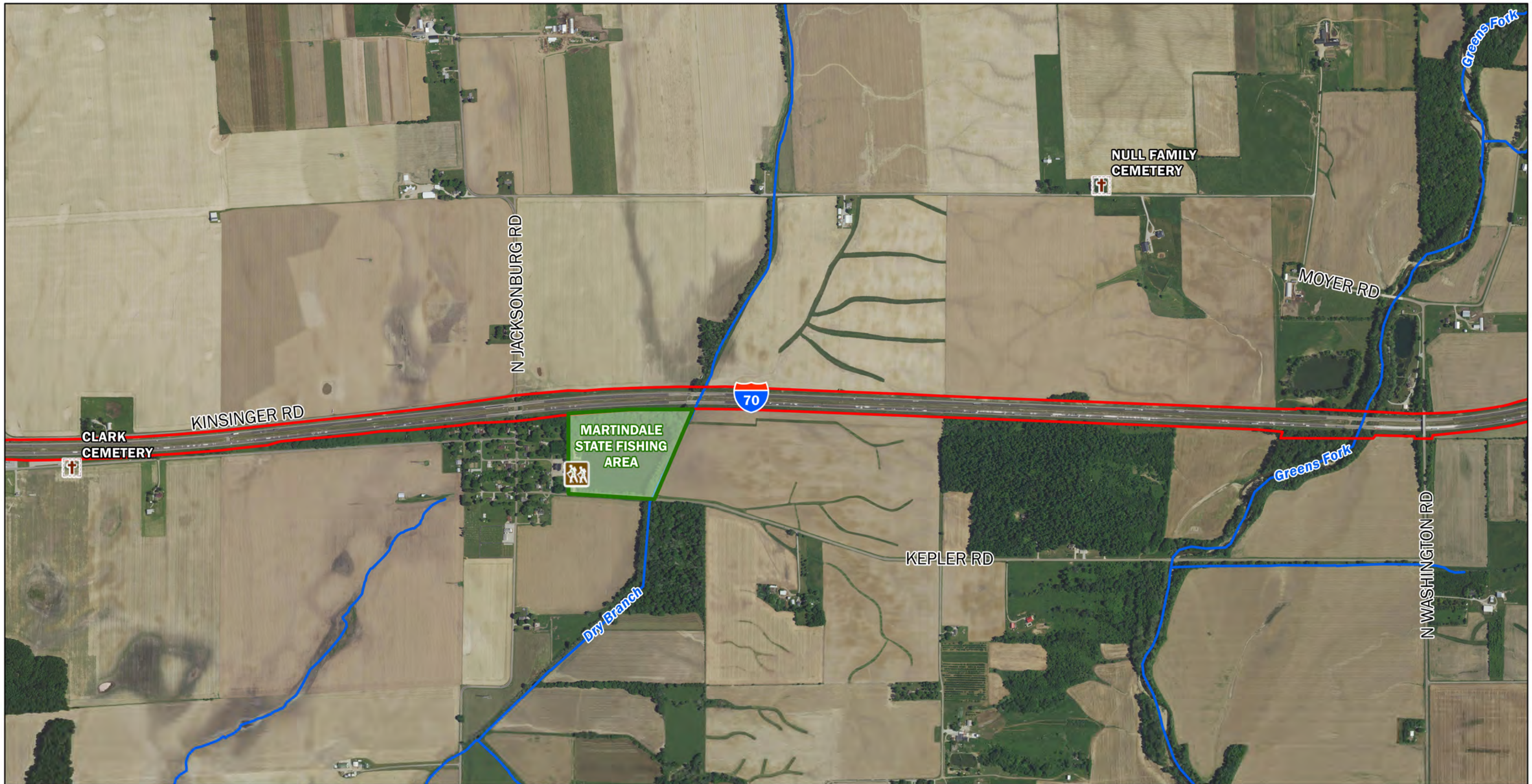
| | |
|---------------------|---------------------------|
| Project Area | School |
| Cemetery | Managed/Recreational Land |
| Hospital | Streams and Rivers |
| Recreation Facility | Trails |
| Religious Facility | |

Sources:
 Non Orthophotography Data -
 Obtained from the State of
 Indiana Geographical
 Information Office Library
 Orthophotography -
 Obtained from Indiana
 Map Framework Data
www.indianamap.org

0 1,000 2,000 Feet
 1 Inch = 1,000 Feet

| | |
|--|--|
| <p>Revive I-70 Wayne County, Indiana 2020 Aerial Sheet 1 of 7</p> | |
| <p>Des. 2002424</p> | |
| <p>Date: 1/4/2023</p> | |

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| | |
|---------------------|---------------------------|
| Project Area | School |
| Cemetery | Managed/Recreational Land |
| Hospital | Streams and Rivers |
| Recreation Facility | Trails |
| Religious Facility | |

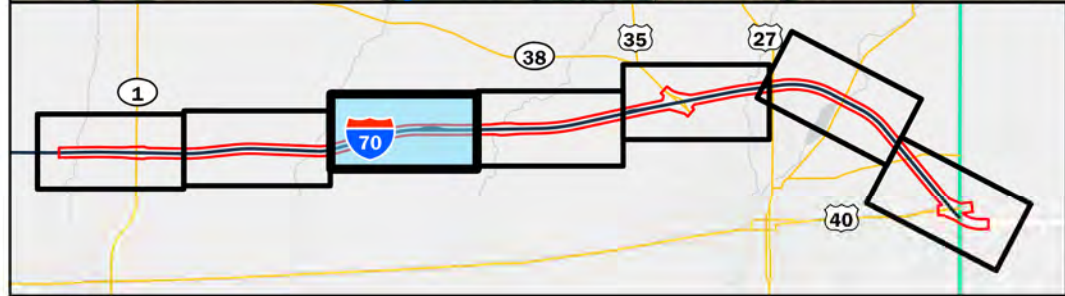
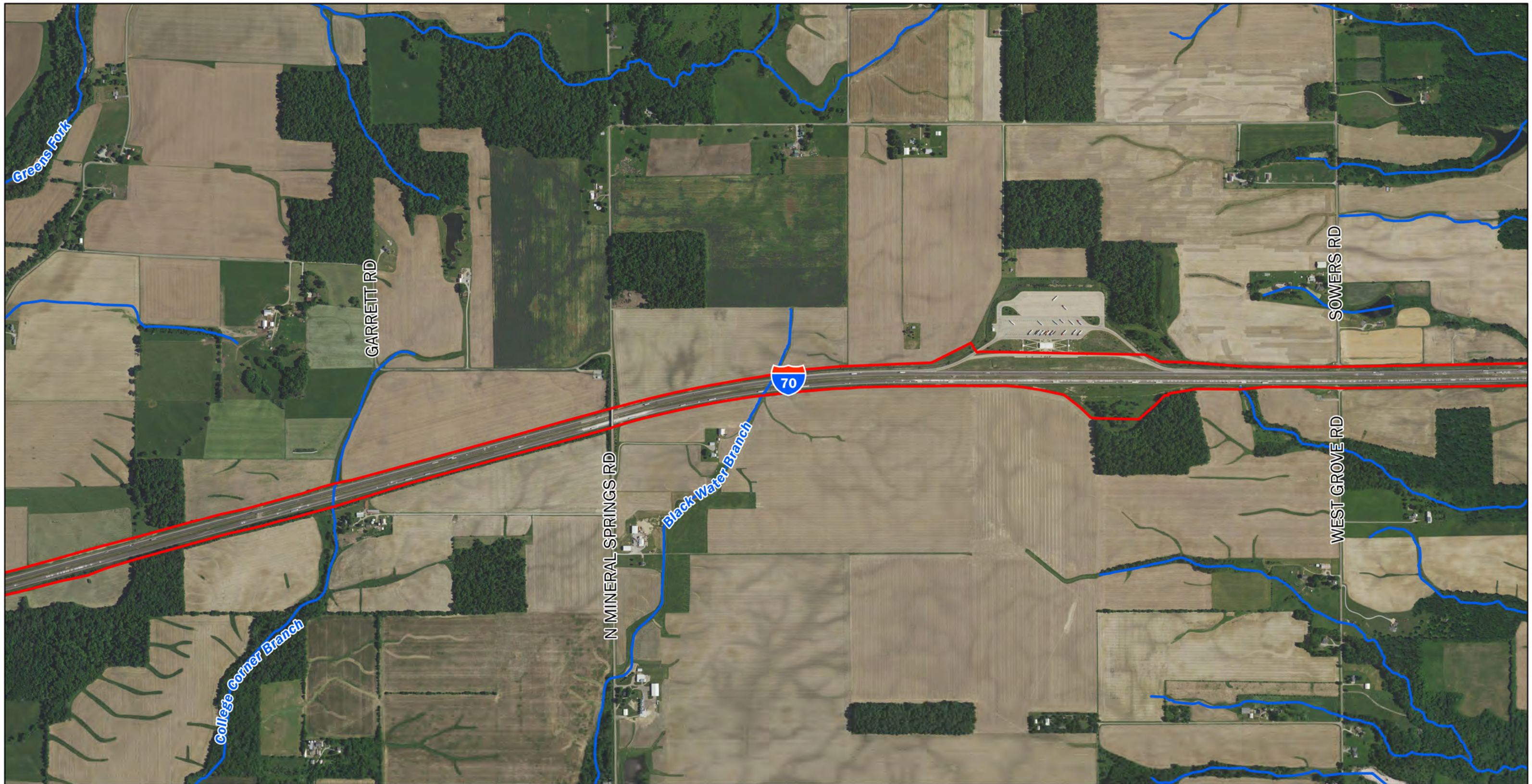
Sources:
 Non Orthophotography Data -
 Obtained from the State of
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 Orthophotography -
 Obtained from Indiana
 Map Framework Data
www.indianamap.org

0 1,000 2,000
 Feet
 1 Inch = 1,000 Feet

Revive I-70
 Wayne County, Indiana
 2020 Aerial
 Sheet 2 of 7

| | |
|----------------|--|
| Des. 2002424 | |
| Date: 1/4/2023 | |

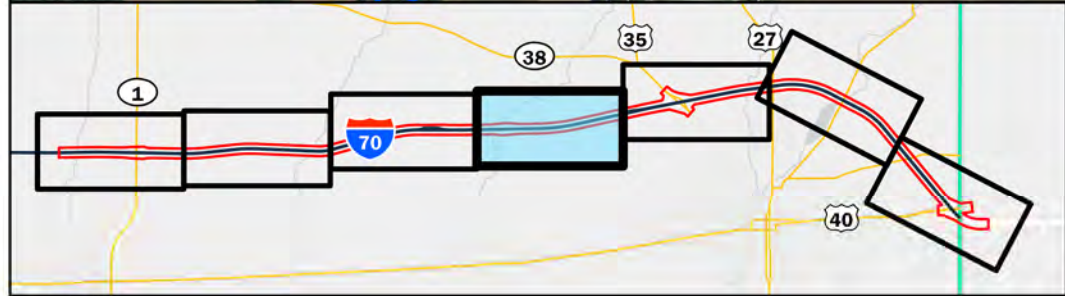
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| | | | |
|---------------------|-------------------------------|---|--|
| Project Area | School | 0 1,000 2,000 Feet 1 Inch = 1,000 Feet | Sources: Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library Orthophotography - Obtained from Indiana Map Framework Data www.indianamap.org |
| Cemetery | Managed/ Recreational Land | | |
| Hospital | Streams and Rivers | | |
| Recreation Facility | Trails | | |
| Religious Facility | | | |

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| Revive I-70 Wayne County, Indiana 2020 Aerial Sheet 3 of 7 | |
| Des. 2002424 | |
| Date: 1/4/2023 | |

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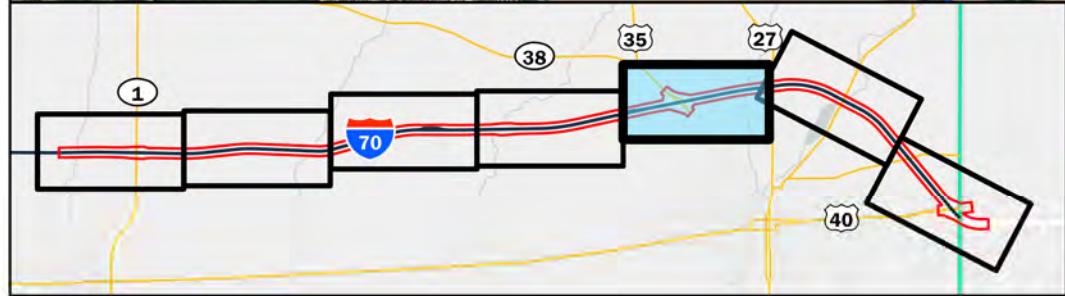


| | | |
|---------------------|---------------------------|---|
| Project Area | School | 0 1,000 2,000 Feet 1 Inch = 1,000 Feet |
| Cemetery | Managed/Recreational Land | |
| Hospital | Streams and Rivers | |
| Recreation Facility | Trails | |
| Religious Facility | | |

Sources:
 Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
 Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

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|---|--|
| Revive I-70 Wayne County, Indiana 2020 Aerial Sheet 4 of 7 | |
| Des. 2002424 | |
| Date: 1/4/2023 | |

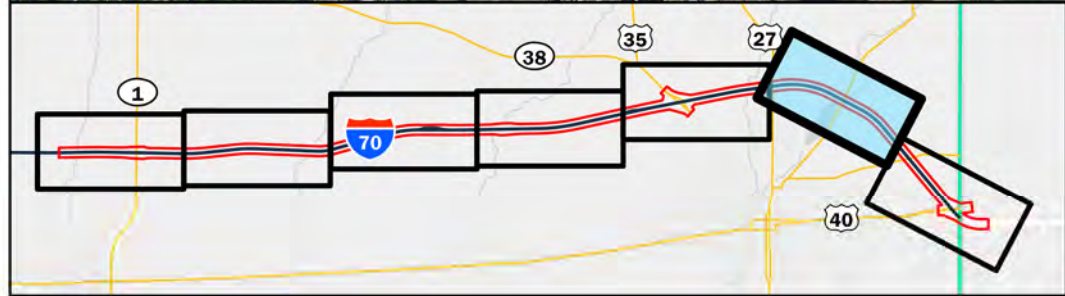
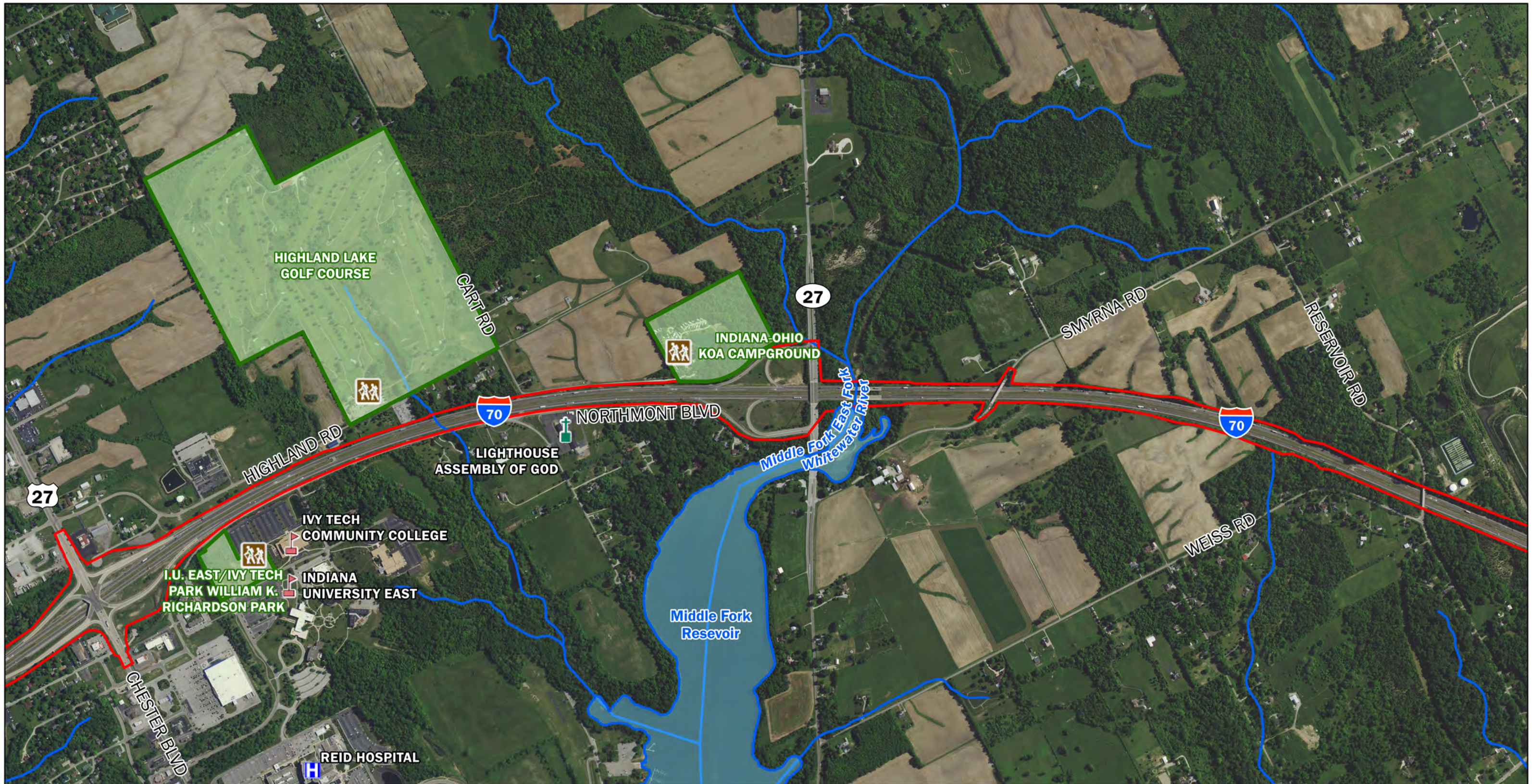
Created by: KDV



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|---------------------|-------------------------------|-----------------------------|--|
| Project Area | School | 1 Inch = 1,000 Feet | Sources: Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library Orthophotography - Obtained from Indiana Map Framework Data www.indianamap.org |
| Cemetery | Managed/ Recreational Land | | |
| Hospital | Streams and Rivers | | |
| Recreation Facility | Trails | | |
| Religious Facility | | | |

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| Revive I-70 Wayne County, Indiana 2020 Aerial Sheet 5 of 7 | |
| Des. 2002424 | |
| Date: 1/4/2023 | |

Created by: KDV



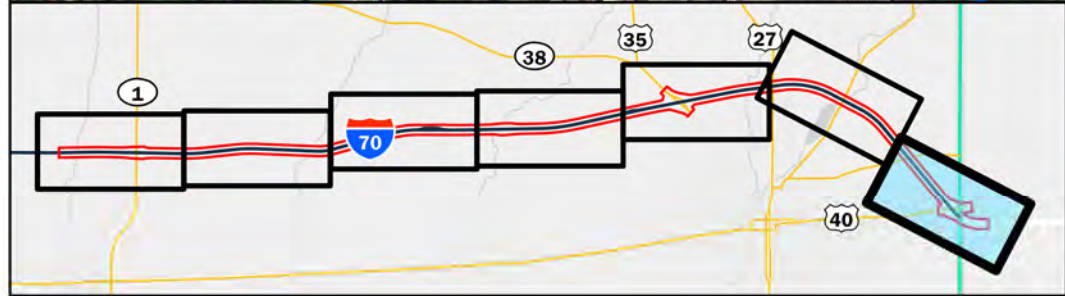
| | | |
|---------------------|-------------------------------|--|
| Project Area | School | Sources: Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library Orthophotography - Obtained from Indiana Map Framework Data www.indianamap.org |
| Cemetery | Managed/ Recreational Land | |
| Hospital | Streams and Rivers | |
| Recreation Facility | Trails | |
| Religious Facility | | |

0 1,000 2,000
 Feet
 1 Inch = 1,000 Feet

Revive I-70
Wayne County, Indiana
2020 Aerial
Sheet 6 of 7

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| Des. 2002424 | |
| Date: 1/4/2023 | PARSONS |

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| Project Area | School | Sources: Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library Orthophotography - Obtained from Indiana Map Framework Data www.indianamap.org |
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1 Inch = 1,000 Feet

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|---|--|
| Revive I-70 Wayne County, Indiana 2020 Aerial Sheet 7 of 7 | |
| Des. 2002424 | |
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Photo 1— View along I-70 in Wayne County. Travel lanes will be added to the median (07/26/2022).

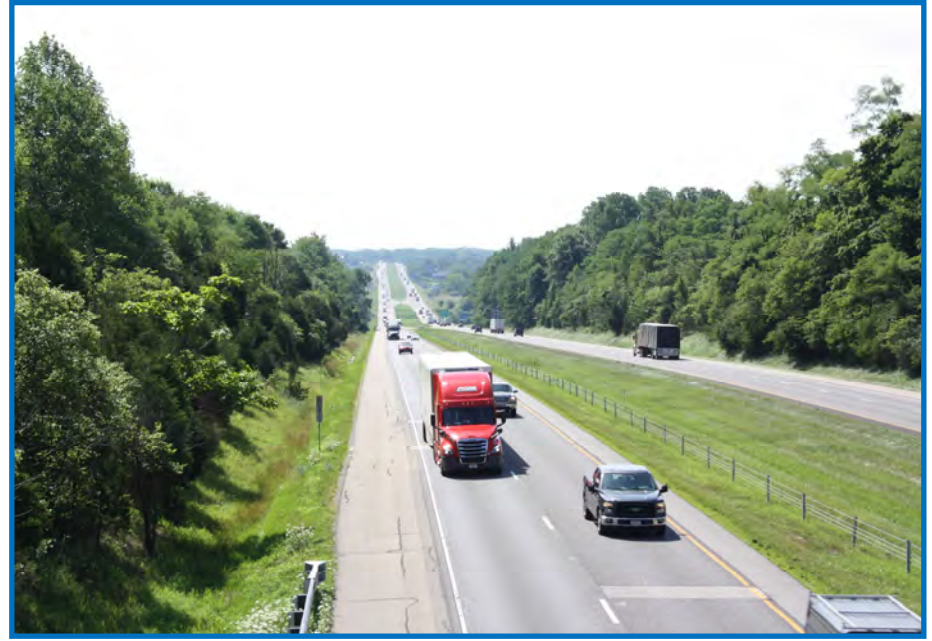


Photo 2—View along I-70 in Wayne County. Travel lanes will be added to the median (07/26/2022).



Photo 3 —View of Martindale Creek and the EB I-70 Bridge Facing North (01/28/2020).



Photo 4 —View of the EB I-70 Bridge over Greens Fork (01/09/2020).



Photo 5— View of EB and WB I-70 Bridges over the Norfolk Southern Railroad Facing North (01/08/2020).



Photo 6—View of I-70 Approaching the US 27 I-70 Interchange Facing East (07/26/2022).

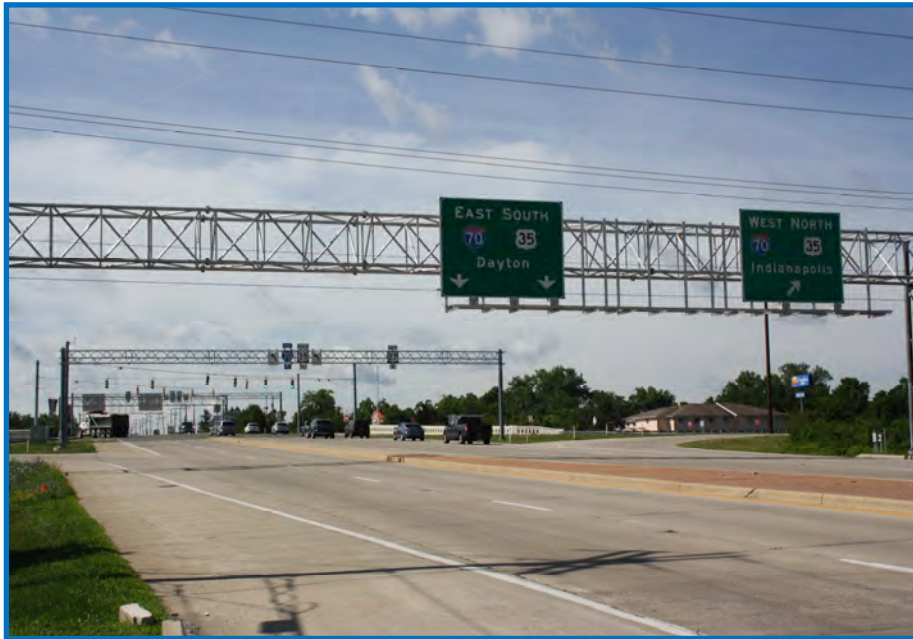


Photo 7—View of US 27 at the I-70 Interchange Facing South (07/26/2022).



Photo 8— View of I-70 Approaching the US 27 Interchange Facing East (07/26/2022).



Photo 9— View of Cardinal Greenway Trail and EB and WB I-70 Bridges Facing South (01/21/2020).



Photo 10—View of Rest Area Facing West (05/05/2023).



Photo 11- View of Weigh Station Facing West (05/05/2023)



Photo 12—View of the I-70/US 40 Interchange Facing Southwest (07/26/2022).

Permanent Right of Way Impacts

