Environmental Assessment

Clear Path 465

Des. 1400075

Prepared for:
Indiana Department of Transportation and Federal Highway Administration

September 2020

Parsons • 101 West Ohio Street, Suite 2121 • Indianapolis, Indiana 46204 • (317) 616-1000

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APPENDIX J – ADDITIONAL STUDIES

List of Abbreviations

- AC – Affected Community
- ADA – Americans with Disabilities Act
- ADT – Average Daily Traffic
- AID – Agency Interest Identification Number
- AMMs – Avoidance and Minimization Measures
- APE – Area of Potential Effect
- BRAG – Binford Redevelopment & Growth
- BMPs – Best Management Practices
- CAC – Community Advisory Committee
- CE-1 – Categorical Exclusion, Level 1
- C-D – Collector-Distributor Road
- CEG – Citizens Energy Group
- CO – Carbon Monoxide
- COC – Community of Comparison
- CRO – Cultural Resources Office
- CSO – Combined Sewer Overflow
- CTBGs – Census Tract Block Groups
- dB(A) – Decibels, A-weighted
- DFW – Division of Fish and Wildlife
- DHPA – Division of Historic Preservation and Archaeology
- DHV – Design Hourly Volume
- DPW – Indianapolis Department of Public Works
- EA – Environmental Assessment
- EB – Eastbound
- EJ – Environmental Justice
- ERC – Environmental Restrictive Covenant
- ESD – Environmental Services Division
- ETR – Endangered, Threatened and Rare
- EWPO –Ecology and Waterway Permitting Office
- FEIS – Final Environmental Impact Statement
- FHWA – Federal Highway Administration
- FID – Facility Identification Number
- FRA – Federal Railroad Administration
- FTA – Federal Transit Administration
- FY – Fiscal Year
- gpm – Gallons Per Minute
- HPR – Historical Properties Report
- HUD – Housing and Urban Development
- IAD – Interstate Access Document
- IDEM – Indiana Department of Environmental Management
- IDNR – Indiana Department of Natural Resources
- IHSDM – Interactive Highway Safety Design Model
- IJS - Interchange Justification Study
- INDOT – Indiana Department of Transportation
- IC – Institutional Controls
- IPaC – Information for Planning and Consultation
- IGWS – Indiana Geological and Water Survey
- IRTIP – Indianapolis Regional Transportation Improvement Program
- IN SWMP – Indiana Stream and Wetland Mitigation Program
- KTM – Kitchen Table Meeting
- LOS – Level of Service
- LUST – Leaking Underground Storage Tank
- LWCF – Land and Water Conservation Fund
- MAP-21 – Moving Ahead for Progress in the 21st Century Act
- MOT – Maintenance of Traffic
- MOU – Memorandum of Understanding
- MPH – Miles Per Hour
- MPO – Metropolitan Planning Organization
- MS4 -Municipal Separate Storm Sewer System
- MSAT – Mobile Source Air Toxics
- MSE – Mechanically Stabilized Earth
- MUTCD – Manual of Uniform Traffic Control Devices
- NAC – Noise Abatement Criteria
- NB – Northbound
- NEPA – National Environmental Policy Act
- NPDES – National Pollutant Discharge Elimination System
- NRCS – Natural Resources Conservation Service
- NRHP – National Register of Historic Places
- NWI – National Wetlands Inventory
- OHWM - Ordinary High Water Mark
- OWJ – Officials with Jurisdiction
- PDO – Property Damage Only
- PIP – Public Involvement Plan
- $PM_{2.5}$ – Particulate Matter 2.5 Micrometers (Fine Particulate Matter)
- RAM – Resource Agency Meeting
- RCRA – Resource Conservation and Recovery Act
- RFI – Red Flag Investigation
- ROD – Record of Decision
- SB – Southbound
- SHPO – State Historic Preservation Officer
- SIP – State Implementation Plan
- STIP – Statewide Transportation Improvement Program
- SWPPP – Storm Water Pollution Prevention Plan
- TBD – To Be Determined
- TMDL – Total Maximum Daily Loads
- TMP – Transportation Management Plan
- TNM – Traffic Noise Model
- TP – Transportation Plan
- UAB – Urban Area Boundary
- UNT – Unnamed Tributary

- USACE – United States Army Corps of Engineers
- USEPA – United States Environmental Protection Agency
- USDA – United States Department of Agriculture
- USGS – United States Geological Survey
- UST – Underground Storage Tank
- VFC – Virtual File Cabinet
- VMT – Vehicle Miles Traveled
- VRP – Voluntary Remediation Program
- W&A – Weintraut & Associates
- WAQ - Water Quality Certification
- WB – Westbound
- WHPA – Wellhead Protection Area

FHWA-INDIANA ENVIRONMENTAL DOCUMENT

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

General Project Information/Signature Page

Road No./County:	Interstate 465 (I-465) and I-69/Binford Boulevard / Marion County
Designation Numbers:	1400075 (Lead*)
Project Description/Termini:	Clear Path 465 / Along I-465 from approximately 2.4 miles west of I-69, at the White River Bridge, to 2.2 miles south of I-69, at the I-465 bridge over Fall Creek Road. Along Binford Boulevard from approximately 0.8 mile south of the 75th Street/Binford Boulevard intersection to the I-465/I-69 interchange. Along I-69, from the I-465 interchange to 1.4 miles north of I-465.

* A complete list of Designation Numbers (Des. Nos) is provided in Table A.1 (Appendix A-148).

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

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

Release for Public Involvement

Ronald E. Bales — 9-3-2020
ESD Signature — Date

Robert E. Dirks — Digitally signed by Robert E. Dirks Date: 2020.09.23 12:19:47 -04'00'
FHWA Signature — Date

Certification of Public Involvement _____ _____
Office of Public Involvement — Date

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

INDOT ES/District Env. Reviewer Signature: _____ Date: 9/3/2020

Name and Organization of CE/EA Preparer: Daniel J. Miller and Juliet Port, LPG - Parsons

INTRODUCTION

The Indiana Department of Transportation (INDOT), in cooperation with the Federal Highway Administration (FHWA), has conducted an Environmental Assessment (EA) for the proposed I-465/I-69 Interchange Modification and Added Travel Lanes project in Marion County, Indiana, hereinafter referred to as "Clear Path 465".

The Clear Path 465 project is located on the northeast side of Indianapolis, Indiana. It begins along I-465 approximately 2.4 miles west of I-69 at the White River Bridge, continues through the I-69 interchange, and terminates approximately 2.2 miles south of I-69 at the I-465 bridge over Fall Creek Road. Southwest of the I-465/I-69 interchange, the project begins on Binford Boulevard approximately 0.8 mile south of 75th Street and travels northeast along Binford Boulevard and I-69, terminating approximately 1.4 miles northeast of the I-465/I-69 interchange. The project includes the following interchanges: the I-465/Allisonville Road interchange, the I-465/I-69 interchange, and the I-69/82nd Street interchange. The project area is shown on the Project Location map (Appendix B-1).

In 2003, a Final Environmental Impact Statement (FEIS) was prepared for the "Indianapolis Northeast Corridor" (also known as "ConNECtions"), which included an I-465/I-69 interchange modification and added travel lanes within the current project area. A Record of Decision (ROD) was approved in February 2004. After the approval of the FEIS and ROD, various portions of the Indianapolis Northeast Corridor were constructed as separate projects. Furthermore, growth within the region was significantly higher than anticipated. Therefore, revisions to the interchange modifications were required. Due to the age of the document, the various other projects that have already been broken off from the original Indianapolis Northeast Corridor scope, and the revisions necessary to the interchange modification, FHWA determined that an EA is required for the proposed new interchange modifications.

PART I - PUBLIC INVOLVEMENT

	YES	NO
Does the project have a historic bridge processed under the Historic Bridges PA?		X
If No, then is an Opportunity for a Public Hearing Required?	X	

Initial Activities

Notice of Entry letters were mailed to potentially affected property owners near the project area on August 31, 2016, September 7, 2017, and September 11, 2017, notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G-13.

Early in the project development process, the project team prepared a Public Involvement Plan (PIP). The purpose of the PIP was to establish goals and strategies for engaging with the public and key stakeholders in accordance with the *INDOT Public Involvement Policies and Procedures Manual* (August 2012). On June 28, 2017, FHWA concurred with the strategies and goals in the initial draft PIP. Around this time, the project's website and social media sites were developed: https://www.in.gov/indot/ 3654.htm and @ClearPath465 on Twitter/Facebook/Instagram. The updated PIP from July 2020 is included in Appendix G-1.

Community Advisory Committee (CAC)

A Community Advisory Committee (CAC) was formed to obtain early input from key stakeholders including local government officials, elected officials, transportation managers, major employers, and emergency responders (listed below). The CAC was initiated with invitations to the first meeting, sent on July 28, 2017 (Appendix G-30). The initial CAC meeting was held on August 16, 2017 and focused on the project's purpose and need and Preliminary Alternatives A, B, and C. The meeting summary, sent on September 19, 2017, is included in Appendix G-33.

Community Advisory Committee

- FHWA
- INDOT Greenfield District
- INDOT Environmental Services Division (ESD)
- INDOT Public Involvement
- INDOT Rail Office
- Indiana Department of Homeland Security
- Indiana State Police
- Indianapolis Department of Public Works (DPW)
- Indianapolis Department of Metropolitan Development
- Indianapolis Metropolitan Police Department
- Hoosier Heritage Port Authority
- Indianapolis Metropolitan Planning Organization
- Indianapolis Fire Department
- Marion County Health and Hospital
- Indianapolis Parks and Recreation (Indy Parks)
- Neighborhood Liaison for Indianapolis Mayor's Office
- City of Indianapolis
- City of Fishers
- House District 95
- House District 87
- City/County Council District 3
- City/County Council District 4
- City of Fishers City Council
- Hamilton County Highway Department
- Board of Hamilton County Commissioners
- Hamilton County Emergency Management
- Metropolitan School District of Lawrence Township
- Heritage Christian School
- Community Health Network
- Fairbanks Addiction Treatment Center
- Roche Diagnostics
- Cornerstone Companies, Inc.
- Binford Redevelopment & Growth (BRAG)

Public Open House

A public open house for the Clear Path 465 project was held at Heritage Christian School on August 23, 2017. Invitations to the open house were sent to adjoining property owners, places of worship, civic organizations, and neighborhood groups (Appendix G-18). Additionally, the open house was advertised via INDOT's mailing list, press releases, social media, and traditional media outlets (Appendix G-23). During the open house, project team members were stationed to allow for small group discussions, and a short presentation was given on the project's purpose and need, environmental analyses, and the various alternatives under consideration (Appendix G-45).

Initial Comments

Public comments received during project development were recorded in the Public Comment Log (Appendix G-232). During the CAC meeting, potential impacts to Indianapolis Parks and Recreation (Indy Parks) facilities were discussed (see *Part III, Section D – Section 4(f) Resources/Section 6(f) Resources*). In addition to the verbal feedback received during the meeting, Community Hospital expressed some of their transportation challenges in an email on September 14, 2017 (Appendix G-43).

The initial public comments received from the CAC, public open house, and social media prior to September 2017 were considered during the *Alternatives Analysis* (Appendix A-54). The comments included general comments, right-of-way questions, drainage/hydraulics, business impacts, current/proposed signals on Binford Boulevard, and noise impacts. A total of 48 comments were received. The following is a list of the more common comments.

- Four generally supported the project and agreed with the needs for the project.
- Four comments had a preference for Alternative A.
- Five comments had a preference for Alternative B.
- Six comments had a preference for Alternative C.
- Three comments did not support the proposed traffic signal at the eastbound I-465 ramps to southbound Binford Boulevard ramp terminal.
- Eight comments requested adding new movements to the I-465/I-69 interchange. These requests included a northbound Binford Boulevard to southbound I-465 ramp and a westbound I-465 to southbound Binford Boulevard ramp.

Additional Stakeholder Meetings

A second CAC meeting was held on May 9, 2018, a few months prior to receiving FHWA's Determination of Engineering and Operational Acceptability based on the *Interstate Access Document* (Appendix A-1) and the recommendation of Alternative C Modified (preferred alternative). The invitations to the second CAC meeting were sent on April 6, 2018 (Appendix G-62). The presentation covered the draft purpose and need statement, initial environmental screening, the alternatives considered, and an overview of Alternative C Modified. The meeting summary and handouts were sent July 25, 2018 (Appendix G-66). No written responses were received.

On September 12, 2018, project team members were invited to speak with Binford Redevelopment & Growth (BRAG), a civic organization of business owners from the project area. Project team members were invited to give the same presentation to the BRAG homeowner association on October 16, 2018. The presentation covered the project's purpose and needs, initial environmental analyses, the alternatives considered, and an overview of Alternative C Modified (Appendix G-98). Written comments received from these meetings were recorded in the project's Comment Log (Appendix G-232).

A series of small group meetings, called "Kitchen Table Meetings" (KTMs), were held from September 24, 2018 to May 1, 2019 with landowners and businesses who may be impacted by permanent and/or temporary right-of-way acquisition (Appendix G-133). Primary concerns included existing drainage issues, impacts to access or parking, acquisition and relocation processes, maintaining visibility from the interstates, fencing, and noise. Many of these concerns were discussed during the KTMs or the noise analysis public process (discussed below and in *Part III, Section F – Noise*). Direct impacts will be addressed through the acquisition process, in accordance with INDOT's *Real Estate Division Manual*. Applicable commitments generated during these meetings are included in *Part III, Section J – Environmental Commitments*.

Transportation officials and related stakeholders were invited to the initial Transportation Management Plan (TMP) meeting, held on December 11, 2018 (Appendix G-214). During the meeting, team members described the project, the TMP process, the conceptual maintenance of traffic plan, and next steps. Stakeholders discussed the need for strong communication regarding any closures and potential impacts from other projects in the area. Representatives from Community Health discussed issues with motorists cutting through their campus, and the need for emergency vehicles to maintain access to the hospital. Applicable commitments generated during the initial TMP meeting are included in *Part III, Section J – Environmental Commitments*.

Noise Meetings

A noise meeting was held on December 17, 2018 at Heritage Christian School to solicit input from residents that were determined to benefit from the construction of noise barriers. Meeting invitations and pre-stamped surveys, which allowed the resident to state whether or not they would like the noise wall associated with their property constructed, were mailed to each benefited resident on December 5, 2018 (Appendix I-39 to I-49). A presentation was given on the noise analysis conducted for the project, and boards showing the locations where noise abatement is likely were made available (Appendix G-110).

Ninety responses were received from the noise-impacted property owners benefited by the noise barriers (Appendix I-49). Of the response received, 81 were in support of the noise barriers being constructed. Additionally, several comments were received from residents and property owners who did not receive a mailing as they were not benefited by the noise barriers presented at the meeting. These comments were about Noise Barrier 8, which was initially determined not reasonable and feasible, and were recorded in the Public Comment Log (Appendix G-232).

Due to an insufficient response rate, a second letter and survey were sent to residents and property owners who did not respond to the first survey (Appendix I-50 to I-59). A total of 771 letters and surveys were sent in February 2019, and 53 responses were received (Appendix I-60). Of the responses received, 45 supported constructing noise barriers.

Following the initial surveys, additional analysis of potential noise abatement was conducted, which included expanding the noise study area where predicted noise impacts extended past the initial study area which is consistent with the INDOT Traffic Noise Procedures and 23 CFR 772. Subsequently, it was determined that a revised Noise Barrier 8 was feasible and reasonable. An additional survey was sent to the noise-impacted property owners benefited by Noise Barrier 8 in July 2019, and a public meeting was held on August 7, 2019 (G-271 to G-290). Ninety-eight letters and surveys were

sent, and 68 responses were received (Appendix I-65). Of the responses received, 63 (56 residences and 7 businesses) were in support of Noise Barrier 8. Five responses, all from adjacent businesses, did not support Noise Barrier 8. Noise is discussed further in *Part III, Section F – Noise*.

Consulting Party Meetings

To meet the public involvement requirements of Section 106 of the National Historic Preservation Act, FHWA's initial finding of "No Adverse Effect" was advertised in in the *Indianapolis Star* on April 10 and April 11, 2019. As advertised, the public comment period closed 30 days later on May 11, 2019. FHWA's revised finding of "No Adverse Effect" was advertised in in the *Indianapolis Star* on February 29, 2020. As advertised, the public comment period closed 30 days later on April 2, 2020. The text of the public notices and the affidavit of publications appear in Appendix D-129 to D-134 and Appendix D-185 to D-187. No comments were received. Cultural resources are further discussed in *Part III, Section C – Cultural Resources*.

Section 4(f) *De Minimis* Finding – E 71st Street Multi-Use Trail

On June 8, 2020, a notice was placed in the *Indianapolis Star* to offer the public an opportunity to comment on the Section 4(f) *de minimis* finding for the East 71st Street Multi-Use Trail (Appendix G-340). A copy of the legal notice was sent to stakeholders located within approximately 1.5 miles of the trail, including schools, churches, and neighborhood associations, as well as adjoining property owners (Appendix G-343). One general project comment was received, requesting a ramp from I-69 to East 86th Street (Appendix G-346). No comments were received regarding the proposed impacts to the East 71st Street Multi-Use Trail. Section 4(f) Resources are discussed further in *Part III, Section D – Section 4(f) Resources/Section 6(f) Resources*.

Public Hearing

The proposed project is being processed as an EA. Per the current INDOT *Public Involvement Manual* the project is required to hold a public hearing. Upon release of the EA for public involvement, a legal advertisement will be placed in a local publication notifying the public of the public hearing and availability of the EA for review. The public will be provided a 30-day comment period. Following the public hearing, if determined appropriate, a request for a Finding of No Significant Impact (FONSI) will be submitted to FHWA. All comments received during this period will be addressed and attached to the FONSI request. If any comments require a change to the EA, an Additional Information document may be prepared and approved by FHWA prior to the submission of the FONSI request to FHWA. The preparation of the FONSI by FHWA will indicate the NEPA process for this project has been completed. Once the NEPA process is completed, a public notice announcing the availability of the FONSI will be advertised in local publications of general circulation.

PUBLIC CONTROVERSY ON ENVIRONMENTAL GROUNDS	Yes	No
Will the project involve substantial controversy concerning community and/or natural resource impacts?		X

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:**	Greenfield
LOCAL NAME OF THE FACILITY:	I-465, I-69 , Binford Boulevard, 75th Street, 82nd Street, and Allisonville Road		

FUNDING SOURCE (MARK ALL THAT APPLY): Federal [ ] State [X] Local [X] Other [ ]

Purpose and Need

The purpose and need statement for this project was approved by INDOT and FHWA in November 2017. The statement was distributed to the stakeholders at the resource agency meeting (RAM) and second CAC meeting, and it was included in the *Interstate Access Document* (Appendix A-1).

The need for the Clear Path 465 project stems from insufficient capacity that causes backups during the peak hours and safety concerns due to a high volume of crashes within the project area.

- Congestion. There is insufficient existing and future capacity in critical roadway segments of the project area, resulting in congestion issues. The results of traffic analyses (discussed further below) show unacceptable Levels of Service (LOS) for both base-year (2015) and design-year (2040) traffic in each direction along critical roadway segments within the project corridor. LOS is a performance measure that represents quality of service, measured on an A – F scale, with LOS A representing the best operating conditions from a traveler's perspective and LOS F the worst. The entire project area is considered urban, which means the minimally acceptable LOS is D.

- Safety. Between 2013 and 2015, 1,058 crashes were reported within the project area – an average of nearly one crash per day. Contributing factors include traffic congestion and weaving movements. There are also substandard shoulder widths along I-69, which do not provide space for emergency storage of disabled vehicles, enforcement activities, or maintenance activities. Crash data is discussed further below.

The purpose of the Clear Path 465 Project is to improve overall traffic operation by increasing capacity to meet an acceptable LOS (at least LOS D), and to improve safety.

Purpose and Need Supporting Data

1. Peak-hour traffic volumes were collected by INDOT in 2014 and 2015. The INDOT Technical Planning and Programming section used the Indiana Statewide Travel Demand Model to assign an annual growth rate to the mainline (0.6%) and ramps (0.3%) in the project area to forecast the 2040 (design year) peak-hour volumes. The adjusted and balanced data was then analyzed to produce an LOS for key segments in the project area. The base-year (2015) and design-year (2040) peak-hour LOS for traffic congestion throughout the project area are summarized in Table 1.
    a. Eastbound I-465 experiences congestion during both base-year AM and PM peak hours (morning and evening rush hour) on multiple roadway segments. Eastbound I-465 has five mainline lanes over the White River but is reduced to three mainline lanes after the Allisonville Road off-ramp and continuing to I-69. The base-year LOS is E in both the AM and PM peak hours between the Allisonville on-ramp and the Binford Boulevard off-ramp. The same section drops to LOS F for both AM and PM peak hours of the design year.

    b. The eastbound I-465 to northbound I-69 ramp is a one-lane, low-speed loop ramp. This loop ramp also forms a tight weaving section on northbound Binford Boulevard with the northbound Binford Boulevard loop ramp to westbound I-465. The high demand and low speeds on the eastbound to northbound loop ramp cause queuing that can back up onto the eastbound I-465 mainline lanes, especially in the PM peak hour. This section of eastbound I-465 shows a base-year LOS E in both the AM and PM peak hours. The LOS in the PM peak hour drops to LOS F in the design year.

Table 1. Existing Design Speeds and LOS Summary

CRITICAL ROADWAY SEGMENTS	EXISTING # OF LANES	DESIGN SPEED (MPH)	LOS (AM/PM)	
			BASE-YEAR (2015)	DESIGN-YEAR (2040)
EB I-465 – White River to Allisonville Rd	4	70	C/D	D/E
EB I-465 - Inside Allisonville Rd Interchange	3	70	D/D	D/E
EB I-465 – Allisonville Rd On-Ramp to Binford Blvd Off-Ramp	3	70	E/E	F/F
EB I-465 – Binford Blvd Off-Ramp to Loop Ramp	3	70	E/E	E/F
EB I-465 – Loop Ramp to I-69 On-Ramp	3	70	C/C	D/D
SB I-465 – I-69 On-Ramp to 56th St. / Shadeland Ave.	4	70	E/E	F/F
NB I-465 – 56th St. / Shadeland Ave. to I-69 Ramps	4	70	E/E	F/F
WB I-465 – I-69 Ramp to Loop Ramp	3	70	D/C	E/D
WB I-465 – Loop Ramp to I-69 Ramp	3	70	C/C	D/C
WB I-465 – I-69 Ramps to Allisonville Rd (weave)	4	70	F/E	F/F
WB I-465 – Inside Allisonville Rd Interchange	3	70	F/D	F/E
WB I-465 – Allisonville Rd to White River	4	70	E/D	F/D
NB I-69 – I-465 Ramps/Binford Blvd to 82nd St. (weave)	4	55	D/E	E/F
NB I-69 – Inside 82nd St. Interchange	4	55	C/D	C/D
NB I-69 – North of 82nd St.	5	55	C/C	C/D
SB I-69 – North of 82nd St.	5	55	D/C	D/C
SB I-69 – Inside 82nd Street Interchange	4	55	D/C	E/C
SB I-69 – 82nd Street to I-465 Ramps (weave)	5	55	E/C	F/D
NB Binford – 75th St. to NB I-69	2	55	C/C	C/C
NB I-465 to NB I-69/82nd St.	2	50	D/E	D/F
SB I-69 to WB I-465	2	50	C/B	C/C
SB I-69 to SB I-465	2	50	E/D	F/D

Note: Highlighted cells show unacceptable LOS in the base-year and/or the design year.

a. Southbound I-465 between I-69 and the 56th Street/Shadeland Avenue exit has four mainline lanes but still experiences heavy congestion resulting in LOS E in the base-year AM and PM peak hours. The LOS drops to F in both AM and PM peak hours of the design year.

b. Northbound I-465 between the 56th Street/Shadeland Avenue on-ramp and the I-69 off-ramp has four mainline lanes but still experiences heavy congestion in the base-year AM and PM peak hours resulting in a base-year LOS E in both the AM and PM peak hours. The LOS drops to F in both AM and PM peak hours of the design year.

c. Westbound I-465 experiences congestion during both base-year AM and PM peak hours, but especially the AM peak period. Motorists traveling from southbound I-69 to westbound I-465 use a two-lane ramp that drops to one lane after merging with westbound I-465. This lane then acts as an auxiliary lane that exits at the Allisonville Road off-ramp. This leaves three westbound mainline lanes after the Allisonville Road off-ramp. The limited capacity of this weaving section between I-69 and Allisonville Road results in a base-year LOS F in the AM peak hour and LOS E in the PM peak hour. Both AM and PM peak hours are LOS F in the design year. The three-lane section of westbound I-465 after the Allisonville Road off-ramp shows a base-year LOS F in the AM peak hour and LOS D in the PM peak hour. The design-year analysis shows an LOS F in the AM peak hour and LOS E in the PM peak hour.

d. Southbound I-69 experiences congestion during both base-year and design-year AM and PM peak hours. The segment between the southbound 82nd Street off-ramp and the southbound 82nd Street on-ramp has four mainline lanes. The design-year analysis shows an LOS E in the AM peak hour. Farther south, the left two lanes of southbound I-69 split to southbound Binford Boulevard. This forces most of the heavy I-69 traffic volumes bound for I-465 into the right two lanes upstream of the 82nd Street on-ramp. A problematic weaving movement is caused by the 82nd Street on-ramp traffic entering southbound I-69 and weaving across three

lanes to get to southbound Binford Boulevard before the gore. This weaving movement and the lack of adequate capacity on southbound I-69 causes a base-year LOS E in the AM peak hour, which worsens to LOS F in the design year. Also, the two-lane ramp from southbound I-69 to southbound I-465 operates at LOS E in the base-year AM peak hour and LOS F in the design-year AM peak hour.

e. Northbound I-69 experiences congestion during the base-year PM peak hour between I-465 and 82nd Street. Traffic from northbound Binford Boulevard and eastbound I-465 going to the northbound 82nd Street off-ramp weaves across two lanes of heavy traffic from northbound I-465. This weaving movement on northbound I-69 causes a base-year LOS E in the PM peak hour and design-year LOS E in the AM peak hour and LOS F in the PM peak hour. Also, the two-lane ramp from northbound I-465 to northbound I-69 operates at LOS E in the base-year PM peak hour and LOS F in the design-year PM peak hour.

2. Specific areas within the interchange have been identified as "high-crash" due to the number and type of crashes. These areas are eastbound I-465 as it approaches the eastbound I-465 to southbound Binford Boulevard off-ramp (large number of rear end crashes), and southbound I-69 just south of the 82nd Street on-ramp (large number of rear end and sideswipe crashes) due to weaving. A summary of crash data is provided in Table 2.

Table 2. Historical Crash Summary (2013 to 2015)

CRASH SEVERITY	CRASH LOCATION					
	NB I-69	SB I-69	WB/NB I-465	EB/SB I-465	UNKNOWN DIRECTION	NB/SB BINFORD
Property Damage Only	35	142	302	379	18	10
Injury	10	39	45	68	7	3
Fatality	0	0	0	0	0	0
PROPERTY DAMAGE ONLY (PDO) CRASHES [YEARLY MEAN]						295
INJURY CRASHES [YEARLY MEAN]						57
CRASHES [YEARLY MEAN]						353
CRASHES [3-YEAR TOTAL]						1,058

Project Description (Preferred Alternative)

COUNTY: Marion **MUNICIPALITY:** Indianapolis

LIMITS OF PROPOSED WORK: Along I-465 from approximately 2.4 miles west of I-69, at the White River Bridge, to 2.2 miles south of I-69, at the I-465 bridge over Fall Creek Road.
Along Binford Boulevard from approximately 0.8 mile south of the 75th Street/Binford Boulevard intersection to the I-465/I-69 interchange.
Along I-69, from the I-465 interchange to 1.4 miles north of I-465.

TOTAL WORK LENGTH: 4.4 Mile(s) **TOTAL WORK AREA:** 266 Acre(s)

	Yes	No
Is an Interstate Access Document (IAD) required?	X*	
If yes, when did the FHWA grant a conditional approval for this project?	October 10, 2018	

*The IAD is located in Appendix A-1

LOCATION

The project is located on the northeast side of Indianapolis, Marion County, Indiana within the Washington and Lawrence Civil Townships (Appendix B-1). A complete list of Des. Nos. associated with this project is provided in Table A.1 (Appendix A-148). The project limits along I-465 are from approximately 2.4 miles west of I-69, at the White River Bridge, to 2.2 miles south of I-69, at the I-465 bridge over Fall Creek Road. The project limits along Binford Boulevard are from approximately 0.8 mile south of the 75th Street/Binford Boulevard intersection to the I-465/I-69 interchange. The project limits along I-69 are from the I-465 interchange to 1.4 miles north of I-465.

The project has independent utility and logical termini because it will address the safety and capacity issues described above in *Part II - Purpose and Need*. The Clear Path 465 project area is of sufficient length to address any environmental impacts related to its design and construction. This project is a reasonable expenditure even if no additional transportation improvements in the area are made, and it should not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. Therefore, this project meets FHWA criteria for independent utility and logical termini (www.environment.fhwa.dot.gov/legislation/nepa/guidance_project_termini.aspx).

EXISTING CONDITIONS

I-465 west of the I-69 interchange consists of three travel lanes in each direction plus auxiliary lanes for ramps. East/south of the I-69 interchange, I-465 has four travel lanes in each direction. Noise barrier walls are present along the west side of I-465 between 65th Street and 75th Street. I-69 consists of four travel lanes in each direction. Binford Boulevard has two travel lanes in each direction. The project involves a total of 26 existing bridges and 26 existing culverts, which are summarized in Tables 5 through 7.

The I-465/Allisonville Road interchange was reconfigured in 2014 from a diamond style to a single point urban interchange. The I-465/I-69 interchange is a partial cloverleaf with a semi-directional ramp. The I-69/82nd Street interchange is a folded diamond interchange.

Further details on the existing conditions are described in the *Interstate Access Document* (Appendix A-1).

PREFERRED ALTERNATIVE

Alternative C Modified is the preferred alternative. Preliminary plans are provided in Appendix B-49 to B-296. The key design elements associated with the recommended alternative are summarized below. The project's primary typical sections are provided in Appendix B-51 to B-57, and overall plan views of the interchanges are shown on B-58 to B-59. For further details, please refer to the *Interstate Access Document* (Appendix A-1) or the *Alternatives Analysis Report* (Appendix A-54).

Eastbound/Southbound I-465 Mainline

- Eastbound / southbound I-465 will have four mainline lanes inside the I-69 interchange.
- Eastbound I-465 between the White River bridge and Allisonville Road will have four mainline lanes and one auxiliary lane. The eastbound Allisonville Road off-ramp will be modified from a one-lane ramp to a two-lane ramp. The outside lane will exit to Allisonville Road and the second lane is an option lane that allows traffic to either exit or continue on eastbound I-465.
- Eastbound I-465 between Allisonville Road and the I-69 ramps will have four mainline lanes and one auxiliary lane. The auxiliary lane will exit to northbound I-69 and the next lane over (outside through lane) will be an option lane allowing vehicles to either exit towards northbound I-69 or continue onto southbound I-465.
- Southbound I-465 south of I-69 will have four mainline lanes and three lanes from the southbound I-69 to southbound I-465 ramp. The outside two auxiliary lanes will drop resulting in four mainline lanes and one auxiliary lane which exits at the 56th Street/Shadeland Avenue off-ramp.

Northbound/Westbound I-465 Mainline

- Northbound / westbound I-465 will have four mainline lanes inside the I-69 interchange.
- Northbound I-465 from the 56th Street/Shadeland Avenue on-ramp to the I-69 off-ramps will have four mainline lanes and two auxiliary lanes. The two auxiliary lanes will exit toward northbound I-69 and the next lane over (outside through lane) will be an option lane allowing vehicles to either exit towards northbound I-69 or continue on northbound I-465.
- Westbound I-465 will have six lanes between the I-69 ramps and Allisonville Road. The outside auxiliary lane will exit at the Allisonville Road off-ramp and the next lane over (fifth lane) will be an option lane allowing vehicles to either exit at Allisonville Road or continue on westbound I-465.
- Westbound I-465 from the Allisonville off-ramp to the west end of the project area will have five through lanes and will tie into the existing five lanes on the westbound I-465 bridge over the White River.

Northbound/Southbound Binford Boulevard

- Northbound Binford Boulevard north of 75th Street will split from two lanes to three lanes. The left two lanes merge into the eastbound I-465 to northbound I-69 ramp, and after they merge, the outside lane drops and three lanes continue north on I-69. The right northbound Binford Boulevard lane exits to westbound I-465 and 82nd Street.
- Southbound Binford Boulevard will exit southbound I-69 on the right side as a barrier-separated collector distributor (C-D) between 96th Street and 82nd Street. Southbound Binford Boulevard will then continue along the two-lane C-D over 82nd Street and then along the west side of I-69 before crossing under the southbound I-69 to westbound I-465 ramp and I-465 mainline.
- The westbound I-465 Allisonville Road on-ramp will be modified from a ramp that becomes an auxiliary lane to Keystone Avenue to a parallel entrance ramp that ties into the five westbound I-465 through lanes.
- A traffic signal will be installed at the eastbound I-465 to southbound Binford Boulevard ramp terminal to control traffic merging south onto Binford Boulevard.
- A third lane will be added to southbound Binford Boulevard at 75th Street.

Northbound/Southbound I-69

- Northbound I-69 begins where the eastbound I-465 to northbound I-69 ramp merges with the northbound I-465 to northbound I-69 ramp. At this location, there will be six mainline northbound I-69 lanes, which continue to 82nd Street. The right lane will drop between 82nd Street and the 82nd street on-ramp, and five northbound I-69 lanes will continue north.
- Southbound I-69 will have four mainline lanes and one auxiliary lane on the north end of the project area. The auxiliary lane and an option lane exit toward 82nd Street and southbound Binford Boulevard while four lanes continue south on I-69. The four southbound lanes split with the left 3 lanes heading toward southbound I-465 and the right two lanes heading toward westbound I-465. The third lane is an option lane that provides access to southbound I-465 and westbound I-465.
- The ramp from 82nd Street to southbound I-69 will be reconstructed to tie into the proposed four southbound I-69 lanes.
- The northbound 82nd Street on-ramp will be reconstructed at the gore to tie into the proposed five lane northbound I-69 lanes.

I-465/I-69 System Interchange Ramps

- A two-lane ramp will travel under I-465 and provide a direct connection from eastbound I-465 to northbound I-69.
- Northbound I-465 to northbound I-69 will be a three-lane ramp, which passes over the northbound Binford Boulevard to 82nd Street ramp, and merges to the right of the ramp from eastbound I-465/northbound Binford Boulevard.
- The eastbound I-465 and northbound I-465 ramps to northbound I-69 will be completely separated from local traffic heading to 82nd Street.
- The southbound I-69 to southbound I-465 ramp will be reconstructed to the inside of its existing alignment to provide room to construct the new southbound Binford Boulevard roadway.
- The southbound I-69 to westbound I-465 ramp will provide two lanes, and will be reconstructed to tie into the realigned I-69 and I-465.

I-69/82nd Street Interchange

- There will be a dedicated barrier-separated C-D for all movements between 82nd Street and Binford Boulevard.
- A single lane ramp will be added from the northbound I-465 to northbound I-69 ramp to the northbound 82nd Street off-ramp.
- The ramp from 82nd Street to southbound I-69 will be reconstructed. The ramp will split from one lane into two lanes where the right lane will enter the southbound C-D to Binford Boulevard, and the left lane will proceed to I-465 via southbound I-69.

- A new southbound I-69 off-ramp will be constructed north of 82nd Street to provide access from southbound I-69 to 82nd Street and southbound Binford Boulevard.
- All existing signalized I-69 ramp terminals at 82nd Street will be maintained in their existing location.
- Sidewalk and pedestrian signals with refuge islands will be added to the north side of 82nd Street to connect existing sidewalk east and west of the I-69 interchange.

I-465/I-69 Service Interchange Ramps and Local Roads

- A service interchange ramp from eastbound I-465 to southbound Binford Boulevard will be provided off the right side of the proposed eastbound I-465 to northbound I-69 ramp. This ramp arrives at a signalized intersection with the southbound I-69 to southbound Binford Boulevard C-D before continuing south on Binford Boulevard. This will allow traffic to safely travel from eastbound I-465 to southbound Binford Boulevard and then turn left (east) onto 75th Street.
- The existing loop ramp from eastbound I-465 to northbound Binford Boulevard will be reconstructed as a single-lane loop ramp for eastbound I-465 to 82nd Street traffic.
- The northbound Binford Boulevard to westbound I-465 ramp will be a single lane loop ramp that will be barrier separated from northbound Binford Boulevard traffic heading towards northbound I-69.
- East 71st Street will be lowered under I-465 to meet the minimum vertical clearance requirements along East 71st Street. The East 71st Street Multi-Use Trail will be barrier-separated.
- Castleton Road will be realigned.
- Existing sidewalks and will be preserved or replaced and upgraded to current standards where needed.

Bridge and Culvert Summary

The project involves a total of 26 existing bridges and 26 existing culverts. A total of 16 bridges will be worked on; this includes 12 new bridges and four bridges that will be rehabilitated and widened. Bridge plan excerpts begin on Appendix B-264. The culverts will maintained, repaired, extended and/or replaced as detailed in Table 7. The scope of work and design criteria information for bridges and culverts are summarized in Tables 5, 6, and 7. Additionally, there are numerous drainage pipes that are less than 36-inches in diameter, which are shown on the project roadway plans (Appendix B-67 to B-263).

Maintenance of Traffic

Construction will be phased to minimize disruptions to traffic. Construction will be completed off line as much as possible to minimize traffic impacts. The number of phases, the order of construction and the construction durations will be refined during final design. Opportunities to reduce impacts to regional transportation and emergency management stakeholders are being discussed through coordination via TMP meetings (Appendix G-214). Further details are provided in *Part II, Maintenance of Traffic During Construction*.

Impact Summary

This project will require approximately 14.076 acres of permanent right-of-way and 4.222 acres of temporary right-of-way, mostly from commercial properties and undeveloped land. A total of seven buildings will be acquired and demolished, and four businesses will be relocated. Natural resource impacts include 9,716 linear feet of streams, 6.090 acres of wetlands, and 20.49 acres of trees, 8.99 of which is considered “suitable summer habitat” for federally protected bat species. There is no adverse effect to cultural resources. The results of noise analyses recommended a total of seven noise barriers to mitigate noise impacts.

Evaluation

The preferred alternative will meet the purpose and need of the Clear Path 465 Project by improving overall traffic operation through added capacity to meet the goal of LOS D or better. Additionally, reduced congestion and standard shoulder widths for emergency vehicles, enforcement, and maintenance activities should increase safety along the corridor and decrease the rate of future crashes.

Other Alternatives Considered

Four other alternatives were considered: No Build and Alternatives A, B, and C. The alternatives are described in detail in the *Alternatives Analysis Report* (Appendix A-54). All build alternatives have common design elements, such as four through-lanes in each direction along I-465 (common elements are described in Appendix A-78). In addition to projected costs and ability to achieve the project's purpose and needs, the project team analyzed the alternatives for driver expectancy, constructability, long-term maintenance, environmental impacts, and utility impacts. The qualitative and quantitative analysis of each alternative is summarized in the Section 3.9 of the *Alternatives Analysis Report* (Appendix A-138). For the purposes of comparing alternatives, preliminary construction costs for the preferred alternative was estimated to be approximately $90,700,000. (Note, the estimated preliminary costs exclude the common design elements shared by the build alternatives, including added travel lanes along I-465 and associated bridge replacements). A summary of each alternative is provided below.

NO BUILD

The No Build alternative would leave the existing interstates and ramps within the project area in its current configuration. Congestion, resulting in back-ups during peak and non-peak hours, would continue to increase in lengths and duration, and this would increase safety problems. Likewise, existing maintenance issues and geometric deficiencies would remain.

Detailed traffic analyses demonstrated the No Build Alternative would have major operational failures on almost every leg of the corridor. The results of safety models predicted 305 total crashers per year. Additionally, the No Build Alternative would incur long-term costs to maintain the existing I-465 and I-69 corridor, including, but not limited to, pavement resurfacing or replacement, bridge rehabilitation or replacement, and culvert replacement or lining.

Although the No Build Alternative would incur no environmental or community impacts and no construction costs, it would not improve the capacity or safety issues. Since this alternative would not meet the purpose and need of the project, it was dismissed from further consideration.

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

ALTERNATIVE A

Alternative A would occupy a similar footprint to the preferred alternative. The primary features would include:

- Two-lane "fly-over" direct connection for eastbound I-465 to northbound I-69.
- Additional dedicated off-ramp from eastbound I-465 to southbound Binford Boulevard and 82nd Street.
- Dedicated barrier separated C-D for traffic to 82nd Street from I-465 and Binford Boulevard.
- Westbound I-465 to northbound I-69 would remain at-grade and merge to the right of northbound Binford Boulevard and eastbound I-465 traffic.
- Southbound I-69 to southbound Binford Boulevard off-ramp would have a left-hand exit and pass under I-465.
- Alternative A would consist of 10 new bridges. Included in this option are two I-465 mainline bridges (Bridges 1 and 4), one I-69 mainline bridge (Bridge 10), six 2nd level flyover ramps (Bridges 2, 3, 5, 6, 7, and 8), and one 3rd level flyover ramp (Bridge 9), which spans over I-465. Bridges 5, 6, and 8 would be ramp bridges.

Traffic analyses showed Alternative A would meet the goal of LOS D or better on all segments within the project area. Environmental impacts would be similar to the preferred alternative. Preliminary construction costs were estimated to be

$96,850,000 (excluding common costs). In addition, the results of the safety analyses were similar to the other build alternatives and an improvement over the No Build Alternative. As a result, Alternative A would meet the project's purpose and need. However, since Alternative A was predicted to cost approximately $6 million more than the preferred alternative, it was dismissed from further consideration.

ALTERNATIVE B

Alternative B would occupy a similar footprint to the preferred alternative. The primary features would include:

- Two-lane underpass direct connection for eastbound I-465 to northbound I-69/82nd Street and southbound Binford Boulevard.
- Two-lane exit to 82nd Street from northbound I-69.
- Westbound I-465 to northbound I-69 would pass over the northbound Binford Boulevard and the eastbound I-465 ramps and merge to the left of these movements.
- Southbound I-69 to southbound Binford Boulevard off-ramp would be a left-hand exit and pass over I-465.
- Dedicated collector-distributor road for 82nd Street on-ramp.
- Alternative B would consist of 9 new bridges. Included in this option are two I-465 mainline bridges (Bridges 1 and 4), one I-69 mainline bridge (Bridge 9), five 2nd level flyover ramps (Bridges 2, 3, 5, 6, and 7), and one 3rd level flyover ramp (Bridge 8), which would span over I-465 and taper down to fly under Bridge 3. Bridges 2, 5, and 6 would be ramp bridges.

Traffic analyses showed Alternative B would meet the goal of LOS D or better on all segments. Environmental impacts would be similar to the preferred alternative. In addition, the results of the safety analyses were similar to the other build alternatives and an improvement over the No Build Alternative. As a result, Alternative B would meet the project's purpose and need. Preliminary construction costs were estimated to be $94,630,000 (excluding common costs). However, since Alternative B was predicted to cost approximately $4 million more than the preferred alternative, it was dismissed from further consideration.

ALTERNATIVE C

Alternative C would occupy a similar footprint to the preferred alternative. The primary features would include:

- Two-lane underpass direct connection for eastbound I-465 to northbound I-69 and southbound Binford Boulevard.
- Additional dedicated off-ramp from eastbound I-465 to 82nd Street.
- Dedicated C-D for traffic to 82nd Street from I-465 and Binford Boulevard.
- Westbound I-465 to northbound I-69 would pass over the northbound Binford Boulevard to 82nd Street ramp and merge to the right of I-465 east and Binford Boulevard ramp traffic.
- Southbound I-69 to southbound Binford Boulevard off-ramp would be a right-hand exit that diverges north of 82nd Street and would pass over 82nd Street and under I-465.
- Alternative C would consist of 11 new bridges. Included in this option would be two I-465 mainline bridges (Bridges 1 and 4), one I-69 mainline bridge (Bridge 11), eight 2nd level flyover ramps (Bridges 2, 3, 5, 6, 7, 8, 9, and 10). Bridges 2, 5, 6, 8, 9, and 10 would be ramp bridges.

Traffic analyses showed Alternative C would meet the goal of LOS D or better on all segments. Environmental impacts would be similar to the preferred alternative. The results of safety analyses were similar to the other build alternatives and an improvement over the No Build Alternative. Preliminary construction costs were estimated to be $92,700,000 (excluding common costs). Therefore, Alternative C presented the best value for the interchange. However, a few issues with Alternative C were identified. Therefore, Alternative C Modified was developed, which has been identified as the preferred alternative. The primary modifications included:

- The two-lane southbound Binford Boulevard ramp was moved to the outside of the southbound I-69 to southbound I-465 ramp.

- The southbound I-69 to southbound I-465 ramp will be relocated to the inside of its existing location while maintaining a 45-mph design speed.
- The proposed westbound I-465 to southbound Binford Boulevard signal will be coordinated with the signal at Binford Boulevard / 75th Street to efficiently serve southbound traffic.

Significant advantages to Alternative C Modified included more economical bridges, improved geometrics, and constructability efficiencies. These modifications mitigate some of the low qualitative ratings and constructability issues with Alternative C. Additionally, Alternative C was predicted to cost approximately $2 million more than the preferred alternative, therefore it was dismissed from further consideration and Alternative C Modified was identified as the preferred alternative.

Roadway Character

The project is situated within an urban area with rolling topography. Existing and proposed roadway character information is summarized below in Tables 3 and 4, and further described in the attached *Interstate Access Document* (Appendix A-1) and the preliminary project plans (Appendix B-49 to B-263).

Table 3. Roadway Classification and Traffic Data

ROADWAY	FUNCTIONAL CLASSIFICATION	CURRENT ADT (2020)	DESIGN YEAR ADT (2040)	DHV (2040)	TRUCK %	DESIGN SPEED (MPH)	LEGAL SPEED (MPH)
Westbound I-465 west of I-69	Urban Freeway	76,900	84,300	8,430	18	70	55
Eastbound I-465 west of I-69	Urban Freeway	66,700	69,900	6,990	15	70	55
Northbound I-465 east of I-69	Urban Freeway	87,800	91,800	9,180	17	70	55
Southbound I-465 east of I-69	Urban Freeway	74,900	84,400	8,440	16	70	55
Eastbound I-465 to southbound Binford Blvd	Freeway Ramp	5,560	5,600	560	1	40	40
Eastbound I-465 to northbound I-69	Freeway Ramp	15,700	16,700	1,670	6	45	45
Eastbound I-465 to 82nd Street	Freeway Ramp	1,900	2,000	200	9	30	30
Eastbound I-465 to Allisonville Road	Freeway Ramp	14,400	15,300	1,530	1	50	50
Northbound I-465 to northbound I-69	Freeway Ramp	42,800	45,400	4,540	13	55	55
Northbound I-465 to 82nd Street	Freeway Ramp	6,300	6,700	670	4	45	45
Westbound I-465 to Allisonville Road	Freeway Ramp	14,800	15,700	1,570	1	50	50
Northbound Binford Blvd to northbound I-69	Freeway Ramp	16,400	17,400	1,740	9	45	45
Northbound Binford Blvd to westbound I-465	Freeway Ramp	5,400	5,700	570	2	25	25
Northbound Binford Blvd to 82nd Street	Freeway Ramp	4,000	4,200	420	10	45-25	45-25
Southbound Binford Blvd	Freeway Ramp	28,000	31,600	3,160	2	45	45
Northbound I-69 south of 82nd Street	Urban Freeway	65,600	73,900	7,390	8	55	55
Southbound I-69 south of 82nd Street	Urban Freeway	60,900	68,600	6,860	7	55	55
Southbound I-69 north of 82nd Street	Urban Freeway	82,000	92,400	9,240	11	65	65
Northbound I-69 north of 82nd Street	Urban Freeway	75,800	85,400	8,540	11	65	65
Southbound I-69 to southbound I-465	Freeway Ramp	40,600	42,000	4,200	14	45	45
Southbound I-69 to westbound I-465	Freeway Ramp	25,400	26,600	2,660	8	50	50
Southbound I-69 to southbound Binford Blvd	Lower Speed Arterial	24,500	26,000	2,600	2	45-35	45-35
Southbound I-69 to 82nd Street	Freeway Ramp	9,400	10,000	1,000	1	35-25	35-25

ROADWAY	FUNCTIONAL CLASSIFICATION	CURRENT ADT (2020)	DESIGN YEAR ADT (2040)	DHV (2040)	TRUCK %	DESIGN SPEED (MPH)	LEGAL SPEED (MPH)
82nd Street to southbound Binford Blvd	Freeway Ramp	2,800	3,000	300	1	25	25
82nd Street to northbound I-69	Freeway Ramp	10,800	11,500	1,150	2	45	45
82nd Street to southbound I-69	Freeway Ramp	14,800	15,500	1,550	2	25	25
Allisonville Road to Eastbound I-465	Freeway Ramp	12,600	13,000	1,300	2	45	45
Allisonville Road to Westbound I-465	Freeway Ramp	13,700	14,500	1,450	1	45	45

ADT = average daily traffic
DHV = design hour volume
MPH = miles per hour

Table 4. Roadway Characteristics

ROADWAY	NO. OF LANES		TYPE OF LANES		PAVEMENT WIDTH (FEET)		INSIDE/LEFT SHOULDER WIDTH (FEET)		OUTSIDE/RIGHT SHOULDER WIDTH (FEET)		MEDIAN WIDTH (FEET)	
	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED
Westbound I-465 west of I-69	3-5	4-6	Through, Aux.	Through, Aux.	62-75	74-98	5-14	14	10	12	12.5-32.5	30.5
Eastbound I-465 west of I-69	3-5	4-6	Through, Aux.	Through, Aux.	62-75	72-98	5-16	14	10	12	N/A	N/A
Northbound I-465 east of I-69	3-4	4-6	Through, Aux.	Through, Aux.	75-77	74-101.5	17.5	14-17.5	10	12	37	30.5-37
Southbound I-465 east of I-69	3-4	4-7	Through, Aux.	Through, Aux.	75-77	74-113	17	14-17	10-12	12	N/A	N/A
Eastbound I-465 to southbound Binford Blvd	1	1-3	Through	Through, Aux.	24	30-52	7	4-6	2	8-12	N/A	N/A
Eastbound I-465 to northbound I-69	1	2	Through	Through	26	42-48	4	4-12	4	12	N/A	N/A
Eastbound I-465 to 82nd Street	N/A	1	N/A	Through	N/A	28-32	N/A	4	N/A	8	N/A	N/A
Eastbound I-465 to Allisonville Road	1-3	2-3	Through, Aux.	Through, Aux.	37-62	40-54	4-10	4-6	8-10	12	N/A	N/A
Northbound I-465 to northbound I-69	2	3	Through	Through	36-51	58-60	2-14	10-12	8-10	12	N/A	N/A
Northbound I-465 to 82nd Street	N/A	1	N/A	Through	N/A	34	N/A	6	N/A	12	N/A	N/A
Westbound I-465 to Allisonville Road	2-4	2-4	Through, Aux.	Through, Aux.	42-64	38-64	6	4-6	10-12	10	N/A	N/A
Northbound Binford Blvd to northbound I-465	2-3	2-4	Through, Aux.	Through, Aux.	38-49	38-70	4-7	4-14	10-22	10-19	36-61	15-37
Northbound Binford Blvd to westbound I-465	1	1	Through	Through	25	28-32	2	4	5	8-12	N/A	N/A
Northbound Binford Blvd to 82nd Street	N/A	1-5	N/A	Through, Aux.	N/A	28-72	N/A	2-19	N/A	8-17	N/A	N/A
Southbound Binford Blvd	2-5	3-6	Through, Aux.	Through, Aux.	38-75	52-86	4-6	4-6	7-12	10	N/A	N/A
Northbound I-69 south of 82nd Street	4-5	3-6	Through, Aux.	Through, Aux.	60-72	62-100	5-7	14	10-12	14	12-16	30.5
Southbound I-69 south of 82nd Street	5	4-5	Through, Aux.	Through, Aux.	72-77	76-88	3-6	14	10-12	14	N/A	N/A
Northbound I-69 north of 82nd Street	4-5	5-6	Through, Aux.	Through, Aux.	62-75	76-100	5	5-14	10-12	12-14	10.5	30.5-11.5
Southbound I-69 north of 82nd Street	4-5	4-5	Through, Aux.	Through, Aux.	63-76	76-79	5	14	10-12	14	N/A	N/A
Southbound I-69 to southbound I-465	2	3	Through	Through, Aux.	35-40	56-62	2-6	10-14	8-10	10-12	N/A	N/A
Southbound I-69 to westbound I-465	2	2	Through	Through	38-40	38-42	4-5	4-6	10-12	10-12	N/A	N/A
Southbound I-69 to southbound Binford Blvd	N/A	2	N/A	Through	N/A	30-61	N/A	4-21	N/A	4-12	N/A	N/A

ROADWAY	NO. OF LANES		TYPE OF LANES		PAVEMENT WIDTH (FEET)		INSIDE/LEFT SHOULDER WIDTH (FEET)		OUTSIDE/RIGHT SHOULDER WIDTH (FEET)		MEDIAN WIDTH (FEET)	
	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED
Southbound I-69 to 82nd Street	1-4	1-4	Through, Aux.	Through, Aux.	26-49	30-67	1-5	4-7	8-10	10-12	N/A	N/A
82nd Street to southbound Binford Blvd	N/A	1	N/A	Through	N/A	30-32	N/A	6	N/A	8-10	N/A	N/A
82nd Street to northbound I-69	1	1	Through	Through	28	28-30	4	4	8	8-10	N/A	N/A
82nd Street to southbound I-69	1-2	1-2	Through, Aux.	Through, Aux.	26-38	30-40	1-4	6	6-10	8-10	N/A	N/A
Allisonville Road to Eastbound I-465	2	3-2	Through, Aux.	Through, Aux.	50-65	49-64	13	12	12	12-16	N/A	N/A
Allisonville Road to Westbound I-465	1-2	1-2	Through, Aux.	Through, Aux.	42-50	30-38	4-6	4	8-10	10	N/A	N/A

N/A = Not Applicable

Aux. = Auxiliary

Design Criteria for Bridges

The project involves a total of 26 existing bridges and 26 existing culverts. A total of 16 bridges will be worked on; this includes 12 new bridges and four bridges that will be rehabilitated and widened. Bridge plan excerpts begin on Appendix B-264. The culverts will maintained, repaired, extended and/or replaced as detailed in Table 7. The scope of work and design criteria information for bridges and culverts are summarized in Tables 5, 6, and 7. Additionally, there are numerous drainage pipes that are less than 36-inches in diameter, which are shown on the project roadway plans (Appendix B-67 to B-263).

Table 5. Existing and Proposed Bridge Summary

NO.	BRIDGE NUMBER[1]	CROSSING	SCOPE OF WORK (APPENDIX PAGE)	BRIDGE TYPE	
				EXISTING	PROPOSED
1	I465-125-02377 BNBL I465-125-10426 WBL	I-465 westbound over I-69 southbound to I-465 southbound ramp, former railroad, southbound Binford Blvd	Demolish existing. New bridge moved off-line to the north (B-265)	Continuous Composite Steel Beam	Continuous Composite Prestressed Bulb-Tee Beam
2	I465-125-02377 JCSBL I465-125-10427 EBL	I-465 eastbound over I-69 southbound to I-465 southbound ramp, former railroad, southbound Binford Blvd	Demolish existing. New bridge moved off-line to the north (B-267)	Continuous Composite Steel Beam	Continuous Composite Prestressed Bulb-Tee Beam
3	I465-125-05270 BNBL I465-125-10428 WBL	I-465 westbound over I-69, Binford Blvd, I-465 eastbound to I-69 northbound ramp	Demolish existing. New bridge moved off-line to the north (B-269)	Continuous Composite Steel Beam	Continuous Composite Prestressed Bulb-Tee Beam
4	I465-125-05270 JCSBL I465-125-10429 EBL	I-465 eastbound over I-69, Binford Blvd, I-465 eastbound to I-69 northbound ramp	Demolish existing. New bridge moved off-line to the north (B-271)	Continuous Composite Steel Beam	Continuous Composite Steel Beam

NO.	BRIDGE NUMBER[1]	CROSSING	SCOPE OF WORK (APPENDIX PAGE)	BRIDGE TYPE	
				EXISTING	PROPOSED
5	I465-125-05271B I465-125-10430 SBL	I-69 southbound to I-465 southbound ramp over northbound Binford Blvd	Demolish existing. New bridge moved off-line to the north (inside of existing) (B-273)	Continuous Composite Steel Beam	Continuous Composite Prestressed Bulb-Tee Beam
6	I465-125-10431 SBL	I-465 southbound Ramp to I-69 northbound over I-69, former railroad, southbound Binford Blvd	New bridge (B-275)	N/A	Continuous Composite Prestressed Bulb-Tee Beam
7	I465-125-10432 SBL	I-69 southbound to I-465 westbound over former railroad, southbound Binford Blvd	New bridge (B-277)	N/A	Continuous Composite Prestressed Bulb-Tee Beam
8	I465-125-10433 NBL	I-465 northbound ramp to I-69 northbound over northbound Binford Blvd	New bridge (B-279)	N/A	Continuous Composite Prestressed Bulb-Tee Beam
9	I69-200-10434 NBL	I-69 northbound collector-distributor (C-D) ramp to 82nd Street over 82nd Street	New bridge (B-281)	N/A	Continuous Composite Prestressed Bulb-Tee Beam
10	I69-200-05307 BNBL	I-69 northbound over 82nd Street	Deck replacement and widening with semi-integral end bents (B-283)	Continuous Composite Steel Beam	Continuous Composite Steel Beam
11	I69-200-05307 JCSBL	I-69 southbound over 82nd Street	Deck replacement and widening with semi-integral end bents (B-283)	Continuous Composite Steel Beam	Continuous Composite Steel Beam
12	I69-200-10435 SBL	82nd Street southbound on-ramp to southbound Binford Blvd over 82nd Street	New bridge (B-285)	N/A	Continuous Composite Prestressed Bulb-Tee Beam
13	I69-200-10436 SBL	I-69 southbound ramp to southbound Binford Blvd over 82nd Street	New bridge (B-287)	N/A	Continuous Composite Prestressed Bulb-Tee Beam
14	I69-200-10437 SBL	I-69 southbound ramp to southbound Binford Blvd over 82nd Street on-ramp	New bridge (B-289)	N/A	Continuous Composite Prestressed Bulb-Tee Beam
15	I465-124-05268 CNBL	I-465 northbound over East 71st Street and East 71st Street Multi-Use Trail	Deck replacement and widening with semi-integral end bents (B-291)	Continuous Composite Steel Beam	Continuous Composite Steel Beam
16	I465-124-05268 CSBL	I-465 southbound over East 71st Street and East 71st Street Multi-Use Trail	Deck replacement and widening with semi-integral end bents (B-291)	Continuous Composite Steel Beam	Continuous Composite Steel Beam
17	I465-123-05267 CNBL	I-465 northbound over Fall Creek Road	Temporary striping (B-156)	Continuous Steel Beam	N/A
18	I465-123-05267 JCSB	I-465 southbound over Fall Creek Road	Temporary striping (B-156)	Continuous Steel Beam	N/A
19	I465-124-09121	East 75th Street over I-465	No work on the bridge. Added travel lanes/resurfacing beneath. (B-85)	Prestressed Concrete Continuous Tee Beam	N/A

NO.	BRIDGE NUMBER[1]	CROSSING	SCOPE OF WORK (APPENDIX PAGE)	BRIDGE TYPE	
				EXISTING	PROPOSED
20	I465-125-09122 EBL	East 82nd Street eastbound over I-465 eastbound/westbound	No work on the bridge. Added travel lanes/resurfacing beneath. (B-127)	Prestressed Concrete Continuous Tee Beam	N/A
21	I465-125-09630 WBL	East 82nd Street westbound over I-465 eastbound/westbound	No work on the bridge. Added travel lanes/resurfacing beneath. (B-128)	Prestressed Concrete Continuous Tee Beam	N/A
22	I465-126-09117	Allisonville Road over I-465 eastbound/westbound	No work on the bridge. Added travel lanes/resurfacing beneath. (B-123)	Continuous Steel Girder A	N/A
23	I465-127-05255 CEBL	I-465 eastbound over White River and Town Run Trail	Temporary striping (N/A[2])	Continuous Steel Beam	N/A
24	I465-127-05255 CWBL	I-465 westbound over White River and Town Run Trail	Temporary striping (N/A[2])	Continuous Steel Beam	N/A
25	I465-123-04864 CNBL	I-465 northbound over Fall Creek and Fall Creek Trail	Temporary striping (N/A[2])	Continuous Steel Beam	N/A
26	I465-123-04864 JDSB	I-465 southbound over Fall Creek and Fall Creek Trail	Temporary striping (N/A[2])	Continuous Steel Beam	N/A

[1] If two numbers are provided, the first number is the existing bridge and the second number is the proposed new bridge.

[2] Not shown on preliminary plan set. Bridges are outside project area except for limited maintenance of traffic work.

Table 6. Proposed Bridge Design Criteria

NO.	NO. OF SPANS		WEIGHT RESTRICTIONS (TONS)		HEIGHT RESTRICTIONS (FEET)		CURB TO CURB WIDTH (FEET)		OUTSIDE TO OUTSIDE WIDTH (FEET)		SHOULDER WIDTH (FEET)		LENGTH OF CHANNEL WORK (FEET)
	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	
1	4	3	N/A	None	Min. 19.3	18.9	64.6	85.9	67.4	88.7	Lt: 10.7 Rt: 5.9	Lt: 12 Rt: 13.9	N/A
2	4	3	N/A	None	Min. 19.3	20.2	Approx. 66.5-74.7	73.9	Approx. 69.1-77.3	76.7	Lt: 5.9 Rt: 4.9	Lt: 13.9 Rt: 12	N/A
3	2	2	N/A	None	14.5	18.9	60.3- 64.4	86.6-95.2	63- 67	89.4-98.2	Lt: 5.3 Rt: 4.3	Lt: 12 Rt: 13.9	N/A
4	2	2	N/A	None	14.5	18.2	63.4-74.6	88.5-98.7	66.1-77.3	91.3-101.6	Lt: 4.3 Rt: 5.3	Lt: 13.9 Rt: 12	N/A
5	N/A	2	N/A	None	N/A	16.8	N/A	61.7	N/A	64.7	N/A	12-13.7	N/A
6	N/A	3	N/A	None	N/A	19.7	N/A	56.3-61.5	N/A	59.3-64.5	N/A	5.7-12	N/A
7	N/A	2	N/A	None	N/A	17.3	N/A	41.67	N/A	44.7	N/A	5.7-12	N/A
8	N/A	1	N/A	None	N/A	16.9	N/A	60	N/A	63	N/A	12	N/A
9	N/A	2	N/A	None	N/A	15.0	N/A	42	N/A	45	N/A	Lt: 6 Rt: 12	N/A
10	2	2	None	None	14.6	14.6	72.3	100	75.2	102.8	4.7-5.4	13.7-14.6	N/A

NO.	NO. OF SPANS		WEIGHT RESTRICTIONS (TONS)		HEIGHT RESTRICTIONS (FEET)		CURB TO CURB WIDTH (FEET)		OUTSIDE TO OUTSIDE WIDTH (FEET)		SHOULDER WIDTH (FEET)		LENGTH OF CHANNEL WORK (FEET)
	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED	
11	2	2	None	None	15.4	15.5	72.4	90.2	75.2	93	4.7-5.4	14-15.9	N/A
12	N/A	2	N/A	None	N/A	15.4	N/A	32	N/A	35	N/A	Lt: 6 Rt: 10	N/A
13	N/A	2	N/A	None	N/A	18.1	N/A	42	N/A	45	N/A	Lt: 6 Rt: 12	N/A
14	N/A	2	N/A	None	N/A	16.5	N/A	42	N/A	45	N/A	Lt: 6 Rt: 12	N/A
15	2	2	None	None	13.8	14.5	76.2	101.4	79.1	104.2	11.8-16.6	12-17.4	N/A
16	2	2	None	None	14.1	15.3	76.2	112.9	79.1	115.7	11.8-16.6	12-16.9	N/A

Note: Design criteria is not applicable for bridges 17 to 26 (discussed above in Table 5).

Lt = left; Rt = right

Table 7. Culvert Summary

NO.	CULVERT/BIAS NUMBER	APPENDIX PAGE	LOCATION	WATERBODY	SCOPE OF WORK	CULVERT TYPE		STRUCTURE LENGTH (FT)		LENGTH OF CHANNEL WORK (FT)
						EXISTING	PROPOSED	EXISTING	PROPOSED	
1	CV I-465-049-34.78	B-68	1.53 miles east of Keystone Ave	Near UNT 2 to White River[1]	Repair - Line pipe	50" x 31" CMP	HDPE Liner	300	300	N/A
2	CV I-465-049-34.96	B-69	1.71 miles east of Keystone Ave	UNT 2 to White River	Existing structure remains in place	91" x 58" RCPE	N/A	341	N/A	73
3	CV I-465-049-35.31 L	N/A[3]	Located below Allisonville Road just north of intersection.	UNT 2 to White River	Existing structure remains in place	72" RCP	N/A	251	N/A	N/A
4	CV I-465-049-35.31 R	N/A[3]	Located below Allisonville Road just south of intersection.	UNT 2 to White River	Existing structure remains in place	91" x 58" RCEP	N/A	276	N/A	30
5	CV I-465-049-35.76 R	B-71	Located below west end of 82nd Street bridge	Near UNT 1 to Allison Run[1]	Existing structure remains in place	36" x 72" RCB	N/A	323	N/A	N/A
6	CV I-465-049-35.77	B-72	2.55 miles east of Keystone Ave	UNT 1 to Allison Run	Repair - Extend pipe	53" x 34" RCEP	53" x 34" RCEP	218	258	51
7	CV I-465-049-35.85	B-72, B-73	2.62 miles east of Keystone Ave	UNT 2 to Allison Run	Repair - Extend pipe	53" x 34" RCEP	53" x 34" RCEP	243	334	118[2]
8	CV I-465-049-36.15	B-75	2.92 miles east of Keystone Ave	Howland Ditch	Existing structure remains in place	199" x 121" SSPA w/steel liner	N/A	240	N/A	N/A
9	Str. 465-77 (No asset tag)	B-77	3.1 miles east of Keystone Ave	UNT 1 to Howland Ditch	Replacement	30" RCP	42" Circular Pipe	165	245	272[2]
10	CV I-465-049-36.72 R	B-199	3.5 miles east of Keystone Ave	UNT 1 to Hillsdale Run	Replacement	105" x 75" CMP	120"x 60" RCB	185	266	298[2]
11	CV I-465-049-36.75	B-80	3.51 miles east of Keystone Ave	UNT 1 to Hillsdale Run	Repair - Line pipe	84" CMP	Steel Liner	611	562	687[2]
12	CV I-465-049-36.86 R	B-160	3.62 miles east of Keystone Ave (Located under Binford Blvd)	UNT 2 to Hillsdale Run	Replacement	48" CMP	60" Circular Pipe	224	235	255[2]
13	CV I-465-049-37.41	B-87	0.6 mile south of I-69	Blue Creek	Replacement	117" x 79" CSPA	168" x 96" RCB	347	330	377
14	CV I-465-049-37.50	B-88	0.69 mile south of I-69	UNT 3 to Blue Creek	Replacement	72" x 52" CMP	84" Circular Pipe	276	283	301
15	CV I-465-049-37.88	B-92	1.07 miles south of I-69	UNT 5 to Blue Creek	Replacement	84" x 54" CSPA	Deformed Pipe, 40 SFT	277	291	307
16	CV I-465–049-37.76	B-147	1.2 miles south of I-69	Near UNT 5 to Blue Creek[1]	Replacement	36" CMP	42" Circular Pipe	303	303	N/A
17	CV I-465-049-38.22	B-150	1.36 miles south of I-69	Wetland AX /AW[1]	Replacement	49" x 33" CMP	60" x 36" RCB	215	258	N/A
18	CV I-465–049-38.39	B-178	1.5 miles south of I-69	Wetland AY[1]/UNT 1 to Garden Run	Replacement	36" CMP	Deformed Pipe, 8.9 SFT	247	201	N/A
19	CV I-69-049-200.11	B-181	0.11 mile north of I-465	Wetland AI/AH[1]	Structure will be removed	48" x 33" CMP	N/A	80	N/A	N/A
20	CV I-69-049-200.15	B-181	0.16 mile north of I-465	UNT 1 to Hillsdale Run	Structure will be removed	103" x 71" CMP	N/A	253	N/A	562[2]
21	CV I-69-049-200.18 R	B-107	0.18 mile north of I-465	UNT 1 to Hillsdale Run	Replacement	96" x 66" CMP	96" x 60" RCB	113	385	
22	CV I-69-049-200.71	B-215	0.70 mile north of I-465	UNT 7 to Howland Ditch	Replacement	60" x 36" CSPA	84" x 48" RCB	295	370	395
23	CV I-69-049-200.90 L	B-213	0.9 mile north of I-465	Howland Ditch	Repair or Replace. Utilizing onsite detention, pipe may be lined.	Twin 60" CMP	Pipe Liner	305	305	339[2]
24	CV I-69-049-200.92	B-213-	0.92 mile north of I-465	Howland Ditch	Repair or Replace. Utilizing onsite detention, pipe may be extended and lined.	Twin 54" x 58" CMP	Pipe Liner	490	490	520[2]
25	CV I-69-049-200.93 R	B-231	0.93 mile north of I-465	Howland Ditch	Repair or Replace. Utilizing onsite detention, pipe may be extended and lined.	Twin 54" CMP	120" x 48" RCB	228	228	258[2]
26	CV I-69-049-05.1	B-225	1.18 miles north of I-465	UNT 9 to Howland Ditch	Replacement	43" x 27" CSPA	120" x 48" RCB on new alignment	210	160	250[2]

[1] Non-jurisdictional drainage feature or wetland (channel work is not applicable)

[2] Impacts to this stream extend beyond subject culvert

[3] Culverts CV I-465-049-35.31 L and CV I-465-049-35.31 R will be shown on ramp alignment plans, which are not included in the attached preliminary plan set in Appendix B.

UNT = unnamed tributary; " = inch; CMP = corrugated metal pipe; RCEP = reinforced concrete elliptical pipe; SSPA = structural steel plate arch; RCP= reinforced concrete pipe; RCB = reinforced concrete box; CSPA= corrugated steel pipe arch; HDPE = high density polyethylene; SFT = square feet

Maintenance of Traffic During Construction

	YES	NO
Is a temporary bridge proposed?		X
Is a temporary roadway proposed?	X	
Will the project involve the use of a detour or require a ramp closure? (describe in remarks)	X	
Provisions will be made for access by local traffic and so posted.	X	
Provisions will be made for through-traffic dependent businesses.	X	
Provisions will be made to accommodate any local special events or festivals.	X	
Will the proposed maintenance of traffic (MOT) substantially change the environmental consequences of the action?		X
Is there substantial controversy associated with the proposed method for MOT?		X

The project is tentatively scheduled to begin in 2022 and expected to last year-round through 2024. As discussed in *Part I - Public Involvement*, an initial meeting with TMP stakeholders was held on December 11, 2018 (Appendix G-214). In order to minimize impacts during construction, additional TMP meetings are planned to gain stakeholder feedback as the design progresses. Applicable commitments generated during the initial TMP meeting are included in *Part III, Section J – Environmental Commitments*.

A summary of the MOT is provided below:

- To the extent practicable, construction will occur off-line to minimize lane closures and other impacts to motorists.
- The MOT for the project will require several phases. The majority of the work will be completed within 3 years.
- The final MOT design plans will keep as many existing I-465 lanes open as possible for the duration of construction.
- The interstate to interstate system movements at the I-465/I-69 interchange will primarily remain open during construction. The use of temporary roadways within the interchange is anticipated.
- The loop ramp from northbound Binford Boulevard to westbound I-465 will remain closed during construction. An official detour will be provided for this ramp traffic throughout the entire closure period.
- The I-69/82nd Street interchange will likely have periods of restricted access for one or more movements.
- East 71st Street and the associated East 71st Street Multi-Use Trail will have some closures and restrictions. The official detour will use Shadeland Avenue, East 75th Street, and Binford Boulevard, a distance of approximately 2 miles. The duration of the road and trail closures are still under consideration between INDOT and DPW. (See *Part III, Section D – Section 4(f) Resources/Section 6(f) Resources* for further discussion of the impacts to the trail).
- 82nd Street will remain open during construction.
- Short-term ramp closures will be required throughout the project limits.

The preliminary phasing summary is provided on Appendix B-60. Preliminary detours are shown on Appendix B-61 to B-66. The closures and lane restrictions will cause delays and queuing for traveling motorists. The MOT will be finalized further along in the design process. Additional coordination with TMP stakeholders, including Community Hospital, schools, DPW, and emergency services, will occur. Applicable commitments from this coordination will be incorporated into the contract. All inconveniences will cease upon project completion.

Estimated Project Cost and Schedule

The lead Des. for this project, Des. No. 1400075, was listed in the 2020-2024 Statewide Transportation Improvement Program (STIP), as incorporated on July 2, 2019 (Appendix H-1). The project is located within the Indianapolis Metropolitan Planning Organization (MPO). It is listed in the 2020-2024 Indianapolis Regional Transportation Improvement Program (IRTIP), which was incorporated by reference into the STIP on July 2, 2019 (Appendix H-2). According to INDOT's records, the project's costs are being updated in the IRTIP and STIP (Appendix H-3). The new costs are reflected below:

Engineering: $33,275,364 (2017-2025) Right-of-Way: $14,088,250 (2020-2025)

Construction: $290,470,500 (2022-2024) Anticipated Start Date of Construction: Spring 2022

Note, the above total project costs are not comparable to the estimated partial project costs discussed in *Part II, Other Alternatives Considered* section.

Right-of-Way

Table 8. Right-of-Way

LAND USE IMPACTS	AMOUNT (ACRES)	
	PERMANENT	TEMPORARY
Residential	0.017	0.180
Commercial	5.326	3.374
Agricultural	0.000	0.000
Undeveloped – Forest	8.585	0.155
Industrial (Deflecto, LLC)	0.038	0.279
Skiles Test Elementary School	0.110	0.000
Local Government	0.000	0.234
TOTAL	**14.076**	**4.222**

This project requires approximately 14.076 acres of permanent right-of-way and 4.222 acres of temporary right-of-way. Amounts and land use impacts are summarized in Table 8. The majority of the permanent right-of-way includes approximately 8.585 acres of undeveloped forested land on the northwest corner of the I-465/I-69 interchange and 5.326 acres of commercial properties along I-69. The proposed right-of-way is shown on the preliminary plans (Appendix B-67 to B-263). The proposed right-of-way from residential properties include:

- 0.017 acre of permanent right-of-way from the Veridian Castleton apartments, located southwest of the I-465/ I-69 interchange;
- 0.074 acre of temporary right-of-way from Crown Senior Living, located northeast of the I-465/I-69 interchange; and,
- 0.106 acre of temporary right-of-way from Miller's Senior Living Community, located east of I-69 at the northern project terminus.

The temporary right-of-way located along the east side of I-69 from the I-465/I-69 interchange to the northern project terminus is for a safety buffer to create space between the construction limits and private property. There will be no ground disturbance within this area, and the properties will be fully restored upon completion.

The 0.110 acre of property required from Skiles Test Elementary School is a strip of unused forested land along East 71st Street that will not affect school facilities, activities, or access (Appendix B-294).

Seven commercial structures will be acquired: a vacant one-story office building, two commercial buildings supporting car care, auto glass, and plumbing services, a hotel, a small outbuilding used for storage, a gazebo, and a car dealership. The buildings are shown in the Building Removals figure (Appendix B-11). This results in four business relocations. No residential or farm relocations are planned.

In accordance with the Moving Ahead for Progress in the 21st Century Act (MAP-21), a Categorical Exclusion Level 1 (CE-1) document was completed September 11, 2018 for advanced acquisition of right-of-way (Appendix J-1). The CE-1 concluded that the advanced acquisition of right-of-way from these isolated properties has independent utility, will not cause any adverse environmental impacts, and will not limit the choice of reasonable alternatives or prevent an impartial decision between alternatives. Initially, real estate offers were made to willing sellers using this process. However, as the project development process progressed, INDOT determined that State funds would be utilized to acquire right-of-way for this project. The right-of-way acquisition process is on-going.

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

PART III - IDENTIFICATION AND EVALUATION OF IMPACTS OF THE PROPOSED ACTION

Section A – Ecological Resources

	PRESENCE	IMPACTS	
		YES	NO
Streams, Rivers, Watercourses & Jurisdictional Ditches	X	X	
Federal Wild and Scenic Rivers			
State Natural, Scenic or Recreational Rivers			
Nationwide Rivers Inventory (NRI) listed	X		X
Outstanding Rivers List for Indiana			
Navigable Waterways	X		X

Based on a desktop review, aerial maps of the project area (Appendix B-6 to B-10), U.S. Geological Survey (USGS) topographic maps (Appendix B-2 to B-5), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E-17 to E-19), there are six mapped rivers and streams located within the 0.5-mile search radius. All six of these (West Fork of the White River, Dry Run, Hillsdale Run, Blue Creek, and an unnamed tributary (UNT) to Blue Creek) are located within or directly adjacent to the project limits. Based on a review of the Marion County Soil Survey (U.S. Department of Agriculture [USDA], 1978) mapping, seven additional historic drainage features were noted within the project area.

A waters determination and formal wetland delineations were conducted during site visits on August 30-31, September 1-2, 6-8, 12-16, and 19, 2016, September 14 and 21, 2017, and April 5, 12, and 19, 2018 by Parsons (2016-2018 site visits), to determine the presence of jurisdictional streams and wetlands within the project. Parsons identified 31 likely jurisdictional streams (23,476 linear feet) within the survey limits. On August 23, 2018, a jurisdictional determination field review was held with the U.S. Army Corps of Engineers (USACE), the Indiana Department of Environmental Management (IDEM), the INDOT Ecology and Waterway Permitting Office (EWPO), and Parsons to review the features and determine jurisdictional boundaries between what features should be considered Waters of the U.S. and what features should be considered Waters of the State. INDOT-EWPO approved the *Waters of the U.S. Report* on October 9, 2018 (Appendix F-1 to F-82).

After the jurisdictional determination field review, the project limits were revised to include an additional area on the northwest side of I-69 that would be potentially impacted by maintenance of traffic. Parsons conducted field work on October 2, 2018 to review the additional area for the presence of jurisdictional streams and wetlands. One additional stream totaling 705 linear feet, UNT to Brehner Brook, was identified in the revised study area. On May 1, 2019, a jurisdictional determination field review for the additional area was held with USACE, IDEM, INDOT-EWPO, and Parsons. The jurisdiction of this additional stream was confirmed. INDOT-EWPO approved the Addendum to the *Waters of the U.S. Report* (Addendum #1) on October 24, 2019 (Appendix F-83 to F-101).

On April 21, 2020, USEPA and USACE published the *Navigable Waters Protection Rule* in the Federal Register to finalize a revised definition of “waters of the United States” under the Clean Water Act. This change will likely result in the jurisdictional determinations for streams within this project. These changes will be addressed during the permitting process.

USACE makes all final determinations regarding jurisdiction. USACE provided a jurisdictional determination letter on October 24, 2019 (Appendix F-102 to F-103). All 33 streams were confirmed. Each stream is summarized in Table 9. Detailed descriptions of each stream, including Headwater Habitat Evaluation Index (HHEI) or Qualitative Habitat Evaluation Index (QHEI) evaluations, can be found in the *Waters of the U.S. Report* and in Addendum #1 in Appendix F-83 to F-101.

Table 9. Stream Impacts

STREAM NAME	CLASSIFICATION	OHWM WIDTH* (FEET)	OHWM DEPTH* (INCHES)	USGS BLUE-LINE (YES/NO)	RIFFLES/POOLS (YES/NO)	LENGTH IN STUDY AREA (LINEAR FEET)	STREAM IMPACTS (LINEAR FEET)	STREAM SUBSTRATE	QUALITY**	QHEI/HHEI SCORE
UNT 1 to the White River	Intermittent	11.5	20	No	Yes/No	158	N/A	Cobble, Gravel, Sand, Silt	Average	42
UNT 2 to the White River	Intermittent	9.5	20	No	No/No	4,236	103	Gravel, Sand, Silt	Poor	39
UNT 3 to the White River	Intermittent	6.5	9	No	No/No	1,954	N/A	Riprap, Concrete, Gravel, Sand, Silt	Poor	30
UNT 4 to the White River	Ephemeral	6.0	6	No	No/No	84	N/A	Riprap, Silt	Poor	28
UNT 1 to Allison Run	Ephemeral	4.0	7	No	No/No	287	287	Riprap, Gravel, Silt	Poor	24
UNT 2 to Allison Run	Ephemeral	9.0	5	No	No/No	304	304	Riprap, Silt	Poor	28
Howland Ditch (Section 1)	Perennial	12.0	6	Yes	No/No	306	306	Riprap, Gravel, Sand, Silt	Poor	48
Howland Ditch (Section 2)	Perennial	7.0	6	Yes	No/No	1,397	1,095	Concrete, Riprap, Sand, Silt	Poor	34
UNT 1 to Howland Ditch	Ephemeral	4.5	9	No	No/No	1,234	1,221	Riprap, Sand, Silt	Poor	33
UNT 2 to Howland Ditch	Ephemeral	1.5	6	No	No/No	1,224	254	Riprap, Gravel, Sand, Silt	Poor	15
UNT 3 to Howland Ditch	Intermittent	5.0	6	No	No/No	238	N/A	Silt, Woody Debris	Poor	28
UNT 4 to Howland Ditch	Ephemeral	3.5	8	No	No/No	349	N/A	Silt, Woody Debris	Poor	23
UNT 5 to Howland Ditch	Intermittent	3.5	10	No	No/Yes	378	102	Silt, Woody Debris	Poor	58
UNT 6 to Howland Ditch	Ephemeral	4.0	12	No	No/No	91	N/A	Silt, Woody Debris	Poor	23
UNT 7 to Howland Ditch	Intermittent	4.0	12	No	No/No	875	395	Gravel, Silt, Woody Debris, Fine Detritus	Poor	26
UNT 8 to Howland Ditch	Ephemeral	1.5	10	No	No/No	118	N/A	Gravel, Sand, Silt	Poor	17
UNT 9 to Howland Ditch	Intermittent	5.0	9	No	No/No	2,332	2,332	Gravel, Sand, Silt	Poor	32
UNT 10 to Howland Ditch	Ephemeral	2.5	16	No	No/No	129	N/A	Concrete, Fine Detritus	Poor	13
UNT 1 to Hillsdale Run	Intermittent	3.0	6	No	No/Yes	2,159	1,379	Cobble, Gravel, Sand, Silt	Poor	56

STREAM NAME	CLASSIFICATION	OHWM WIDTH* (FEET)	OHWM DEPTH* (INCHES)	USGS BLUE-LINE (YES/NO)	RIFFLES/POOLS (YES/NO)	LENGTH IN STUDY AREA (LINEAR FEET)	STREAM IMPACTS (LINEAR FEET)	STREAM SUBSTRATE	QUALITY**	QHEI/HHEI SCORE
UNT 2 to Hillsdale Run	Intermittent	6.0	15	No	No/No	1,319	782	Riprap, Cobble, Gravel, Sand, Silt, Woody Debris	Average	51
UNT 3 to Hillsdale Run	Ephemeral	2.0	5	No	No/No	38	N/A	Riprap, Silt	Poor	28
UNT 4 to Hillsdale Run	Ephemeral	3.5	4	No	No/No	142	N/A	Gravel, Sand, Silt	Poor	33
Blue Creek	Perennial	12.3	14	Yes	Yes/Yes	638	377	Riprap, Gravel, Sand, Silt	Average	60
UNT 1 to Blue Creek	Ephemeral	2.0	10	No	No/No	635	171	Gravel, Sand, Silt	Poor	14
UNT 2 to Blue Creek	Ephemeral	3.0	6	No	No/No	171	N/A	Silt	Poor	12
UNT 3 to Blue Creek	Intermittent	2.5	6	No	No/Yes	429	301	Riprap, Gravel, Sand, Silt	Poor	15
UNT 4 to Blue Creek	Ephemeral	5.5	13	No	No/No	973	N/A	Riprap, Gravel, Sand, Silt, Woody Debris	Poor	34
UNT 5 to Blue Creek	Intermittent	13.0	6	Yes	No/No	307	307	Riprap, Gravel, Sand, Silt	Poor	35
UNT 6 to Blue Creek	Ephemeral	4.0	18	No	No/No	155	N/A	Gravel, Sand, Silt, Woody Debris	Average	30
UNT 1 to Garden Run	Ephemeral	1.5	4	Yes	No/No	226	N/A	Gravel, Sand, Silt, Woody Debris	Average	24
Mark Run	Intermittent	2.0	18	Yes	No/No	375	N/A	Riprap, Gravel, Sand, Silt	Poor	38
Castle Creek	Perennial	10.5	12	Yes	Yes/Yes	215	N/A	Riprap, Gravel, Sand, Silt	Average	51
UNT to Behner Brook	Intermittent	5.0	8	Yes	No/No	705	N/A	Riprap, Silt	Poor	28
Total	-	-	-	-	-	**24,181**	**9,716**	-	-	-

* Average OHWM dimensions noted within the study area
** Quality was based on visual observations within the study area
UNT = Unnamed Tributary
OHWM = Ordinary Highwater Mark
USGS = U.S. Geological Survey
QHEI = Qualitative Habitat Evaluation Index
HHEI = Headwater Habitat Evaluation Index

The West Fork of the White River is listed on the National Rivers Inventory. It is outside of the project limits and will not be impacted by the project. None of the 33 streams within the survey limits are listed as Federal Wild and Scenic Rivers, State Natural, Scenic and Recreational Rivers, or navigable waterways, nor are any on the Indiana Register's listing of Outstanding Rivers and Streams or the National Rivers Inventory.

Sixteen streams (9,716 linear feet total) will be impacted by the proposed project. See Table 9 for a breakdown of impacts per stream. Due to the adjacent residential and commercial properties along the majority of the project corridor, impacts have been reduced as much as possible to stay within existing right-of-way. The proposed stream impacts cannot be avoided because the streams already exist within the project right-of-way and the impacts are necessary to maintain drainage, limit right-of-way acquisition, and reduce impacts to additional resources beyond the right-of-way.

As stated in *Part II, Other Alternatives Considered*, the No Build Alternative was analyzed which would eliminate impacts to these streams. However, detailed traffic analyses demonstrated the No Build Alternative would have major operational failures on almost every leg of the corridor. The results of safety models predicted 305 total crashers per year. Thus, the No Build Alternative was rejected because it does not meet the project's Purpose and Need. Alternatives A, B, and C would have had similar footprints and similar impacts to streams. These were dismissed due to higher costs.

AGENCY COORDINATION

Agency coordination was initiated on October 6, 2017 with an invitation (Appendix C-1) to the RAM held on November 14, 2017. Potential impacts to streams were discussed at the RAM, and the meeting summary was distributed to resource agencies on December 11, 2017 (Appendix C-18 to C-31).

On November 17, 2017, the Indiana Department of Natural Resources (IDNR) Division of Fish and Wildlife (DFW) responded with recommendations for appropriate bank stabilization techniques and mitigating impacts to riparian habitats. USACE and IDEM did not formally respond, though both were in attendance at the jurisdictional determination field reviews discussed above. IDEM electronic coordination occurred on May 31, 2019 (Appendix C-36 to C-41). USACE provided a jurisdictional determination letter on October 24, 2019 (Appendix F-102 to F-103).

On January 9, 2018, the U.S. Environmental Protection Agency (USEPA) responded and recommended coordination with IDEM and USACE, identifying and quantifying impacts to water resources, and discussing how impacts to water resources are avoided or minimized. USEPA further recommended draft stream mitigation plans for unavoidable impacts.

USEPA's comment letter also recommended assessing the impacts of the project on water quality, including impaired waters that are part of a Total Maximum Daily Load (TMDL) Program (Appendix C-9 to C-16). Based on the RFI report (Appendix E-1), the project area crosses two watersheds in the TMDL program: Fall Creek and West Fork of the White River, which were researched further on IDEM's TMDL Program website (https://www.in.gov/idem/nps/2652.htm).

Section 303(d) of the Clean Water Act established authority for the TMDL Program for waters that do not meet water quality standards. The TMDL Program's primary purpose is to assess streams, rivers, and lakes that are considered impaired by IDEM and develop reports that identify the causes of the impairment, the reductions of pollutants needed, and the actions needed to improve water quality. Impaired waters do not meet designated water quality standards and do not support one or more designated uses, such as recreational, protection of aquatic life, drinking water, and fish consumption.

The primary cause of impairment in the Fall Creek and West Fork of the White River watersheds is *Escherichia coli* bacteria (*E. coli*). Pollution sources in the watersheds include nonpoint sources from agriculture and pastures, urban, and rural runoff, and land application of manure, as well as point sources from straight pipe discharges, home sewage treatment system disposal, and combined sewer overflow (CSO) outlets.

The proposed project will increase stormwater run-off, which may increase loads of sediment and other pollutants, including *E. coli*. Urban stormwater discharges to Waters of the U.S. are regulated under the Clean Water Act and 327 IAC 15-13, which require Municipal Separate Storm Sewer System (MS4) permits and long-term control programs to reduce CSOs. Within the project area, these programs are managed by Indianapolis Department of Public Works (DPW) and Citizens Energy Group (CEG), who are being coordinated with throughout project development.

USEPA's January 9, 2018 comment letter also recommended coordinating with DPW and CEG regarding stormwater and recommended best management practices (BMPs) (Appendix C-9 to C-16). Furthermore, USEPA stated the increased frequency and intensity of precipitation events can be anticipated during construction and operation of the project. USEPA recommended avoiding the direct discharge of stormwater into Waters of the US and the use of green infrastructure.

The National Park Service's (NPS) November 6, 2017 response letter did not discuss the West Fork of the White River's listing on the *National Rivers Inventory*, nor did it have any recommendations for stream impacts (Appendix C-17). The West Fork of the White River is directly adjacent to the western project terminus, but outside of construction limits. Appropriate stormwater BMPs will be utilized to ensure that no impacts to the river occurs.

The City of Indianapolis MS4 Coordinator responded to project coordination on February 6, 2019 (Appendix C-35) stating the project should comply with the City of Indianapolis Storm Water Design and Construction Manual, including Chapter 700 Stormwater Quality and Chapter 600 Erosion and Sediment Control. BMPs should be utilized to minimize impacts from increased run-off.

All applicable agency recommendations are included in *Part III, Section J – Environmental Commitments*. Due to the expected impacts, a USACE Section 404 permit and an IDEM Section 401 Water Quality Certification (WQC) will be required for this project. To mitigate stream impacts, it is anticipated that this project will utilize the Indiana Stream and Wetland Mitigation Program (IN SWMP, aka In-Lieu-Fee Program), which is managed by IDNR and is consistent with Clean Water Act Section 404 (b)(1) Guidelines.

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

Other Surface Waters

	PRESENCE	IMPACTS	
		YES	NO
Reservoirs			
Lakes			
Farm Ponds			
Detention Basins	X		X
Storm Water Management Facilities	X	X	
Other: _____			

Based on a desktop review, aerial maps of the project area (Appendix B-6 to B-10), USGS topographic maps (Appendix B-2 to B-5), and the water resources map in the RFI report (Appendix E-17), there are 62 mapped other surface waters (lakes and detention basins) located within the 0.5 mile search radius. Five of these are retention ponds located adjacent to the project area: north and south of I-465 near the White River and west of Allisonville Road, southwest of the I-465/I-65 interchange, north of I-465 near Dry Run, and east of I-69 (Lowe's).

The *Waters of the U.S. Report* was approved for the project on October 9, 2018 (Appendix F-1 to F-82) and *Addendum #1* was approved on October 24, 2019 (Appendix F-83 to F-101). No open water resources were identified within the study area. USACE makes all final determinations regarding jurisdiction. No construction will occur in other surface waters, and appropriate stormwater BMPs will be utilized to ensure that no impacts to these resources will occur. Therefore, no impacts are expected.

AGENCY COORDINATION

Responses to agency coordination (Appendix C-4 to C-84) did not identify other surface water features.

Wetlands

PRESENCE	IMPACTS	
	YES	NO
X	X	

Total wetland area:	10.761	acre(s)	Total wetland area impacted:	6.090	acre(s)
Waters of the U.S.:	5.573	acre(s)	Total wetland area impacted:	2.844	acre(s)
Waters of the State:	5.188	acre(s)	Total wetland area impacted:	3.246	acre(s)

WETLANDS (MARK ALL THAT APPLY)	DOCUMENTATION	ES APPROVAL DATES
Wetland Determination	X	Report: October 9, 2018 Addendum #1: October 24, 2019
Wetland Delineation	X	Report: October 9, 2018 Addendum #1: October 24, 2019
USACE Isolated Waters Determination	X	Report: October 9, 2018 Addendum #1: October 24, 2019
Mitigation Plan		Pending: It is assumed the project will utilize IN SWMP to mitigate for all wetland impacts.

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

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

Based on a review of the National Wetlands Inventory (NWI) online mapper (https://www.fws.gov/wetlands/data/Mapper.html), USGS topographic maps (Appendix B-6 to B-10), and the RFI report (Appendix E-1 to E-33), there are 83 NWI-wetland polygons and three NWI-lines located within the 0.5-mile search radius, though none were noted within the project area. According to the Soil Survey Geographic (SSURGO) Database for Marion County, Indiana, the project area contains nationally listed hydric soils. In addition, several of the non-hydric soils that are prevalent within the project limits contain hydric inclusions.

A waters determination and formal wetland delineations were conducted during 2016-2018 site visits to determine the presence of jurisdictional streams and wetlands within the project areas. Parsons identified 118 wetlands within the survey limits. On August 23, 2018, a jurisdictional determination field review was held with USACE, IDEM, INDOT EWPO, and Parsons to review the features and determine jurisdictional boundaries between what features should be considered Waters of the U.S. and what features should be considered Waters of the State. INDOT-EWPO approved the *Waters of the U.S. Report* on October 9, 2018 (Appendix F-1 to F-82).

After the jurisdictional determination field review and just prior to the report being approved, the project limits were revised to include an additional area on the northeast side of I-69 that would be potentially impacted by maintenance of traffic. Parsons conducted field work on October 2, 2018 to review the additional area for the presence of jurisdictional streams and wetlands. In the approved Waters of the U.S. Report, a portion of Wetland BW was delineated, and it was noted that it extended beyond the study area. This wetland extended into the additional study area. The additional area was delineated, and the overall acreage of the wetland was updated. No additional wetlands were identified in the revised study area. On May 1, 2019, a jurisdictional determination field review for the additional area was held with USACE, IDEM, INDOT-EWPO, and Parsons. USACE requested additional review on a portion of Wetland BW that extended beyond the roadside ditch. Parsons conducted additional fieldwork on May 6, 2019. INDOT-EWPO approved the Addendum #1 on October 24, 2019 (Appendix F-83 to F-101). USACE concurred in a jurisdictional determination letter dated October 24, 2019 (Appendix F-102 to F-103).

Table 10. Wetland Impacts

WETLAND NAME	CLASSIFICATION	WATERS OF THE U.S. (ACRES WITHIN STUDY AREA)	WATERS OF THE STATE (ACRES WITHIN STUDY AREA)	WATERS OF THE U.S. IMPACTS (ACRES)	WATERS OF THE STATE IMPACTS (ACRES)	TOTAL WETLAND IMPACTS (ACRES)	COMMENTS
Wetland 1	Palustrine Emergent	0.027	0.000	N/A	N/A	N/A	Poor quality
Wetland 2	Palustrine Scrub-Shrub	0.037	0.000	N/A	N/A	N/A	Poor quality
Wetland 3	Palustrine Scrub-Shrub	0.013	0.000	N/A	N/A	N/A	Poor quality
Wetland 4	Palustrine Forested	0.049	0.000	N/A	N/A	N/A	Poor quality
Wetland 5	Palustrine Emergent	0.006	0.000	N/A	N/A	N/A	Poor quality
Wetland 6	Palustrine Emergent	0.005	0.000	N/A	N/A	N/A	Poor quality
Wetland 7	Palustrine Emergent	0.166	0.081	0.056	N/A	0.056	Poor quality
Wetland 8	Palustrine Emergent	0.063	0.029	0.063	0.022	0.085	Poor quality
Wetland 9	Palustrine Emergent	0.013	0.017	0.013	0.017	0.030	Poor quality
Wetland 10	Palustrine Emergent	0.008	0.000	0.008	N/A	0.008	Poor quality
Wetland 11	Palustrine Emergent	0.004	0.000	0.004	N/A	0.004	Poor quality
Wetland 12	Palustrine Emergent	0.035	0.000	0.035	N/A	0.035	Poor quality
Wetland 13	Palustrine Emergent	0.020	0.000	0.020	N/A	0.020	Poor quality
Wetland 14	Palustrine Emergent	0.023	0.000	0.023	N/A	0.023	Poor quality
Wetland 15	Palustrine Emergent	0.094	0.000	0.019	N/A	0.019	Poor quality
Wetland 16	Palustrine Emergent	0.274	0.070	0.274	0.070	0.344	Poor quality
Wetland 17	Palustrine Emergent/ Scrub-shrub	0.029	0.023	N/A	N/A	N/A	Poor quality
Wetland 18	Palustrine Emergent	0.059	0.000	N/A	N/A	N/A	Poor quality
Wetland 19	Palustrine Emergent	1.241	0.128	1.241	0.128	1.369	Poor quality
Wetland 20	Palustrine Emergent	0.013	0.000	0.013	0.000	0.013	Poor quality
Wetland 21	Palustrine Emergent	0.027	0.000	0.027	0.000	0.027	Poor quality
Wetland 22	Palustrine Emergent	0.004	0.000	0.004	N/A	0.004	Poor quality
Wetland 23	Palustrine Emergent	0.094	0.041	0.094	0.041	0.135	Poor quality
Wetland 24	Palustrine Forested	0.377	0.000	N/A	N/A	N/A	Average quality
Wetland 25	Palustrine Forested	0.713	0.000	N/A	N/A	N/A	Average quality
Wetland 26	Palustrine Forested	0.071	0.000	N/A	N/A	N/A	Poor quality
Wetland 27	Palustrine Forested/ Scrub-Shrub	0.791	0.000	N/A	N/A	N/A	Average quality

WETLAND NAME	CLASSIFICATION	WATERS OF THE U.S. (ACRES WITHIN STUDY AREA)	WATERS OF THE STATE (ACRES WITHIN STUDY AREA)	WATERS OF THE U.S. IMPACTS (ACRES)	WATERS OF THE STATE IMPACTS (ACRES)	TOTAL WETLAND IMPACTS (ACRES)	COMMENTS
Wetland 28	Palustrine Emergent	0.048	0.000	N/A	N/A	N/A	Poor quality
Wetland 29	Palustrine Scrub-Shrub	0.066	0.000	0.066	N/A	0.066	Poor quality
Wetland 30	Palustrine Forested	0.166	0.000	0.132	N/A	0.132	Average quality
Wetland 31	Palustrine Emergent	0.007	0.000	0.007	N/A	0.007	Poor quality
Wetland 32	Palustrine Emergent	0.009	0.000	0.009	N/A	0.009	Poor quality
Wetland 33	Palustrine Emergent	0.094	0.000	0.094	N/A	0.094	Poor quality
Wetland 34	Palustrine Emergent	0.030	0.000	N/A	N/A	N/A	Poor quality
Wetland 35	Palustrine Emergent	0.005	0.000	0.004	N/A	0.004	Poor quality
Wetland 36	Palustrine Emergent	0.015	0.006	0.013	N/A	0.013	Poor quality
Wetland 37	Palustrine Emergent	0.049	0.041	0.049	0.041	0.090	Poor quality
Wetland 38	Palustrine Emergent	0.009	0.000	0.009	N/A	0.009	Poor quality
Wetland 39	Palustrine Emergent	0.034	0.000	0.027	N/A	0.027	Poor quality
Wetland 40	Palustrine Emergent	0.087	0.201	0.087	0.201	0.288	Poor quality
Wetland 41	Palustrine Emergent	0.014	0.000	0.011	N/A	0.011	Poor quality
Wetland A	Palustrine Emergent	0.159	0.000	0.005	N/A	0.005	Poor quality
Wetland B	Palustrine Emergent	0.000	0.319	N/A	0.301	0.301	Poor quality
Wetland C	Palustrine Emergent	0.000	0.146	N/A	N/A	N/A	Poor quality
Wetland D	Palustrine Emergent	0.000	0.134	N/A	0.134	0.134	Poor quality
Wetland E	Palustrine Emergent	0.000	0.047	N/A	N/A	N/A	Poor quality
Wetland F	Palustrine Emergent	0.000	0.045	N/A	N/A	N/A	Poor quality
Wetland F2	Palustrine Emergent	0.000	0.108	N/A	0.108	0.108	Poor quality
Wetland G	Palustrine Emergent	0.000	0.020	N/A	0.003	0.003	Poor quality
Wetland H	Palustrine Emergent	0.000	0.062	N/A	0.036	0.036	Poor quality
Wetland I	Palustrine Emergent	0.000	0.045	N/A	N/A	N/A	Poor quality
Wetland J	Palustrine Emergent	0.000	0.184	N/A	0.118	0.118	Poor quality
Wetland K	Palustrine Emergent	0.000	0.010	N/A	N/A	N/A	Poor quality
Wetland L	Palustrine Emergent	0.000	0.039	N/A	0.037	0.037	Poor quality
Wetland M	Palustrine Emergent	0.000	0.080	N/A	N/A	N/A	Poor quality
Wetland N	Palustrine Emergent	0.000	0.042	N/A	N/A	N/A	Poor quality

WETLAND NAME	CLASSIFICATION	WATERS OF THE U.S. (ACRES WITHIN STUDY AREA)	WATERS OF THE STATE (ACRES WITHIN STUDY AREA)	WATERS OF THE U.S. IMPACTS (ACRES)	WATERS OF THE STATE IMPACTS (ACRES)	TOTAL WETLAND IMPACTS (ACRES)	COMMENTS
Wetland O	Palustrine Emergent	0.000	0.050	N/A	N/A	N/A	Poor quality
Wetland P	Palustrine Emergent	0.000	0.010	N/A	0.010	0.010	Poor quality
Wetland Q	Palustrine Emergent	0.000	0.006	N/A	0.006	0.006	Poor quality
Wetland R	Palustrine Emergent	0.000	0.011	N/A	0.011	0.011	Poor quality
Wetland S	Palustrine Emergent	0.008	0.022	0.008	0.022	0.030	Poor quality
Wetland T	Palustrine Emergent	0.000	0.005	N/A	0.005	0.005	Poor quality
Wetland U	Palustrine Emergent	0.000	0.009	N/A	0.009	0.009	Poor quality
Wetland V	Palustrine Emergent	0.000	0.113	N/A	0.113	0.113	Poor quality
Wetland W	Palustrine Emergent	0.000	0.015	N/A	0.012	0.012	Poor quality
Wetland X	Palustrine Emergent	0.000	0.011	N/A	0.011	0.011	Poor quality
Wetland Y	Palustrine Emergent	0.000	0.009	N/A	N/A	N/A	Poor quality
Wetland Z	Palustrine Emergent	0.000	0.007	N/A	0.007	0.007	Poor quality
Wetland AA	Palustrine Emergent	0.000	0.008	N/A	0.008	0.008	Poor quality
Wetland AB	Palustrine Emergent	0.000	0.044	N/A	0.047	0.047	Poor quality
Wetland AC	Palustrine Emergent	0.000	0.040	N/A	0.040	0.040	Poor quality
Wetland AD	Palustrine Emergent	0.000	0.056	N/A	0.056	0.056	Poor quality
Wetland AE	Palustrine Emergent	0.000	0.083	N/A	0.083	0.083	Poor quality
Wetland AF	Palustrine Emergent	0.000	0.343	N/A	0.343	0.343	Poor quality
Wetland AG	Palustrine Emergent	0.000	0.166	N/A	0.166	0.166	Poor quality
Wetland AH	Palustrine Emergent	0.000	0.001	N/A	0.001	0.001	Poor quality
Wetland AI	Palustrine Emergent	0.000	0.100	N/A	0.100	0.100	Poor quality
Wetland AJ	Palustrine Emergent	0.000	0.009	N/A	0.009	0.009	Poor quality
Wetland AK	Palustrine Emergent	0.030	0.391	0.030	0.391	0.421	Poor quality
Wetland AL	Palustrine Emergent	0.000	0.003	N/A	N/A	N/A	Poor quality
Wetland AM	Palustrine Emergent	0.000	0.010	N/A	0.010	0.010	Poor quality
Wetland AN	Palustrine Emergent	0.000	0.034	N/A	0.034	0.034	Poor quality
Wetland AO	Palustrine Emergent	0.000	0.010	N/A	0.001	0.001	Poor quality
Wetland AP	Palustrine Emergent	0.000	0.001	N/A	0.010	0.010	Poor quality
Wetland AQ	Palustrine Emergent	0.000	0.010	N/A	0.010	0.010	Poor quality

WETLAND NAME	CLASSIFICATION	WATERS OF THE U.S. (ACRES WITHIN STUDY AREA)	WATERS OF THE STATE (ACRES WITHIN STUDY AREA)	WATERS OF THE U.S. IMPACTS (ACRES)	WATERS OF THE STATE IMPACTS (ACRES)	TOTAL WETLAND IMPACTS (ACRES)	COMMENTS
Wetland AR	Palustrine Emergent	0.000	0.086	N/A	0.086	0.086	Poor quality
Wetland AS	Palustrine Emergent	0.000	0.019	N/A	N/A	N/A	Poor quality
Wetland AT	Palustrine Emergent	0.000	0.014	N/A	N/A	N/A	Poor quality
Wetland AU	Palustrine Emergent	0.000	0.034	N/A	0.002	0.002	Poor quality
Wetland AV	Palustrine Emergent	0.000	0.047	N/A	N/A	N/A	Poor quality
Wetland AW	Palustrine Emergent	0.000	0.100	N/A	0.087	0.087	Poor quality
Wetland AX	Palustrine Emergent	0.000	0.052	N/A	N/A	N/A	Poor quality
Wetland AY	Palustrine Emergent	0.000	0.040	N/A	N/A	N/A	Poor quality
Wetland AZ	Palustrine Emergent	0.000	0.068	N/A	N/A	N/A	Poor quality
Wetland BA	Palustrine Emergent	0.000	0.018	N/A	0.013	0.013	Poor quality
Wetland BB	Palustrine Emergent	0.000	0.011	N/A	N/A	N/A	Poor quality
Wetland BC	Palustrine Forested	0.000	0.015	N/A	N/A	N/A	Poor quality
Wetland BD	Palustrine Emergent	0.000	0.022	N/A	N/A	N/A	Poor quality
Wetland BE	Palustrine Scrub-Shrub	0.000	0.273	N/A	N/A	N/A	Poor quality
Wetland BF	Palustrine Emergent	0.000	0.016	N/A	N/A	N/A	Poor quality
Wetland BF2	Palustrine Emergent	0.000	0.016	N/A	N/A	N/A	Poor quality
Wetland BG	Palustrine Scrub-Shrub	0.000	0.005	N/A	0.005	0.005	Poor quality
Wetland BH	Palustrine Emergent	0.000	0.016	N/A	0.016	0.016	Poor quality
Wetland BI	Palustrine Emergent	0.000	0.006	N/A	0.006	0.006	Poor quality
Wetland BJ	Palustrine Emergent	0.161	0.020	0.161	0.020	0.181	Poor quality
Wetland BK	Palustrine Emergent	0.000	0.027	N/A	0.002	0.002	Poor quality
Wetland BL	Palustrine Emergent	0.000	0.042	N/A	0.042	0.042	Poor quality
Wetland BM	Palustrine Emergent	0.000	0.027	N/A	0.023	0.023	Average quality
Wetland BN	Palustrine Emergent	0.000	0.007	N/A	0.001	0.001	Poor quality
Wetland BO	Palustrine Emergent	0.000	0.081	N/A	N/A	N/A	Poor quality
Wetland BP	Palustrine Emergent	0.000	0.038	N/A	0.038	0.038	Poor quality
Wetland BQ	Palustrine Emergent	0.000	0.014	N/A	0.014	0.014	Poor quality
Wetland BR	Palustrine Emergent	0.000	0.019	N/A	0.019	0.019	Poor quality
Wetland BS	Palustrine Emergent	0.000	0.045	N/A	N/A	N/A	Poor quality

WETLAND NAME	CLASSIFICATION	WATERS OF THE U.S. (ACRES WITHIN STUDY AREA)	WATERS OF THE STATE (ACRES WITHIN STUDY AREA)	WATERS OF THE U.S. IMPACTS (ACRES)	WATERS OF THE STATE IMPACTS (ACRES)	TOTAL WETLAND IMPACTS (ACRES)	COMMENTS
Wetland BT	Palustrine Emergent	0.000	0.003	N/A	0.003	0.003	Poor quality
Wetland BU	Palustrine Emergent	0.000	0.057	N/A	0.057	0.057	Poor quality
Wetland BV	Palustrine Emergent	0.000	0.040	N/A	0.040	0.040	Poor quality
Wetland BW	Palustrine Emergent	0.326	0.415	0.238	N/A	0.238	Poor quality
Total	-	5.573	5.188	2.844	3.246	6.090	-

Based on the regulatory agency feedback, 118 wetlands totaling 10.761 acres were identified within the survey limits. 5.573 acres of these wetlands were determined to be Waters of the U.S., and 5.188 acres were determined to be likely Waters of the State. Some wetlands were split in jurisdiction. On April 21, 2020, USEPA and USACE published the *Navigable Waters Protection Rule* in the Federal Register to finalize a revised definition of "waters of the United States" under the Clean Water Act. This change will likely result in the jurisdictional determinations for wetlands within this project. These changes will be addressed during the permitting process. Descriptions of these wetlands can be found in the *Waters of the U.S. Report* and in the *Addendum #1* in Appendix F-1 to F-101. No other wetlands were identified within the study area.

Approximately 2.844 acres of Waters of the U.S. and 3.246 acres of Waters of the State wetlands will be impacted by the proposed project for a total of 6.090 acres of wetland impacts (Table 11). The majority of the wetland impacts by the project are to low quality, palustrine emergent wetlands that occur within the roadside ditches. Due to the adjacent residential and commercial properties along majority of the project corridor, the project footprint was reduced as much as possible to stay within existing right-of-way.

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.

As stated above in *Part II, Other Alternatives Considered*, the No Build Alternative was analyzed which would eliminate impacts to wetlands. Detailed traffic analyses demonstrated the No Build Alternative would have major operational failures on almost every leg of the corridor. The results of safety models predicted 305 total crashes per year. Thus, the No Build Alternative was rejected because it does not meet the project's Purpose and Need. Alternatives A, B, and C would have had similar footprints and similar impacts to wetlands. These were dismissed due to higher costs.

The majority of wetlands occur in ditches within existing right-of-way. Therefore, avoiding them is not practicable because of the need for additional travel lanes and associated drainage improvements. Furthermore, the ditches could not be replaced in-kind without additional right-of-way and relocations. Impacts to wetlands have been minimized through the use of retaining walls, and further opportunities to minimize impacts will be analyzed as design progresses.

Based upon the above considerations, it has been determined that there is no practicable alternative to the proposed new construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

AGENCY COORDINATION

The USEPA's January 9, 2018 letter recommended coordination with IDEM and USACE, identifying and quantifying impacts to wetlands, and discussing how impacts to wetlands are avoided or minimized (Appendix C-9 to C-16). USEPA further recommended draft wetland mitigation plans for those impacts that can't be avoided. USACE and IDEM did not formally respond, though both were in attendance at the jurisdictional determination field reviews previously discussed. IDNR-DFW's November 17, 2017 response letter did not include recommendations regarding wetlands (Appendix C-4 to C-7). USACE provided a jurisdictional determination letter on October 24, 2019 (Appendix F-102 to F-103).

All applicable agency recommendations are included in *Part III, Section J – Environmental Commitments*. Due to the expected impacts, a USACE Section 404 permit and an IDEM Section 401 WQC will be required for this project. It is anticipated that this project will utilize the IN SWMP to mitigate wetland impacts.

There is no practicable alternative to the proposed 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

Unique or High Quality Habitat

PRESENCE	IMPACTS	
	YES	NO
X	X	

Based on a desktop review, 2016-2018 site visits, and aerial maps (Appendix B-6 to B-10), the project area mostly consists of previously disturbed right-of-way within a suburban area. Adjacent land use generally consists of a mixture of commercial, residential, and forested land. The western project terminus is at the West Fork of the White River, which has a forested riparian floodway. The southern terminus is at Fall Creek Road, where Skiles Test Nature Preserve is adjacent to the west. Woolen Gardens Nature Preserve/Fall Creek Greenway is less than 0.2 mile to the south, and Fort Benjamin Harrison State Park is approximately 0.5 mile to the east. Relatively smaller strips of forested land are also present within the project area along streams, drainage ways, and fencerows.

Most of the total work area is currently paved or otherwise used for transportation purposes as maintained right-of-way, roadside slopes, and ditches. There are also maintained lawns at commercial properties. Of the total 266-acre work area, the total impacts to terrestrial habitat is estimated to be 133.3 acres. Included in the impacts to terrestrial habitat, there are approximately 20.5 acres of trees and 6.1 acres of emergent or scrub-shrub wetlands. The remaining 106.7 acres of terrestrial habitat are primarily maintained right-of-way and commercial lawn.

For the purpose of analyzing impacts to federally-protected bat species (discussed further in *Part III, Section A - Threatened or Endangered Species*), the project area was split into four areas: the western project area, the forested parcel, the southern project area, and developed areas. These areas are labeled on the Tree Clearing figures (Appendix B-6 to B-10). Proposed impacts to trees are quantified in Table 11.

Table 11. Tree Clearing Summary

AREA	ACRES OF TREES CLEARED WITHIN 100 FT OF EXISTING PAVED SURFACES	ACRES OF TREES CLEARED MORE THAN 100 FT, BUT LESS THAN 300 FT FROM EXISTING PAVED SURFACES	ACRES OF TREES CLEARED MORE THAN 300 FT FROM EXISTING PAVED SURFACES	TOTAL ACRES OF TREES CLEARED
Entire Project Area	14.23	5.77	0.49	20.49
SUITABLE SUMMER HABITAT FOR PROTECTED BAT SPECIES				
Forested Parcel	1.78	4.39	0.49	6.66
Southern Project Area	2.15	0.18	0.00	2.33

Western Project Area

The western project area is adjacent to a forested floodplain associated with the West Fork of the White River. In this area, construction limits were narrowed to avoid impacts to the forested floodplain and unnamed tributaries. This will be achieved by using mechanically stabilized earth (MSE) walls. Therefore, most of the proposed impacts to terrestrial habitat in this area consists of maintained right-of-way and low-quality scrub-shrub vegetation dominated by honeysuckle (*Lonicera maackii)*.

Forested Parcel

The forested parcel northwest of the I-465/I-69 interchange is a total of 16.3 acres. Based on aerial photographs, much of this area was last farmed circa 1975, except for an area of mature trees that was identified in the approved *Waters of the U.S. Report* as containing forested wetlands (Wetlands 25 to 27). Tree species identified within the forested parcel include silver maple (*Acer saccharinum*), American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), red maple (*Acer rubrum*), autumn olive (*Elaeagnus umbellate*), swamp white oak (*Quercus bicolor*), eastern cottonwood (*Populus deltoides*), and northern white oak (*Quercus alba*). Honeysuckle (*Lonicera maackii*), an invasive shrub, was present throughout. Approximately 8.59 acres of forested land would be impacted from this parcel, of which, 6.66 acres are considered suitable summer habitat for protected bat species. Impacts to this area are further discussed in *Part III, Section A - Threatened or Endangered Species*.

Southern Project Area

From East 65th Street to the southern terminus at the bridge over Fall Creek Road, the project area is adjacent to Skiles Test Nature Preserve. All work in this area is confined within existing interstate right-of-way. As discussed above, there are many habitat resources along Fall Creek, and agency coordination indicated there are records of protected species not far from this area. Therefore, the forested areas within this portion of the project area are considered likely "suitable summer habitat" for protected bat species, discussed further in *Part III, Section A - Threatened or Endangered Species*. The terrestrial habitat that would be impacted in this area consists of maintained right-of-way, scrub-shrub vegetation, and approximately 2.33 acres of forest. Dominant tree species in this area include American sycamore (*Platanus occidentalis*), green ash (*Fraxinus pennsylvanica*), and eastern cottonwood (*Populus deltoides)*. Scrub-shrub vegetation was dominated by honeysuckle (*Lonicera maackii*).

Developed Areas

Based on aerial photographs and the 2016-2018 site visits, most of the land surrounding the project area is highly-developed with residential neighborhoods, retail centers, office parks, and warehouses. The proposed right-of-way within these areas consists of existing commercial buildings with parking lots, landscaping, and lawn (described in *Part II, Right-of-Way*). The existing interstate right-of-way consists of a mixture of low-quality maintained side slopes, roadside ditches, trees, and scrub-shrub vegetation. Impacts to terrestrial habitat were minimized during design, such as the use of MSE walls. Avoiding impacts to terrestrial habitat would not be practicable because added roadway capacity is needed to achieve the project's purpose and needs. All disturbed areas will be revegetated immediately upon completion of construction work.

AGENCY COORDINATION

Correspondence with USFWS did not identify critical habitats or related concerns (Appendix C-45 to C-84). IDNR-DFW responded to agency coordination on November 17, 2017 (Appendix C-4 to C-7). IDNR-DFW stated construction activity south of the I-465 bridge over Fall Creek Road should be confined as much as possible to prevent potential negative impacts to the nature preserve and associated flora and fauna. Only incidental construction required to tie in the proposed design and facilitate maintenance of traffic is proposed south of this bridge. Based on the information discussed and presented at the RAM held on November 14, 2017 (Appendix C-18 to C-31), IDNR-DFW concurred that the existing habitat features within the project area are likely low-quality features related to infrastructure.

The USEPA January 9, 2018 comment letter recommended documenting the quality of the forested and riparian habitats and identifying mitigation measures that INDOT can use to compensate for the habitat losses. USEPA also recommended replanting disturbed areas with pollinator promoting species (Appendix C-9 to C-16). It is anticipated that forested wetlands will be mitigated utilizing the IN SWMP. All applicable agency recommendations are included in *Part III, Section J – Environmental Commitments*.

Karst

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

Based on a desktop review, the project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). According to the topographic map of the project area (Appendix B-2) and the RFI report (Appendix E-1), there are no karst features identified within or adjacent to the project area. Based on responses to agency coordination (Appendix C-4 to C-84), a karst study is not required. In their response, the Indiana Geological and Water Survey (IGWS) did not indicate that karst features exist in the project area (Appendix C-42- to C-44). The response identified high liquefaction potential, floodway, high potential for bedrock and sand/gravel resources, and petroleum exploration wells. The response from IGWS was communicated with the designer on May 31, 2019. No impacts are expected.

Threatened or Endangered Species

	PRESENCE	IMPACTS YES	IMPACTS NO
Within the known range of any federal species	X	X	
Any critical habitat identified within project area			
Federal species found in project area (based upon informal consultation)			
State species found in project area (based upon consultation with IDNR)			

	YES	NO
Is Section 7 formal consultation required for this action?		X

Based on a desktop review, the original RFI report (completed by Parsons on April 25, 2017 and conditionally approved by INDOT on May 18, 2017) (Appendix E-1), and the RFI Addendum (completed by Parsons and approved by INDOT on April 16, 2019) (Appendix E-29), the IDNR (Marion County) Endangered, Threatened and Rare (ETR) Species List has been checked and is included in Appendix E-26. The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR-DFW response letter dated November 17, 2017 (Appendix C-4), the Natural Heritage Program's Database has been checked. Fort Harrison State Park and the Bluffs of Fall Creek Nature Preserve are both found within 0.5 mile east of the project. Two communities of concern are located within the Bluffs of Fall Creek Nature Preserve, a Central Till Plain Mesic Upland Forest and Dry-Mesic Upland Forest. One plant, the rose turtlehead (*Chelone obliqua var. speciouse*), which is on the state watch list, is present within 0.5 mile of the project. The bald eagle (*Haliaeetus leucocephalus*), a state special concern bird, is also present within 0.5 mile of the project. Five mussel species are located within Fall Creek at Fort Harrison State Park; clubshell (*Pleurobema clava*), federally and state endangered, snuffbox (*Epioblasma triqueta*), federally and state endangered, kidneyshell (*Ptychobranchus fasciolaris*), state special concern, little spectaclecase (*Villosa lienosa*), state special concern, and wavyrayed lampmussel (*Lampsilis fasciola*), state special concern. Additionally, four mussel species are located within the West Fork of the White River; clubshell (*Pleurobema clava*), federally and state endangered, rabbitsfoot (*Quadrula cylindrica cylindrical*), federally threatened and state endangered, round hickorynut (*Obovaria subrotunda*), state endangered, and kidneyshell (*Ptychobranchus fasciolaris*), state special concern. IDNR-DFW recommended confining construction activities south of Fall Creek Road bridge as much as possible to avoid potential negative impacts to the nature preserve and associated flora and fauna species. No work is proposed south of Fall Creek Road bridge; therefore, no impacts are expected.

IDNR-DFW indicated that two bald eagle (*Haliaeetus leucocephalus*) nests have been documented within 0.5 mile of the project area. However, since these nests are located more than 1,000 feet from the project area, which is more than the minimum safe buffer zone of 660 feet, they do not foresee the project resulting in any impacts to the bald eagle. They also do not foresee any impacts to the above-mentioned mussel species.

Bats, Standard Coordination

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C-45 to C-50). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). No additional species were found within or adjacent to the project area.

Based on proposed tree clearing more than 300 feet from existing paved surfaces, this project does not qualify for the *Range-wide Programmatic Informal Consultation for the Indiana bat and NLEB*. On April 12, 2019, further coordination occurred with INDOT on how to proceed with determining impacts to bats. Standard Informal Consultation for the Indiana bat and NLEB letter was sent to USFWS on April 12, 2019 describing the project activities, habitats within the project area, potential environmental impacts, and proposed standard and site-specific Avoidance and Mitigation Measures (AMMs) (Appendix C-51). FHWA determined the proposed project has an effect finding of "May Affect, Not Likely to Adversely Affect – with AMMs." On April 16, 2019, USFWS concurred with FHWA's effect determination (Appendix C-80). A list of the standard and site-specific AMMs is provided below:

- General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/Federal Railroad Administration (FRA)/ Federal Transit Administration (FTA)

(Transportation Agencies) environmental commitments, including all applicable avoidance and minimization measures.

- Tree Removal AMM 1: All phases/aspects of the project (e.g., temporary work areas, alignments) would be modified, to the extent practicable, to avoid tree removal in excess of what is required to implement the project safely.
- Tree Removal AMM 2: All tree removal activities would be restricted to when Indiana bats and northern long-eared bats are not likely to be present (e.g., the inactive season) October 1 – March 30.
- Tree Removal AMM 3: Tree removal would be limited to that specified in project plans and ensure that contractors would understand clearing limits and how they are marked in the field (e.g., bright colored flagging/fencing would be installed prior to any tree clearing to ensure contractors stay within clearing limits).
- Lighting AMM 1: All temporary lighting would be directed away from suitable habitat during the active season.
- 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 Backlight, Uplight, and Glare (BUG) system developed by the Illuminating Engineering Society, the goal is to be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.
- Site Specific AMM 1: The interior of commercial structures would be inspected for evidence of bats prior to demolition. Bridge and culvert structures would be re-inspected for the presence of bats at least 24 months prior to any work to the structure or roadway above/below the structure. If bat activity or signs of frequent bat activity (e.g., guano stains) are observed, further coordination with USFWS would occur.
- Site Specific AMM 2: A “Reinitiation Notice” is required if: more than 20.49 acres of trees are to be cleared; the amount or extent of incidental take of Indiana bat is exceeded; new information about listed species is encountered; a new species is listed or critical habitat designated that the project may affect; the project is modified in a manner that causes an effect to the listed species; or, new information reveals that the project may affect listed species or critical habitat in a manner not considered in the project information.

The AMMs are included as firm commitments in *Part III, Section J – Environmental Commitments*.

Rusty Patched Bumble Bee, outside high potential zone

The RFI Addendum report was approved on April 16, 2019 (Appendix E-29 to E-33). Project information was submitted through the USFWS’s IPaC portal, and an official species list was generated (Appendix C-45 to C-50). This project is located outside a High Potential Zone for the Rusty Patched Bumble Bee. Therefore, no impacts are expected.

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

Section B – Other Resources

Drinking Water Resources	PRESENCE	IMPACTS YES	IMPACTS NO
Wellhead Protection Area	X	X	
Public Water System(s)	X		X
Residential Well(s)	X		X
Source Water Protection Area(s)			
Sole Source Aquifer (SSA)			

If a SSA is present, answer the following:

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

Sole Source Aquifer

The project is located in Marion 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/USEPA Sole Source Aquifer MOU is not applicable to this project. Therefore, a detailed groundwater assessment is not needed, and no impacts are expected.

Wellhead Protection Area and Source Water

The IDEM's Wellhead Proximity Determinator website (http://www.in.gov/idem/cleanwater/pages/wellhead/) was accessed on March 18, 2019 by Parsons. Based on the results of the online search, on June 20, 2019, Parsons contacted the IDEM Office of Water Quality, Drinking Water Branch for clarification (Appendix C-36). According to IDEM, the majority of the project area is not located within a Wellhead Protection Area (WHPA), and there are no designated source water protection areas (associated with surface water intakes) within or near the project area. The exception is where the City of Carmel WHPA intersects the project area, in the northwest portion of the project, near the White River and west of Allisonville Road. The public water supply wells associated with this WHPA are more than one mile away. Therefore, direct impacts to these wells are not anticipated. Additionally, IDEM identified an active, nontransient community supply well located near the project area, west of I-69 and north of 82nd Street, which is associated with the Park Castlewood Industrial Park. Direct impacts to this well are not anticipated.

The USEPA response to agency coordination, dated January 9, 2019 (Appendix C-9 to C-16), recommended identifying potential adverse impacts to drinking water supplies for all WHPAs and drinking water intakes that have the potential to receive stormwater runoff or spills related to the project. The USEPA recommended special attention to work that would occur in a WHPA or upstream of a drinking water intake, and evaluating and identifying mitigation measures, if applicable.

Impacts to the City of Carmel WHPA cannot be avoided because it crosses the existing I-465. Direct impacts and stormwater runoff do not appear to be a concern because the public and community supply wells are too distant. However, if surface spills occur within the project area, they could infiltrate the ground surface and contaminate groundwater. Therefore, the following protection measures are included as firm commitments in *Part III, Section J – Environmental Commitments*:

- The WHPA will be labeled "Wellhead Protection Area" on project plans, and contractors will be aware of the presence of a WHPA. During construction, the beginning and end of the sensitive area should be marked with signs stating: "Wellhead Protection Area", or similar.
- The Storm Water Pollution Prevention Plan (SWPPP) and associated spill response plan will include communication protocols to ensure proper and timely notification of nearby public and community drinking water supplies in the event of a spill. This will include the WHPA and the community water supply well.
- During geotechnical investigations, INDOT's *Aquifer Protection Guidelines* will be followed to ensure boreholes are properly closed in a manner that is protective of groundwater.
- Whenever possible, contractor staging, loading, and cleanup activities should avoid the WHPA. Waste containers and hazardous materials/petroleum products, such as dumpsters or fueling tanks, must be stored outside the sensitive area.

Water Wells

The IDNR Water Well Records Viewer website (https://www.in.gov/dnr/water/3595.htm) was accessed on May 30, 2019 and August 16, 2019 by Parsons. Much of the commercial and residential land adjacent to the project area was originally developed without public water supply, so there are multiple wells mapped within or adjacent to the project area. The exact location of these wells is often "estimated". The well records are summarized in Table 12.

Based on the 2016-2018 site visits by Parsons, there is no visible evidence of wells in accessible portions of the project area. The interior of the commercial buildings proposed for right-of-way acquisition were not accessed during site inspections. Based on the age of development and the IDNR well records, some of the buildings may contain wells. Impacting these wells, if present, is not avoidable because the properties are proposed for demolition. Improperly sealed and closed wells can provide a conduit for contaminants, if released, to reach the groundwater. Therefore, in accordance

with *INDOT Standard Specifications*, Section 202, any onsite wells will be properly closed by a licensed well driller in accordance with IDNR Rule 312 IAC 13, which requires proper grouting during abandonment to eliminate the risk to the aquifer (https://www.in.gov/dot/div/contracts/standards/book/sep19/200-2020.pdf).

The wells located on adjoining properties would not be affected because they are located beyond the construction limits Therefore, no impacts to adjoining wells are expected. Should it be determined during the right-of-way phase that wells are affected, a cost to cure will likely be included in the appraisal.

Urban Area Boundary

Based on a desktop review of the INDOT MS4 website (https://entapps.indot.in.gov/MS4/) by Parsons on April 23, 2019 and the RFI Addendum report (Appendix E-29 to E-33), this project is located in an Urban Area Boundary (UAB) location. An agency coordination letter was sent on February 1, 2019 by Parsons to the City of Indianapolis MS4 Coordinator. The MS4 Coordinator response dated February 6, 2019 (Appendix C-35) notes that the project must comply with the City of Indianapolis *Storm Water Design Construction Manual* including Chapter 700 Stormwater Quality and Chapter 600 Erosion and Sediment Control. Avoidance alternatives would not be practicable because the No Build Alternative does not meet the project's purpose and need.

Based on coordination with Citizens Energy Group, this project is located where there is a public water system. The public water system will not be negatively affected because utility coordination is being conducted by Parsons. Early agency coordination was initiated on October 6, 2017 with an invitation letter (Appendix C-1) to the RAM held on November 14, 2017 (Appendix C-26). Citizens Energy Group attended the RAM but did not provide a written response. Utility coordination is on-going. There should be no negative impacts to the municipal water supply.

Table 12. Summary of IDNR Well Records

IDNR WELL NO.	GENERAL MAPPED LOCATION[1]	DATE	NOTES
65407	West of I-465/Allisonville Road interchange within the right-of-way beneath the I-465 embankment	1974	Likely used for research.
Various, includes 165174 165179 288927	Within and adjacent to the project area near Dry Run and I-465. Appear to be associated with Ivy Hills Subdivision.	1963 to circa 1990	Based on May 30, 2019 correspondence from the utility provider, Citizens Energy Group, municipal water supply is currently available within the neighborhood. Unknown how many wells remain active.
63178 (plus 14 others)	75th and Johnston Road, adjacent to western terminus of construction area	1961 to circa 1987	Appear to be "estimated" locations at the center of the Section 27, Township 17N, Range 4E.
65552	In the middle of northbound I-69, just north of the I-465 interchange	1969	Owner listed as State Highway Garage.
65553	Within the project area west of I-69	1974	More than 500 feet from the project area based on property address.
65526	West of I-69 within proposed new right-of-way (vacant commercial building)	1960	Likely associated with building proposed for relocation.
65551	Adjacent to the west of proposed new right-of-way, west of I-69	1968	Field located in 1992.
63167	Within the project area, adjacent to the west of I-69	1964	Listed as Castleton Post Office (likely the current post office on Bash Road).
65555	Within the northwest portion of the I-69/82nd Street Interchange	1979	Owner listed as "Indiana Bell Telephone"
162510	Adjacent to the west of the project area, north of I-69/82nd Street Interchange (current AT&T property)	1960	Shallow (38 feet deep).
65550	Within the northbound I-69 lanes	1986	Based on address, commercial property on Castlewood Drive.
165195 63164 165190	Within westbound 82nd Street, adjacent to the east of the project area	1964 to 1969	Appear to be "estimated" locations.

[1] Note, mapped locations are often "estimated" and inaccurate.

Source: https://www.in.gov/dnr/water/3595.htm

Groundwater Resources

The USEPA January 9, 2018 comment letter requested a discussion of groundwater resources in the project area (Appendix C-9 to C-16). Based on a review of the IDNR maps entitled *Unconsolidated Aquifer Systems of Marion County, Indiana* and *Bedrock Aquifer Systems of Marion County, Indiana* (https://www.in.gov/dnr/water/6508.htm), the project area is underlain by several aquifers, which are discussed further below.

Most of the project area is underlain by the New Castle/Tipton Till Aquifer system, which consists of glacial till and has a low to moderate susceptibility to surface contamination. This aquifer typically yields 10 to 50 gallons per minute (gpm) but can yield up to 430 gpm. This aquifer is used by most of the domestic wells and a few high-capacity users in Marion County. The nearest high-capacity well, located approximately 0.7 mile west of the project area, is registered to the Hill Crest Country Club and likely used for golf course irrigation.

The western and southern portions of the project area near the West Fork of the White River and Fall Creek are underlain by the White River and Tributaries Outwash Aquifer System, which consists of glacial outwash sands and gravels that are moderately to highly susceptible to surface contamination. Domestic wells typically yield 50 gpm, and high capacity wells can produce up to 3,040 gpm. The nearest high capacity well, located approximately 1.7 miles southwest of the project area, is registered to the Brendonwood Country Club and likely used for irrigation. The nearest high capacity public supply well is registered by the City of Lawrence Utilities and is located approximately 2.5 miles upstream along the Fall Creek outwash.

Beneath the unconsolidated deposits, the project area is underlain by the Silurian and Devonian Carbonates Aquifer System, which consists of carbonate rocks (i.e. limestone and dolomite). Most of the wells using this aquifer are for high capacity users and typically yield 93 to 1,200 gpm. Most of this system is overlain by thick deposits and therefore is considered a low risk to contamination. The nearest high capacity well is a public supply located approximately 1.3 miles southeast of the project area and is registered to City of Lawrence Utilities.

Avoiding groundwater resources is not practicable because the aquifers extend across the central Indiana region. However, the project should have minimal impacts to groundwater resources. Impacts will be minimized through the SWPPP and associated spill response plan, the proper closure of wells (described above), and the implementation of INDOT's *Aquifer Protection Guidelines.* Project commitments are listed in *Part III, Section J – Environmental Commitments*.

Floodplains

	PRESENCE	IMPACTS	
		YES	NO
Longitudinal Encroachment			
Transverse Encroachment	X	X	
Project located within a regulated floodplain	X	X	
Homes located in floodplain within 1000' up/downstream from project			

Based on a desktop review of The Indiana Department of Natural Resources Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) by Parsons on March 11, 2020 and the RFI report, this project is partially located in regulatory floodplains as determined from approved IDNR floodplain maps (Appendix F-104). An agency coordination letter was sent on October 6, 2017 to the local Floodplain Administrator (Appendix C-1 to C-3). IDNR-DFW responded on October 6, 2017 indicating that the project may require their formal approval pursuant to the Flood Control Act (IC 14-28-1) for any construction within a floodway of a stream which has a drainage area greater than one square mile (Appendix C-4 to C-7). DPW responded on February 6, 2019 stating that "Projects within the 100-year floodplain must submit plan information to the Department of Business and Neighborhood Services for a FLD [Flood Development] permit" (Appendix C-85). An IDNR Construction in a Floodway (CIF) permit will be required for impacts to the Howland Ditch Floodway. No impacts are proposed to the White River Floodway. Applicable recommendations from IDNR-DFW and DPW are included as commitments in *Part III, Section J – Environmental Commitments*.

This project qualifies as both Category 3 – *projects involving modifications to existing drainage structures*, and Category 4 – *projects involving replacement of existing drainage structures on essentially the same alignment*. The INDOT Categorical Exclusion Manual states:

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.

Category 4 – No homes are located within the base floodplain within 1,000 feet upstream and no homes are located within the base floodplain within 1,000 feet downstream. The proposed structures 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. A hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this study will be included with the Field Check Plans.

Farmland	PRESENCE	IMPACTS	
		YES	NO
Agricultural Lands	X	X	
Prime Farmland (per NRCS)	X		X

TOTAL POINTS (FROM SECTION VII OF CPA-106/AD-1006) 91

Based on a desktop review, the 2016-2018 site visits, and the aerial map of the project area (Appendix B-6), the project will convert 8.59 acres of farmland as defined by the Farmland Protection Policy Act. This area consists of the vacant forested land northwest of the I-465/I-69 interchange. An agency coordination letter was sent on October 6, 2017 to the Natural Resources Conservation Services (NRCS) (Appendix C-1 to C-3). On June 3, 2019, NRCS returned the NRCS-CPA-106 form, which indicated the presence of prime, unique statewide or local important farmland within the project corridor (page C-33). However, based on the preferred alternative, NRCS stated the project would not cause a conversion of prime farmland (Appendix C-32). Coordination with NRCS resulted in a score of 91 on the NRCS-CPA-106 Form (Appendix C-33). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

Section C – Cultural Resources

Results of Research

	ELIGIBLE AND/OR LISTED RESOURCE PRESENT
Archaeology	
NRHP Buildings/Site(s)	X
NRHP District(s)	X
NRHP Bridge(s)	

Project Effect

No Historic Properties Affected		No Adverse Effect	X	Adverse Effect	

Documentation Prepared

DOCUMENTATION (MARK ALL THAT APPLY)		ES/FHWA APPROVAL DATE(S)	SHPO APPROVAL DATE(S)
Historic Properties Short Report			
Historic Property Report	X	September 25, 2018	October 25, 2018
Archaeological Records Check/ Review			
Archaeological Phase Ia Survey Report	X	October 17, 2018	November 19, 2018
Archaeological Phase Ic Survey Report			
Archaeological Phase II Investigation Report			
Archaeological Phase III Data Recovery			
Identification of Effects Report	X	December 5, 2018	January 3, 2019
Addendum Letter	X	November 18, 2019	December 17, 2019
800.11 Documentation	X	April 3, 2019	May 1, 2019
Revised 800.11 Documentation	X	February 27, 2020	March 26, 2020
		MOA SIGNATURE DATES	**(LIST ALL SIGNATORIES)**
Memorandum of Agreement (MOA)			

AREA OF POTENTIAL EFFECT (APE)

Pursuant to 36 CFR 800.16(d), the Area of Potential Effect (APE) for aboveground resources extended approximately 1,000 feet from the undertaking to include those properties that may experience an auditory, visual, or direct impact (Appendix D-20). The APE for archaeology was the project footprint.

COORDINATION WITH CONSULTING PARTIES

Early Coordination was initiated on October 16, 2017 with a letter inviting organizations and individuals to become consulting parties (Appendix D-33 to D-40). The Indiana State Historic Preservation Officer (SHPO) from IDNR Division of Historic Preservation and Archaeology (DHPA) is a designated consulting party. The following is a list of the organizations formally invited to become a consulting party (those who accepted the invitation to become a consulting party are in bold) (Appendix D-96):

- Marion County Commissioners
- Mayor of Indianapolis
- Marion County Historian
- Genealogical Society of Marion County
- Marion County Historical Society
- Indianapolis Historic Preservation Commission
- **Indiana Landmarks-Central Office (accepted November 2, 2017)**
- Indianapolis Metropolitan Planning Organization
- S & T Partnership
- Indiana Transportation Museum
- **Delaware Nation of Oklahoma (accepted October 23, 2017)**
- Eastern Shawnee Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- *Pokagon Band of Potawatomi Indians
- *Indianapolis Department of Parks and Recreation
- *Central Indiana Land Trust
- *Individual landowners
- **Neighborhood Liaison for the City of Indianapolis Mayor's Office (accepted September 25, 2018)**
- *Devonshire II & IV Residential Association
- Devonshire V Civic Association
- Devonshire VIII Civic Association
- Devonshire III & VI Civic Association
- Avalon Hills Civic Association
- Avalon Betterment Club
- East Avalon Hills Association, Inc.
- **Ivy Hills Residents' Association (accepted October 2, 2018)**
- Wynter Way Estates Neighborhood Association
- Fall Creek Valley Residential Association
- Binford Redevelopment & Growth (BRAG)
- Greater Allisonville Community Council

*Invited September 25, 2018

SHPO responded to the early coordination letter on November 3, 2017 and did not identify additional potential consulting parties (Appendix D-45 to D-46). On January 10, 2018, SHPO responded to minutes from the RAM and offered comments on historic properties (Appendix D-47 to D-48). A site visit was held on May 10, 2018, with INDOT, staff of the IDNR-DHPA/SHPO, and members of the project team. A summary of the meeting was distributed to participants on June 18, 2018 (Appendix D-49 to D-56). SHPO responded to the site visit meeting summary on July 3, 2018 (Appendix D-57 to D-58).

A consulting parties meeting was held on December 19, 2018. The meeting summary was distributed on January 3, 2019 (Appendix D-93 to D-115). SHPO responded to the *Identification of Effects Report* and consulting parties meeting on January 3, 2019 (Appendix D-83 to D-85).

On January 7, 2019, Indiana Landmarks expressed concerns with the findings of the *Identification of Effects Report* (Appendix D-87 to D-88). INDOT responded to their concerns on January 24, 2019 (Appendix D-89 to D-91). SHPO responded to the meeting summary and the correspondence between Indiana Landmarks and INDOT on January 30, 2019 (Appendix D-93 to D-94).

Following a design modification, the addition of Noise Barrier 8, INDOT reopened Section 106 consultation with a letter sent to consulting parties on November 18, 2019 (Appendix D-161 to D-165). A consulting party meeting was held on December 4, 2019 to discuss the modified design and project effects (Appendix D-179 to D-181). On December 17, 2019, SHPO responded to the effects letter and consulting party meeting summary and agreed with INDOT's assessment (Appendix D-175 to D-176). No other consulting party comments were received. Noise is discussed further in *Part III, Section F – Noise*.

ARCHAEOLOGY

Pursuant to 36 CFR § 800.4(b), staff for Weintraut and Associates, Inc (W&A) conducted a Phase Ia Archaeological Records Check and Field Reconnaissance Report which identified four archaeological sites and a former cemetery (Appendix D-120 to D-122). No further work was recommended, unless project limits expand. The archaeology report was distributed to the Tribes and SHPO on October 17, 2018.

SHPO responded to the Phase Ia Archaeology Report on November 19, 2018 and agreed that the sites did not appear to be eligible for the National Register of Historic Places (NRHP) (Appendix D-78 to D-79). SHPO concurred with the opinion in the archaeological report that the portions of the sites within the project area do not appear to contain significant archaeological deposits, and no further work is necessary at those locations.

SHPO stated, "The portions of the archaeological sites [12MA0062 and 12MA0080] outside the proposed project area must either be avoided or subjected to further archaeological investigations. Additionally, those areas of the sites should be clearly marked so that they are avoided by all ground-disturbing activities. If avoidance is not feasible, then a plan for subsurface archaeological investigations must be submitted to the [DHPA] for review and comment." These areas are marked "Cultural Resource Area" on the project plans (Appendix B-67 and B-69). These firm commitments are included in *Part III, Section J – Environmental Commitments*.

HISTORIC PROPERTIES

W&A prepared the Historical Properties Report (HPR) in September 2018 (Appendix D-117 to D-119). The following eight resources within the APE are listed in, or eligible for listing in, the NRHP:

- Indianapolis Park and Boulevard System Historic District (NR-1711)
- Castleton Depot (IHSSI: 097-206-00010) at 6725 East Eighty-Second Street
- George Metsker House (IHSSI: 097-26-05002) at 8855 North River Road
- Test House (WA 3) at 6930 East Seventy- First Street
- Devonshire Historic District
- Avalon Hills Historic District
- Roland Park Historic District
- Ivy Hills Historic District

These resources are outside the project area and no right-of-way acquisition is proposed from these properties. Therefore, potential impacts to these properties will be limited to visual and noise impacts.

DOCUMENTATION FINDING

INDOT, acting on behalf of FHWA, issued the following findings on April 3, 2019 (Appendix D-1 to D-3):

- Indianapolis Park and Boulevard System Historic District - No Adverse Effect
- Castleton Depot - No Adverse Effect
- George Metsker House - No Effect
- Test House - No Adverse Effect
- Devonshire Historic District - No Adverse Effect
- Avalon Hills Historic District - No Adverse Effect
- Roland Park Historic District - No Adverse Effect
- Ivy Hills Historic District - No Adverse Effect

Pursuant to 800.5(c) the SHPO concurred with this finding on May 1, 2019 (D-126 to D-128).

After Section 106 was reopened due to the above-mentioned design modification, INDOT, acting on behalf of FHWA, issued a revised finding on February 27, 2020 (Appendix D-138 to D-140), which was consistent with the previous finding.

SHPO concurred with the revised finding on March 26, 2020 (Appendix D-182 to 184).

PUBLIC INVOLVEMENT

Two public notices of the initial "No Adverse Effect" finding were advertised in the *Indianapolis Star* on April 10 and April 11, 2019. As advertised, the public comment period closed 30 days later on May 11, 2019. The text of the public notice and the affidavit of publication appear in Appendix D-129 to D-134. No comments were received.

One public notice of the revised "No Adverse Effect" finding was advertised in the *Indianapolis Star* on February 29, 2020. As advertised, the public comment period closed 30 days later on April 2, 2020. The text of the public notice and the affidavit of publication appear in Appendix D-185 to D-187. No comments were received.

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

Section D – Section 4(f) Resources/Section 6(f) Resources

Section 4(f) Involvement

	PRESENCE	USE	
		YES	NO
PARKS AND OTHER RECREATIONAL LAND			
Publicly owned park	X		X
Publicly owned recreation area			
Other (school, state/national forest, bikeway, etc.)	X	X	
WILDLIFE AND WATERFOWL REFUGES			
National Wildlife Refuge			
National Natural Landmark			
State Wildlife Area			
State Nature Preserve			
HISTORIC PROPERTIES			
Sites eligible and/or listed on the NRHP	X		X

	EVALUATIONS PREPARED	
Programmatic Section 4(f)		FHWA
"De minimis" Impact	X	Approval date
Individual Section 4(f)		

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. Lands subject to this law are considered Section 4(f) resources.

Based on a desktop review, the 2016-2018 site visits by Parsons, the RFI report (Appendix E), the *Environmental Screening Memorandum* (Appendix 143 to A-147), coordination with stakeholders (Appendices C and G), and Section 106 documentation (Appendix D), there are 23 Section 4(f) resources located within 0.5 mile of the project.

No Use

The following Section 4(f) resources are located adjacent to or near the project area and will not be directly impacted by this project. No temporary or permanent right-of-way is proposed, and maintenance of traffic should not impede access. In addition, the project will not result in indirect impacts (e.g., noise and visual impacts) that would constitute a Section 4(f) constructive use. Therefore, the project will not result in the permanent, temporary, or constructive use of these Section 4(f) resources.

- Town Run Trail Park and Town Run Trail
- Oliver Woods Nature Preserve
- Sahm Park and Golf Course
- Lawrence North High School athletic fields and tennis courts that are open to the public
- Skiles Test Elementary School baseball fields and playground that are open to the public (Note: Approximately 0.110 acre of school property will be required for permanent right-of-way, but it is an unused strip of forested land along East 71st Street that does not involve the school's baseball fields and playground.)
- Johnson Road Trail
- Skiles Test Trail and Skiles Test Nature Preserve
- Woolen Gardens and Fall Creek Greenway Trail
- Fall Creek Trail
- Bluffs of Fall Creek Nature Preserve
- Lawrence Creek Nature Preserve
- Fort Benjamin Harrison State Parks
- Historic resources: Indianapolis Park and Boulevard System Historic District, Castleton Depot, George Metsker House, Test House, Devonshire Historic District, Avalon Hills Historic District, Roland Park Historic District, and Ivy Hills Historic District.

Note, the Former Wright Cemetery was initially identified in the *Environmental Screening Memorandum* as a potential resource. However, it was dismissed during Section 106 consultation because the cemetery was previously relocated.

East 71st Street Multi-Use Trail

The East 71st Street Multi-Use Trail is a public recreational resource constructed by DPW and managed by Indy Parks. The trail connects pedestrians and cyclists to the Indy Greenway system via the Johnson Road Trail. This trail is open for public use; therefore, it qualifies for protection under Section 4(f) of the Department of Transportation Act of 1966 and SAFETEA-LU Section 6009(a).

The East 71st Street Multi-Use Trail is situated beneath the I-465 bridges over East 71st Street, Bridge Numbers 15 and 16, which will be widened during this project. In the June 25, 2018 INDOT *Bridge Inspection Reports*, a posted vertical clearance of 13 feet, 8-inches was noted, which is below the *Indiana Design Manual* standard for this type of roadway of 14 feet. Furthermore, the northbound bridge has collision damage to superstructure beams (Appendix A-154). Impacts to the East 71st Street Multi-Use Trail are not avoidable because it is located within existing I-465 right-of-way, the I-465 bridges over East 71st Street need to be widened, and East 71st Street needs to be lowered to meet vertical clearance requirements.

In the preferred alternative, East 71st Street will be lowered by approximately 3 feet, and a barrier will be added to separate the trail from traffic (Appendix B-292 to B-296). The bridge widening and other improvements will result in a

temporary closure of both the street and trail for up to one year. Temporary cribbing (scaffolding) will be used, when safely feasible, to allow for the trail to remain open during construction as much as possible, which is included as a firm commitment in *Part III, Section J – Environmental Commitments*.

According to the FHWA *Section 4(f) Policy Paper* dated July 2012, (environment.fhwa.dot.gov/legislation/section4f/4fpolicy.pdf), for public recreation areas, a *de minimis* impact is one that, after taking into account any measures to minimize harm (such as avoidance, minimization, mitigation or enhancement measures), the project would not adversely affect the activities, features, or attributes qualifying the recreation area under Section 4(f). This determination requires agency coordination and public involvement as specified in 23 CFR 774.5(b).

This project will not adversely impact the activities, features, or attributes that qualify the trail for protection under Section 4(f). Furthermore, the temporary closure will be minimized through the use of cribbing to allow the trail to remain open when safely feasible, and the trail beneath the bridges will be enhanced through the installation of barriers that will separate pedestrians from motorists. On May 26, 2020, the official with jurisdiction (OWJ) for the trail, the DPW and Indy Parks Principal Park Planner & Greenways Manager, concurred with the assessment of project effects (Appendix C-91 to C-93).

In accordance with 23 CFR 774.5(b)(2) and SAFETEA-LU Section 6009(a), the views of the public were sought regarding the effect of the proposed project on the East 71st Street Multi-Use Trail and the proposed Section 4(f) *de minimis* impact determination. On June 8, 2020, a legal notice was placed in the *Indianapolis Star* (Appendix G-340). A copy of the legal notice was sent on June 3, 2020 to adjoining property owners and stakeholders located within approximately 1.5 miles of the trail, including schools, churches, and neighborhood associations (Appendix G-343). One general project comment was received, requesting a ramp from I-69 to East 86th Street (Appendix G-346). No comments were received regarding the proposed impacts to the East 71st Street Multi-Use Trail. The OWJ was notified about the public response on June 15, 2020 (Appendix C-94).

FHWA issuance of the FONSI will constitute FHWA's final *de minimis* determination for the project's effects on the East 71st Street Multi-Use Trail.

Proposed Nickel Plate Trail Greenway

The former Hoosier Heritage Port Authority Railroad, which roughly parallels I-69 to the west, is a rails-to-trails project called the Nickel Plate Trail. This trail is currently under development in Hamilton County as a 10-foot wide asphalt path. Within the project area, the land is owned by the City of Noblesville and the City of Fishers. The proposed Nickel Plate Trail is publicly-owned and is included in regional Master Plans, including the *Indy Moves 2018 Final Comprehensive Transportation Plan* (Appendix J-24 to J-25). Therefore, the Nickel Plate Trail is a Section 4(f) resource.

Within Marion County, including the project area, DPW and Indy Parks intend to construct the trail. Approximately 0.234 acre of temporary right-of-way will be acquired from the future trail to provide access during construction.

The project team met with DPW and Indy Parks on October 7, 2019 and discussed plans for the trail (Appendix C-85 to C-87). DPW and Indy Parks are actively seeking funding to develop the trail within Marion County, including the project area. INDOT will accommodate this trail by providing space for a future 10-foot wide asphalt path along the former rail alignment within the project area, a length of approximately 860 feet. Further coordination with Indy Parks and DPW will occur to avoid construction conflicts between the Clear Path 465 project and the rails-to-trails project. Depending on the timing of both projects, it is possible the portion of the rails-to-trails project within the construction limits of the Clear Path 465 project would be constructed by the Clear Path 465 project. This has been added as a firm commitment in *Part III, Section J – Environmental Commitments*.

Per the July 2012 FHWA *Section 4(f) Policy Paper* (environment.fhwa.dot.gov/legislation/section4f/4fpolicy.pdf), "temporary occupancy" of Section 4(f) land includes right-of-entry, project construction, temporary easement, or similar short-term arrangements involving a Section 4(f) property. A "temporary occupancy" will not constitute a Section 4(f) use when all of the conditions listed in 23 CFR 774.13(d) are satisfied:

1) Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;

2) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;

3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;

4) The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and

5) There must be documented agreement of the OWJ(s) over the Section 4(f) resource regarding the above conditions.

The proposed temporary right-of-way needed for the Clear Path 465 project is a "temporary occupancy" that meets the above-listed conditions because temporary right-of-way is necessary for contractor access, which will be short in duration, there will be no change in land ownership, there will be no changes to the activities, features, or attributes of the property, and the land will be returned in as good or better condition. Applicable commitments are included in in *Part III, Section J – Environmental Commitments*.

The OWJs from the public entities that own the future proposed trail, the City of Noblesville Project Manager for the Nickel Plate Trail and the City of Fishers Director of Engineering, concurred with this finding on June 25, 2020 and July 7, 2020, respectively (Appendix C-97 to C-99).

Section 6(f) Involvement

	PRESENCE	USE	
		YES	NO
Section 6(f) Property	X		X

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

The NPS responded to early coordination on November 6, 2017 stating there are four LWCF funded projects within the vicinity of the project area, "project numbers 18-00247, 369, 459, and 505 (Fall Creek)", associated with Fall Creek Greenway Trail and Fort Harrison State Park, and recommended contacting IDNR Division of Outdoor Recreation (Appendix C-17). On June 15, 2020, IDNR Division of Outdoor Recreation was contacted. Based on their June 16, 2020 response, the project will not impact a LWCF site or designated Natural, Scenic, or Recreational River (Appendix C-95). A review of the LWCF County Property List for Indiana, updated December 2019 (Appendix J-26), did not identify additional resources near the project area. The nearest resource, Fall Creek Corridor (Trail), is located approximately 0.1 mile south of the southern project terminus. Therefore, there will be no impacts to Section 6(f) resources as a result of this project.

Section E – Air Quality

Air Quality

CONFORMITY STATUS OF THE PROJECT	YES	NO
Is the project in an air quality non-attainment or maintenance area?	X	
If YES, then:		
Is the project in the most current MPO TIP?	X	
Is the project exempt from conformity?		X
If the project is NOT exempt from conformity, then:		
Is the project in the Transportation Plan (TP)?	X	
Is a hot spot analysis required (CO/PM)?		X

LEVEL OF MSAT ANALYSIS REQUIRED?

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

This project is included in the Fiscal Year (FY) 2020-2024 IRTIP (Appendix H-2) and the FY 2020-2024 STIP (Appendix H-1). The listing of the lead Des. No. (1400075) covers the overall project because the other Des. Nos. have been consolidated under the lead for the purposes of the IRTIP and STIP under the contract R-38526.

This project is located in Washington and Lawrence Townships in Marion County, which is currently a maintenance area for Ozone under the 1997 Ozone 8-hour standard, which was revoked in 2015 but is being evaluated for conformity due to the February 16, 2018, *South Coast Air Quality Management District V. Environmental Protection Agency, Et. Al. Decision*. The project's design concept and scope are accurately reflected in both the Indianapolis MPO Transportation Plan (TP) and the IRTIP, and both conform to the State Implementation Plan (SIP). Therefore, the conformity requirements of 40 CFR 93 have been met.

A small portion of Marion County within downtown Indianapolis is under a limited maintenance plan for carbon monoxide (CO). However, the Clear Path 465 project area is located several miles outside the maintenance area (https://www.in.gov/idem/airquality/2617.htm), and is therefore in attainment for CO. This project is located in Marion County, which is in attainment for particulate matter 2.5 ($PM_{2.5}$) (https://www.in.gov/idem/airquality/2424.htm). Therefore, a hot spot analysis for $PM_{2.5}$ or CO is not required.

For the preferred alternative, the amount of mobile source air toxics (MSAT) emitted would be proportional to the vehicle miles traveled (VMT). The VMT estimated for the preferred alternative is typically higher than that for the Do-Nothing alternative, because the added travel lanes attract trips that would not otherwise occur in the area. This increase in VMT means MSAT under the preferred alternative would probably be higher than the Do-Nothing alternative. There could also be localized differences in MSAT (e.g., benzene) from parked cars, and emissions of diesel particulate matter from tractor-trailers and delivery trucks. Travel to other destinations would be reduced with subsequent decreases in emissions at those locations.

MSAT emissions are virtually certain to be lower than present levels in the design year as a result of USEPA's national control programs that are projected to reduce MSAT emissions by over 90 percent from 2010 to 2050 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, FHWA, October 12, 2016). Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great (even after accounting for VMT growth), that MSAT emissions in the study area are likely to be lower in the future than they are today as a result of this project.

Section F – Noise

Noise

Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?	YES	NO
	X	

	NO	YES/DATE
ES Review of Noise Analysis		X / March 31, 2020

A Traffic Noise Impact Analysis was conducted for this project and is included in Appendix I. The purpose of the analysis was to evaluate noise impacts and abatement under the requirements of Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) "Procedures for Abatement of Highway Traffic Noise". The FHWA Traffic Noise Model (TNM) Version 2.5 was used to predict existing and future design year noise levels. Because design year noise levels are predicted to approach or exceed the FHWA Noise Abatement Criteria (NAC), the project has been found to have traffic noise impacts. Based on the Traffic Noise Analysis Procedure (2017), the feasibility and cost-effectiveness of noise barriers were considered at all locations in the project area where noise impacts were identified under the future build alternative. Based on this evaluation, seven feasible and cost-effective barriers were identified for this project. These locations are summarized in the following table and shown on the figures in Appendix I-22 to I-37.

Table 13. Summary of Feasible and Cost-Effect Noise Barriers

NOISE BARRIER	LOCATION	LENGTH (FEET)	NUMBER OF BENEFITED RECEIVERS
1	East side of I-69, north of 82nd Street	800	46
2	East side of I-69, south of 82nd Street	350	84
3	North of 75th Street along northbound I-465 to I-69 northbound ramp	1,231	176
4	North side of I-465, west of Allisonville Road	2,000	288
6	South side of I-465, east of Allisonville Road	5,231	203
7	West side of I-465, south of 75th Street	5,500	92
8	East side of I-465, near East 71st Street	4,900	94

Based on the studies completed to date, INDOT has identified 1,212 impacted receptors and has determined that noise abatement is likely, but not guaranteed, at seven locations where 938 of the 1,212 impacted receptors are located (Appendix I-20). Noise abatement at these locations is based upon preliminary design costs and design criteria. Noise abatement in these locations at this time has been estimated to cost approximately $9.1 million and will reduce the noise level by a minimum of 5 dB(A) at a majority of the identified impacted receptors.

Initially, six noise barriers (Barriers 1-4, 6, 7) were deemed reasonable and feasible. The viewpoints of the benefited residents and property owners were sought and were considered in determining the reasonableness of highway traffic noise abatement measures for proposed highway construction projects. Meeting invitations and pre-stamped surveys, which allowed each benefited resident to state whether or not they would like the noise wall associated with their property constructed, were mailed to each benefited resident on December 5, 2018 (Appendix I-39 to I-48). On December 17, 2018, a presentation was given on the noise analysis conducted for the project, and boards showing the locations where noise abatement is likely were made available (Appendix G-110). Meeting materials were posted online at the project website, www.in.gov/indot/3654.htm. Ninety responses were received from the noise-impacted property owners benefited by the noise barriers (1, 2, 3, 4, 6, and 7). Of the responses received, 81 were in support of the noise barriers being constructed (Appendix I-49). Based on a low number of responses (90 out of 859), a second letter and survey were sent in February 2019 (Appendix I-50 to I-59). A total of 771 letters and surveys were sent in February 2019, and 53 responses were received. Of the responses received, 45 were in support of the noise barriers being constructed (Appendix I-60). Additionally, several comments were received from residents and property owners who did not receive a mailing as they were not benefited by the noise barriers presented at the meeting. These comments were about Noise Barrier 8, which was originally determined not reasonable and feasible, and were recorded in the Public Comment Log (Appendix G-232).

Following the initial surveys, additional analysis of potential noise abatement was conducted. Part of this additional analysis included extending the noise study area from 500 to 800 feet along the east side of I-465 in the vicinity of East

71st Street. This extension of the study area was done because some predicted noise impacts extend out past the 500-foot study area. As a result of this additional analysis, Noise Barrier 8 was identified as preliminarily reasonable and feasible.

An additional survey was sent to the noise-impacted property owners benefited by Noise Barrier 8 on July 2019, followed by a noise meeting for Noise Barrier 8 on August 7, 2019 (Appendix I-61 to I-64). Ninety-eight letters and surveys were sent, and 68 responses were received. Of the responses received, 63 (56 residences and 7 businesses) were in support of Noise Barrier 8. Five responses, all from adjacent businesses, did not support Noise Barrier 8 (Appendix I-65). Therefore, it was determined that Noise Barrier 8 is reasonable and feasible.

Overall, a majority of respondents for each noise barrier indicated they were in favor of the proposed noise abatement. However, to address concerns from some adjacent business owners regarding the loss of visibility to their property from I-465, the placement of some walls was adjusted, refer to Appendix I-17 for further discussion. The reasonable and feasible barriers are shown on the figures in Appendix I-22 to I-37.

A re-evaluation of the noise analysis will occur during final design. If during final design it has been determined that conditions have changed such that noise abatement is not feasible and reasonable, the abatement measures might not be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the final design and public involvement process.

The viewpoints of the benefited residents and property owners will be sought and will be considered in determining the reasonableness of highway traffic noise abatement measures for proposed highway construction projects. INDOT will incorporate highway traffic noise consideration in on-going activities for public involvement in the highway program.

Section G – Community Impacts

Regional, Community and Neighborhood Factors

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

The project is consistent with local and regional land use and transportation plans. Because the project involves the reconstruction of existing highways and interchanges, primarily within the existing right-of-way, with no changes to access, it would not result in substantial impacts to community cohesion.

Most of the right-of-way acquisition and all of the business relocations occur in Lawrence Township. The loss of local tax revenue from right-of-way acquisition (i.e., 14.076 acres), most of which is undeveloped forested land (i.e., 8.585 acres or 61%), and the relatively small number of business relocations (four), would be negligible compared to the total tax base for Lawrence Township.

Potential impacts to community events during construction have been and will continue to be minimized through on-going coordination with stakeholders regarding the project's MOT Plan and TMP, which are currently under development. See *Part II, Maintenance of Traffic During Construction* for more information.

The City of Indianapolis' most recent transition/accessibility implementation plan was developed and considered effective in 2013. An annual report demonstrating continued implementation of accessibility enhancements was prepared by the City of Indianapolis on December 28, 2018. The project will be designed in accordance with the plan and all applicable Americans with Disabilities Act (ADA) requirements.

Indirect and Cumulative Impacts

Will the proposed action result in substantial indirect or cumulative impacts?	YES	NO
		X

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

The project will not result in substantial indirect impacts because it involves the reconstruction of existing highways and interchanges with no changes to access within highly developed areas. As a result, there will be minimal opportunity for the project to induce development.

Similarly, the project will not result in substantial cumulative impacts because it is located in an area that currently is and has been highly developed, so there will be minimal impacts associated with other past, present, and future actions. In addition, the project's impacts will be minimal because it's a reconstruction project, so most of the construction will occur within the existing right-of-way.

Public Facilities and Services

Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities?	YES	NO
		X

Public facilities and services were identified during desktop reviews, the 2016-2018 site visits, aerial maps (Appendix B-6 to B-10), the RFI report (Appendix E-1), and the public involvement activities discussed in *Part I – Public Involvement*. There are six schools (two of which are adjacent to the project), two hospitals, twelve religious facilities, and two private airports located within 0.5 mile of the project (Appendix E-3 and G-7).

Except for 0.110 acre of impacts to an undeveloped/unused portion of property associated with the Skiles Test Elementary School, the project will not result in direct impacts to any fire, police, health, educational, and religious facilities and services. Because the project will not change existing access, it will also not result in any permanent impacts to access for public facilities and services and it is anticipated that, once constructed, it will improve emergency response times and safety. See *Part II, Maintenance of Traffic During Construction* regarding potential temporary impacts to traffic and access during construction. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that will block or limit access.

Utility relocation coordination has been initiated and will continue throughout the relocation/mitigation of all impacted utilities. The only utility work included in the proposed contract is the extension of the sanitary sewer crossing I-69 in between the I-465/I-69 interchange and the I-69/East 82nd Street interchange, to tie into the existing manhole at Castleton Drive, associated with Des No. 1901997 (Appendix A-148).

Table 14 provides a list of existing and proposed pedestrian/bicycle facilities within the project area and a determination of potential impacts (Note: there are no existing or planned pedestrian/bicycle facilities on Binford Boulevard, I-465, or I-69).

Table 14. Pedestrian/Bicycle Facilities and Impacts

LOCATION	DESCRIPTION	IMPACTS
Allisonville Road at the I-465 Interchange (Appendix B-123 to B-1245	Existing bikeway on both sides of the street	No changes/impacts
82nd Street bridge over I-465 (Appendix B-71 to B-72	Existing sidewalk on both sides of the street	No changes/impacts
82nd Street at the I-69 interchange (Appendix B-228 to B-232, B-283 to B-286)	Existing sidewalk on the south side of the street, and a disconnected sidewalk on the north side of the street	The existing sidewalk on the south side will remain and a new sidewalk will be constructed on the north side to connect the existing sidewalk on either side of the I-69 interchange. Pedestrian signals, curb ramps, and refuge islands will be added where needed. The existing sidewalk may be temporarily closed during construction.
Under I-465 mainline and the southbound I-69 to westbound I-465 ramp (Appendix B-262 to B-263)	Proposed Nickel Plate Trail greenway (rails-to-trails project)	INDOT will accommodate this trail by providing space for a future 10-foot wide asphalt path along the former rail alignment. Temporary right-of-way, 0.234 acre, is needed for access. Further coordination will occur to avoid construction conflicts. Depending on the timing of both projects, it is possible the portion of the trail within the construction limits will be constructed by the Clear Path 465 project.
75th Street and Binford Boulevard intersection (Appendix B-176	There are currently no existing pedestrian/bicycle facilities at this intersection and there are none proposed for the project. However, the City of Indianapolis is planning on extending the sidewalks on 75th Street from Kitley Avenue to Binford Boulevard.	The project will not impact the proposed plan by the City of Indianapolis to extend the sidewalks on 75th Street between Kitley Avenue and Binford Boulevard.
75th Street bridge over I-465 (Appendix B-85, B-103)	Existing sidewalk on both sides of the street	No changes/impacts
East 71st Street under I-465 (Appendix B-292 to B-296-317, B-318	Existing East 71st Street Multi-Use Trail on the north side of the street	Because 71st Street is proposed to be lowered by approximately 3 feet, a barrier will be constructed between the trail and street. No other changes are proposed for the trail. However, during construction, the trial may be temporally closed (See *Part III, Section D – Section 4(f) Resources/Section 6(f) Resources* for more information).
Fall Creek Trail (outside construction area)	Beneath the I-465 bridge over Fall Creek	No changes/impacts
Castleton Road at its southern terminus in front of Wheaton Van Lines. Castleton Road will be slightly re-aligned, and a cul-de-sac will be added. (Appendix B-242)	Existing sidewalk on west side of road, which terminates at the southern entrance to Wheaton Van Lines	Approximately 160 feet of this sidewalk will be replaced with 200 feet of sidewalk that will terminate at the southern entrance to Wheaton Van Lines. Approximately 200 feet of the existing sidewalk will be closed during construction, for up to one year.

AGENCY COORDINATION

Coordination with DPW has occurred throughout the design process, as documented through the RAM meeting (Appendix C-18 to C-23), the CAC meetings (Appendix G-33 and G-66), the ongoing TMP meetings (Appendix G-214), and individual meetings/correspondence (Appendix C-85 to C-90).

USEPA's January 9, 2018 comment letter recommended identifying the project's potential impacts to human health including public facilities and services. Public health impacts are also discussed in *Part III, Section E - Air Quality, Section F – Noise*, and the other subsections of *Section G- Community Impacts*, including *Environmental Justice (EJ)*. This project should not result in adverse public health impacts.

Applicable agency recommendations are included in *Part III, Section J – Environmental Commitments*.

Environmental Justice (EJ) Presidential EO 12898

	YES	NO
During the development of the project were EJ issues identified?	X	
Does the project require an EJ analysis?	X	
If YES, then:		
Are any EJ populations located within the project area?	X	
Will the project result in adversely high or disproportionate impacts to EJ populations?		X

Under FHWA Order 6640.23A, FHWA and INDOT, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. The Clear Path 465 project is an EA level project, therefore EJ Analysis is required.

Census Data

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Washington and Lawrence Townships of Marion County (combined), which is shown on the Community of Comparison map (Appendix J-10). The community that overlaps the project limits is called the affected community (AC). In this project, the AC consists of twelve Census Tract Block Groups (CTBGs) listed below in Tables 15 and 16 and shown on the Census Tract Block Groups map (Appendix J-11).

An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the American Community Survey 2011-2015 was obtained from the US Census Bureau Website https://factfinder.census.gov/ on August 29, 2017 by Parsons. (Note, as of January 2020 this was the most-recent available data at the CTBG level within the study area). The data collected for minority and low-income populations within the AC are summarized in the below tables. Documentation is provided in Appendix J-10 to J-23.

Table 15. Minority Data

POPULATION		PERCENT MINORITY	125% OF COC	EJ POPULATION OF CONCERN?
COMMUNITY OF COMPARISON				
Washington and Lawrence Townships of Marion County, Indiana		42.4	53.0	N/A
AFFECTED COMMUNITY				
AC-1	Block Group 2, Census Tract 3203.03	47.3		No
AC-2	Block Group 1, Census Tract 3203.04	11.0		No
AC-3	Block Group 4, Census Tract 3203.04	22.2		No
AC-4	Block Group 2, Census Tract 3301.03	26.7		No
AC-5	Block Group 1, Census Tract 3301.05	34.0		No
AC-6	Block Group 2, Census Tract 3301.05	43.3		No
AC-7	Block Group 3, Census Tract 3301.05	14.1		No
AC-8	Block Group 1, Census Tract 3301.06	58.0		Yes
AC-9	Block Group 2, Census Tract 3301.06	16.4		No
AC-10	Block Group 1, Census Tract 3304.01	41.3		No
AC-11	Block Group 2, Census Tract 3304.01	16.1		No
AC-12	Block Group 3, Census Tract 3304.01	20.7		No

American Community Survey 2011-2015, US Census Bureau Website https://factfinder.census.gov/ on August 29, 2017

Table 16. Low-Income Data

POPULATION		LOW INCOME (%)	125% OF COC	EJ POPULATION OF CONCERN?
COMMUNITY OF COMPARISON				
Washington and Lawrence Townships of Marion County, Indiana		16.0	20.1	N/A
AFFECTED COMMUNITY				
AC-1	Block Group 2, Census Tract 3203.03	17.4		No
AC-2	Block Group 1, Census Tract 3203.04	2.4		No
AC-3	Block Group 4, Census Tract 3203.04	10.9		No
AC-4	Block Group 2, Census Tract 3301.03	4.8		No
AC-5	Block Group 1, Census Tract 3301.05	5.0		No
AC-6	Block Group 2, Census Tract 3301.05	19.2		No
AC-7	Block Group 3, Census Tract 3301.05	11.7		No
AC-8	Block Group 1, Census Tract 3301.06	34.8		Yes
AC-9	Block Group 2, Census Tract 3301.06	17.5		No
AC-10	Block Group 1, Census Tract 3304.01	0.0		No
AC-11	Block Group 2, Census Tract 3304.01	1.7		No
AC-12	Block Group 3, Census Tract 3304.01	3.9		No

American Community Survey 2011-2015, US Census Bureau Website https://factfinder.census.gov/ on August 29, 2017

AC-1 through AC-7 and AC-9 through AC-12 have a percent minority from 11.0 to 47.3, which are below 50% and are below the 125% COC threshold. Therefore, these AC's do not contain minority populations of EJ concern. AC-8, Block Group 1, Census Tract 3301.06 has a percent minority of 58.0, which is above 50%. Therefore, AC-8 is a minority population of concern.

AC-1 through AC-7 and AC-9 through AC-12 have a percent low-income from 0.0 to 19.2, which are below 50% and are below the 125% COC threshold. Therefore, these AC's do not contain low-income populations of EJ concern. AC-8, Block Group 1, Census Tract 3301.06 has a percent low-income of 34.8, which is below 50% but is above the 125% COC. Therefore, AC-8 is a low-income population of concern.

OTHER METHODS

A preliminary draft EJ analysis was conducted in July 2017 in order to support public involvement activities. Initial research included an analysis of U.S. Census Bureau data, internet searches on specific communities such as apartment complexes, and an online search of U.S. Housing and Urban Development (HUD) resources (www.hud.gov). During public outreach, including the public open house and CAC meetings, the project team requested information to help identify potential EJ communities within the project area (Appendix G-30 to G-67). The Neighborhood Liaison for the Indianapolis Mayor's Office provided general information. None of the responses received identified additional EJ populations. In January 2020, Parsons reviewed updated data available from the U.S. HUD Resource Locator website (https://resources.hud.gov/#).

FINDINGS

The analysis of census data revealed one CTBG with populations of EJ concern, AC-8 (Block Group 1, Census Tract 3301.06). AC-8 has a percent low-income of 34.8 percent, which is less than 50% but is above the 125% COC (20.1%). This CTBG also has a minority population of 58%, which is above 50%. Therefore, AC-8 is a minority and low-income population of EJ concern. As shown on the Census Tract Block Groups map (Appendix J-11), this population is located northeast of the I-69/I-465 interchange.

The remaining CTBGs have low-income and minority populations that are less than 50% and less than 125% COC. Therefore, they were not identified as populations of EJ concern.

Further analyses identified specific communities of concern:

- AHEPA 232 Apartments I and Apartments II at 7355 Shadeland Station Way are the only U.S. HUD resources mapped within a 0.5-mile radius of the project area. These apartments are located southeast of Shadeland Avenue and 75th Street, approximately 0.3 mile east of the project limits. This community is within AC-6. Based on the U.S. HUD listing, this community is a low-income population of EJ concern.
- Miller's Senior Living Community at 8400 Clearvista Place abuts the eastern project area at the north end. This facility includes residential nursing care and is located in AC-8.
- Crown Senior Living at 7960 Shadeland Avenue is a senior living facility adjacent to the east of I-69. This facility is located within AC-8.
- Bayview Club Apartments at 7545 Bayview Club Drive is a relatively large apartment complex that abuts the northeast quadrant of the I-465/I-69 interchange. This apartment complex appears to be in-line with market rates and not likely to contain low-income populations. This complex is located within AC-8.
- The Woods of Castleton Apartments and Townhomes, 8281 Clearvista Drive, is within AC-8 and is approximately 0.4 mile east of the northern project area.

CONCLUSION

As previously discussed, the permanent right-of-way to be acquired for this project primarily consists of commercial and forested land. This right-of-way is west of I-69 within AC-6, which was not identified as a population of EJ concern. The only permanent residential right-of-way needed for this project is 0.017 acre from Veridian Castleton apartments, located southwest of the I-465/I-69 interchange within AC-7.

There are no residential relocations and no permanent right-of-way proposed from the only AC with populations of EJ concern (i.e. AC-8). There are two strips of temporary right-of-way to be acquired from residential land within AC-8: 0.106 acre from Miller's Senior Living Community and 0.074 acre from Crown Senior Living. This temporary right-of-way is for a safety buffer to create space between the construction limits and private property. There will be no ground disturbance within this area, and the land will be fully restored upon completion. Additionally, there will be no permanent change in access. Improvements near AC-8 include the connection of sidewalk on the north side of 82nd Street, which will increase walkability. Furthermore, the proposed maintenance of traffic during construction will minimize temporary lane and ramp closures. As a result, impacts to public transportation should also be minimal. Based on this analysis, the Clear Path 465 project will not have a disproportionately high and adverse effect on minority or low-income populations.

Relocation of People, Businesses or Farms

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

NUMBER OF RELOCATIONS: Residences: 0 Businesses: 4 Farms: 0 Other: 0

The following seven commercial structures will be acquired resulting in the relocation of four businesses: a vacant one-story office building, two commercial buildings supporting car care, auto glass, and plumbing services, a hotel, a car dealership, a small outbuilding used for storage, and a gazebo. The buildings are shown in the Building Removals figure (Appendix B-11). No residential or farm relocations are planned.

Demolition activities will be handled in accordance with INDOT standard specifications and all applicable rules and regulations, such as those related to asbestos containing materials and fugitive dust. Therefore, there should be no adverse public health impacts from the proposed demolitions.

KTMs were held from September 24, 2018 to May 1, 2019 with landowners and businesses who may be impacted by permanent and/or temporary right-of-way acquisition (Appendix G-133). These meetings are ongoing. Additional information is available in *Part I, Public Involvement.*

The acquisition and relocation program will be conducted in accordance with 49 CFR 24 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Relocation resources are available to all residential and business relocatees without discrimination. No person displaced by this project will be required to move from a displaced dwelling unless comparable replacement housing is available to that person.

Utility relocation coordination has been initiated and will continue throughout the relocation/mitigation of all impacted utilities.

Section H – Hazardous Materials and Regulated Substances

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

	No	Yes/ Date
ES Review of Investigations		May 18, 2017 and April 16, 2019 (Addendum)

Based on a review of GIS and available public records, an original RFI was completed on April 25, 2017 by Parsons and conditionally approved by INDOT on May 18, 2017 (Appendix E-1) and an RFI Addendum was completed by Parsons and approved by INDOT on April 16, 2019 (Appendix E-29). Table 17 shows the number and types of hazardous material sites located within 0.5 mile of the project area.

Table 17. Hazardous Material Sites within 0.5 mile of the Project Area

TYPE	NUMBER OF SITES WITHIN 0.5 MILES OF THE PROJECT AREA
Brownfield	1
Industrial Waste Sites (RCRA Generators)	17
Leaking Underground Storage Tanks (LUST)	22
NPDES Pipe Location	2
State Cleanup Site	5
Underground Storage Tanks (UST)	14
Voluntary Remediation Program	1
Institutional Controls	4

RCRA – Resource Conservation and Recovery Act
NPDES – National Pollutant Discharge Elimination System

Brownfields

There is one mapped Brownfield facility, located about 0.1 mile west of the project area, which was researched further on the IDEM Virtual File Cabinet (VFC).

- Fifth Quarter Restaurant Property, Agency Interest Identification Number (AID) 4990026, is located at 8225 Allison Pointe Trail, approximately 0.2 mile southwest of the project area. No impact is expected.

Industrial Waste Sites (RCRA Generators)

There are 17 hazardous waste generators mapped within a half-mile of the project area. Facilities of interest are discussed further below:

- Best Access System (6161 East 75th Street, AID 10851), aka Stanley Security Systems, is situated adjacent to the west side of the southern terminus along Binford Boulevard. At the southwest corner of Binford Boulevard and East 75th Street, 102 linear feet of UNT 5 to Howland Ditch will be re-graded up to five feet below grade within existing right-of-way. This facility manufactures security systems (e.g., metal locks) and is a large quantity

generator of hazardous waste (VFC Document #80213072, February 2016). The VFC file indicates it has been a manufacturer since the 1920s (VFC Document #40843364, March 1988). VFC records indicate the shallow groundwater flows away from the project area. No impact is expected.

- Tuchman Cleaners No. 25 (8615 Allisonville Road, AID 391749) is located 0.2 mile northeast of the I-465/ Allisonville Road interchange . No impact is expected.
- Universal Tool & Engineering Company, Incorporated, aka Delco Remy (7601 East 88th Place, AID 25052) is located adjacent to the east of the northern terminus along I-69. Along this section of I-69, road widening and related regrading of the drainage ditch (Wetland BW) will disturb the ground surface up to five feet below grade, within existing right-of-way. This facility was a machine shop with six buildings that, at times, leased to Allison Transmission Plant 2 and Delphi Battery (aka Delphi Energy, discussed further below). This facility was a large quantity generator of hazardous wastes with a history of violations. No impact is expected.
- Delphi Energy & Chassis Systems (8750 Hague Road, AID 23954) is co-located with the above-listed property. This facility was a large quantity generator of hazardous waste. No impact is expected.

Leaking Underground Storage Tanks (LUSTs)

There are 22 LUST facilities within a half-mile of the project area. Although three are mapped within existing project right-of-way, based on visual observations and aerial photographs, these facilities are situated adjacent to or near the right-of-way. The nearest active LUST facility is described below.

- Kittles Home Furnishings (8600 Allisonville Road, AID 21862) is located adjacent to the northwest side of the I-465/Allisonville Road interchange. Near the ramp from Allisonville Road to westbound I-465, excavations up to 15 feet deep will occur to install Noise Barrier 4, located 0.06 mile west of this facility within existing right-of-way (Appendix I-28 and B-128). A suspected release of petroleum was reported in 1990 (VFC Document #23695103, May 1990). A 10,000-gallon fuel oil UST and a 5,000-gallon gasoline UST were removed in May 1990 and the area was over-excavated (VFC Document #23695105, June 1990). There are no IDEM review letters, closure letters, etc., in the VFC file. No impact is expected.

NPDES Pipe Locations

There are two mapped National Pollutant Discharge Elimination System (NPDES) pipe locations within a half-mile of the project area (the closest one being about 0.1 mile east near I-465 and Fall Creek Road). These pipes are associated with Indianapolis Belmont & Southport Advanced Wastewater Treatment (AWT) plants and are labeled as “INACTIVE” since June 2013. Coordination with the City of Indianapolis storm water (MS4) administrator has occurred for this project. The project is not anticipated to impact these inactive NPDES pipes.

State Cleanup Sites

There are five State Cleanup sites mapped within a half-mile of the project area. None of these sites are located within existing right-of-way and one is erroneously mapped (AMLI Residential, AID 23194, is situated in Carmel, more than 5 miles north of the project area). The nearest facility is described further below.

- U Haul (7027 East 86th Street, AID 16483) is located 0.12 mile west of I-69. No impact is expected.

Underground Storage Tanks (USTs)

There are 14 registered UST sites within a half-mile of the project area. The facilities within or nearest to the project area are discussed below.

- Heritage Christian School (6401 East 75th Street, AID 19161) is located adjacent to the south side of Binford Boulevard. At the southeast corner of Binford Boulevard and East 75th Street, excavations up to 12 feet deep will occur to move two signal posts within existing right-of-way. Additionally, an added lane and drainage work will disturb the ground surface up to five feet below grade. This facility had two registered USTs that have no reported releases and have not been active since circa 1990 (VFC Document #24136914, August 1991). No impact is expected.
- Wheaton Van Lines (Facility Identification number (FID) 7188, 8010 Castleton Road) is located adjacent to the west of the project area. A strip of approximately 0.291 acre of temporary and 0.452 acre of permanent right-of-

way is proposed from this facility along its eastern and southern property lines. Excavations up to 6 feet below grade will occur to re-configure Castleton Road and associated drainage work. This facility had two registered USTs located in the northwestern portion of the property, plus a heating oil UST was located south of the office building. The USTs were removed in 1987. During the KTM, the property owner gave additional information such disposal records (Appendix G-133). No impact is expected.

Voluntary Remediation Program (VRP)

There is one VRP site within a half-mile of the project area.

- Indy Tire (6362 East 82nd Street, AID 17951) is located approximately 0.4-mile northeast of I-465. No impact is expected.

Institutional Control (IC) Sites

There are four properties within a half-mile radius of the project area mapped on the IC database. Properties of interest are discussed below.

- Former Classic Cleaners (8202 Clearvista Parkway Building 1, AID 24260) is located approximately 0.04 mile east of the I-69/82nd Street interchange. In this area, the on-ramp to northbound I-69 will be reconstructed, and there will be drainage work and new guardrail. Regrading up to six feet below grade will occur within existing right-of-way . This former dry cleaner property operated from 1995 to 2000 and achieved No Further Action status on December 14, 2011 (VFC Document #64508305; December 2011). Groundwater contaminated with chlorinated solvents remained at the property but appeared to be relatively confined and utilities did not appear to be impacted. An environmental restrictive covenant (ERC) restricts residential land use and drinking water wells (VFC Document #63692763, September 2011). No impact is expected.
- Amoco SS 20251 (6840 East 82nd Street, AID 16815) is located approximately 0.05 mile west of the I-69/East 82nd Street interchange. This facility had releases of gasoline from USTs to the soil and groundwater. Contaminated soil was removed in 2009 and impacted groundwater remained. An ERC was recorded on October 18, 2012 that restricts residential use and groundwater extraction (VFC Document #67347658, October 2012). No impact is expected.
- Speedway Store 3993 (aka Hoosier Pete – Castleton, FID 2249, 6741 East 82nd Street) is located 0.09-mile northwest of the project area. This active filling station has a history of releases, and an ERC was placed on the property in 2009 due to residual soil and groundwater contamination. No impact is expected.

Section I – Permits Checklist

Permits	LIKELY REQUIRED
ARMY CORPS OF ENGINEER (404/SECTION 10 PERMIT)	
Individual Permit (IP)	X
Nationwide Permit (NWP)	
Regional General Permit (RGP)	
Pre-Constriction Notification (PCN)	
Other	
Wetland Mitigation required	X
Stream Mitigation required	X
IDEM	
Section 401 WQC	X
Isolated Wetlands Determination	X
Rule 5	X
Other	
Wetland Mitigation required	X
Stream Mitigation required	X
IDNR	
Construction in a Floodway	X
Navigable Waterway Permit	
Lake Preservation Permit	
Other	
Mitigation Required	X
US COAST GUARD SECTION 9 BRIDGE PERMIT	
OTHERS (PLEASE DISCUSS UNDER REMARKS BELOW)	

A USACE Section 404 Individual Permit, an IDEM Section 401 Water Quality Certification, and an Isolated Wetland Permit will be required. Stream and wetland mitigation will be required. Further coordination will be needed with IDEM and USACE to determine mitigation requirements. It is assumed that INDOT will utilize the IN SWMP for stream and wetland mitigation. IDNR-DFW's response and IDEM's electronic coordination discussed these permit requirements (Appendix C-4 and C-37).

This work will impact the floodway of Howland Ditch; therefore, it will require a IDNR CIF permit. IDNR-DFW's response to agency coordination discussed this permit requirement (Appendix C-4 to C-7).

More than one acre of land will be disturbed, therefore an IDEM Rule 5 permit will be required. IDEM's electronic coordination discussed this permit requirement (Appendix C-37).

Applicable recommendations are included in *Part III, Section J – Environmental Commitments*. If permits are found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

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

Section J – Environmental Commitments

FIRM COMMITMENTS:

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT District)
2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
3. 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. (INDOT)
4. Tree Removal AMM 1 - All phases/aspects of the project (e.g., temporary work areas, alignments) will be modified, to the extent practicable, to avoid tree removal in excess of what is required to implement the project safely. (INDOT)
5. Tree Removal AMM 2 - All tree removal activities will be restricted to when Indiana bats and northern long-eared bats are not likely to be present (e.g., the inactive season) October 1 – March 30. (USFWS)
6. Tree Removal AMM 3 - Tree removal will be limited to that specified in project plans and ensure that contractors will understand clearing limits and how they are marked in the field (e.g., bright colored flagging/fencing will be installed prior to any tree clearing to ensure contractors stay within clearing limits). (INDOT)
7. Lighting AMM 1 - All temporary lighting will be directed away from suitable habitat during the active season. (INDOT)
8. 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, the goal is to be as close to 0 for all three ratings with a priority of “uplight” of 0 and “backlight” as low as practicable. (INDOT)
9. Site Specific AMM 1 -The interior of commercial structures will be inspected for evidence of bats prior to demolition. Bridge and culvert structures will be re-inspected for the presence of bats at least 24 months prior to any work to the structure or roadway above/below the structure. If bat activity or signs of frequent bat activity (e.g., guano stains) are observed, further coordination with USFWS will occur. (INDOT)
10. Site Specific AMM 2 - A “Reinitiation Notice” is required if: more than 20.49 acres of trees are to be cleared; the amount or extent of incidental take of Indiana bat is exceeded; new information about listed species is encountered; new species is listed or critical habitat designated that the project may affect; the project is modified in a manner that causes an effect to the listed species; or, new information reveals that the project may affect listed species or critical habitat in a manner not considered in the project information. (INDOT)
11. The portions of the archaeological sites [12MA0062 and 12MA0080] outside the proposed project area must either be avoided or subjected to further archaeological investigations. Additionally, those areas of the sites should be clearly marked so that they are avoided by all ground-disturbing activities. If avoidance is not feasible, then a plan for subsurface archaeological investigations must be submitted to IDNR-DHPA for review and comment. (IDNR-DHPA)
12. The City of Carmel Wellhead Protection Area (WHPA) will be labeled “Wellhead Protection Area” on project plans and contractors will be aware of the presence of a WHPA. During construction, the beginning and end of the sensitive area will be marked with signs stating, “Wellhead Protection Area”, or similar. (INDOT)
13. The Storm Water Pollution Prevention Plan (SWPPP) and associated spill response plan will include communication protocols to ensure proper and timely notification of nearby public drinking water supplies in the event of a spill. This includes the WHPA and the Park Castlewood Industrial Park community public water supply well. (INDOT)

14. During geotechnical investigations, INDOT's *Aquifer Protection Guidelines* will be followed to ensure boreholes are properly closed in a manner that is protective of groundwater. (INDOT)
15. Contractor staging, loading, and cleanup activities should avoid the WHPA. Waste containers and hazardous materials/petroleum products, such as dumpsters or fueling tanks, must be stored outside the sensitive area. (INDOT)
16. Temporary closure of the East 71st Street Multi-Use trail will not exceed one year. Temporary cribbing (scaffolding) will be used, when safely feasible, to allow the trail to remain open during construction activities. The trail will fully restored in at least as good condition, with the added enhancement of a barrier beneath the bridges to separate pedestrians from motorists. (INDOT)
17. The temporary occupancy of the future Nickel Plate Trail (rails-to-trails project) will be short in duration (less than two years), and there will be no permanent change in ownership of the land. (INDOT)
18. INDOT will accommodate the Nickel Plate Trail (rails-to-trails project) by providing space for a future 10-foot wide asphalt path along the former rail alignment within the project area. The land will be fully restored to at least as good as that which existed prior to the project. Further coordination with Indy Parks and DPW will occur to avoid construction conflicts between the Clear Path 465 project and the rails-to-trails project. Depending on the timing of both projects, it is possible the portion of the rails-to-trails project within the construction limits of the Clear Path 465 project would be constructed by the Clear Path 465 project. If this results in a change of scope for the Clear Path 465 project, the INDOT ESD and the INDOT District Environmental Section will be contacted immediately. (INDOT)
19. The project will not impact the proposed plan by the City of Indianapolis to extend the sidewalks on 75th Street between Kitley Avenue and Binford Boulevard. (INDOT)
20. A re-evaluation of the noise analysis will occur during final design. The final decision on the installation of any abatement measure(s) will be made upon the completion of the final design and public involvement process. The viewpoints of the benefited residents and property owners will be sought and will be considered in determining the reasonableness of highway traffic noise abatement measures for proposed highway construction projects. INDOT will incorporate highway traffic noise consideration in on-going activities for public involvement in the highway program. INDOT is required to and will incorporate all reasonable and feasible noise abatement. (INDOT)
21. During construction, access to Community North Hospital must remain open to all emergency vehicles. (INDOT)
22. Tractor-trailer access to Wheaton Van Lines will remain open during construction. (INDOT)
23. Temporary closure of the existing sidewalk along Castleton Road (in front of Wheaton Van Lines) will be limited to one year or less (INDOT).
24. Further coordination with Hampton Inn regarding the relocation of lighting poles will occur. (INDOT)

FURTHER CONSIDERATION:

25. A new replacement, or rehabbed structure, and any bank stabilization under the structure, will not create conditions that are less favorable for wildlife passage under the structure compared to current conditions. IDNR-DFW would like to emphasize the importance of wildlife passage issues and transportation infrastructure projects. The following is a good place to start in terms of resources to consider in the design of stream crossing structures: http://www.fs.fed.us/wildlifecrossings/library/. (IDNR-DFW)
26. Riprap or other hard bank stabilization materials will be used only at the toe of the side slopes up to the ordinary high water mark (OHWM) with the exception of areas directly under bridges for instance. The banks above the OHWM should be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Central Indiana and specifically for stream bank/floodway stabilization or scour protection, riprap or other stabilization materials should not be placed in the active stream channel above the existing streambed elevation. This is to prevent obstructions to the movement of aquatic organisms upstream and downstream. (IDNR-DFW)

27. CORRIDORS (Conservation On Rivers and Roadways Intended to Develop Opportunities for Resources and Species) is a program to develop habitats for grassland-dependent species and to foster improved pollinator habitat along roadways and waterways. You may contact South Region Landscape Biologist, Erin Basiger, at Deer Creek Fish & Wildlife Area, 2001 W CR 600 South, Greencastle, IN 46135, (765) 276-3047, ebasiger@dnr.IN.gov. (IDNR-DFW)

28. The new Urban Wildlife Program has potential cost-share and technical assistance available for native plantings and other urban habitat projects. You may contact the South Urban Biologist, Megan Dillon, at Atterbury Fish & Wildlife Area, 7970 S Rowe Street, Edinburgh, IN 46124, (812) 526-4891, mdillon@dnr.IN.gov, for information regarding assistance with establishment of pollinator habitat, trees and shrubs, native plugs, wetland habitat, rain gardens, nuisance Canada goose mitigation, and/or educational signage that could enhance the project area. (IDNR-DFW)

29. The need for new lighting along the constructed interchange was mentioned during the Resource Agency Meeting. Most transportation corridor designers and municipalities are trending toward LED lighting. Certain types of LED lighting can have negative impacts on both human and wildlife health and safety. The Division of Fish and Wildlife strongly encourages visiting the International Dark-Sky Associations' website to learn more about the potential negative impacts of improperly selected LED lighting systems, if required: http//darksky.org/lighting/led-practica-guide/. (IDNR-DFW)

30. Storm water management was mentioned as an issue of concern. The Division of Fish and Wildlife recommends considering a more sustainable approach to stormwater management in general. The traditional model of stormwater management aims to drain urban runoff as quickly as possible with the help of channels and pipes, which increases peak flows and costs of stormwater management. This type of solution only transfers flood problems from one section of the basin to another section. A more sustainable approach aims to rebuild the natural water cycle by using storage techniques (retention basins, constructed wetlands, raingardens, etc.,) recharging groundwater using infiltration techniques (infiltration basins or trenches, previous pavement, etc.), and reusing runoff for irrigation elsewhere in the basin. The following link gives a good overview of traditional and sustainable stormwater management systems and their pros and cons: http://www.sswm.info/content/stormwater-management. (IDNR-DFW)

31. Implement stormwater management best practices, for information see: http://www.epa.gov/greeningepa/stormwater/best_practices.htm. (USEPA)

32. Due to surface water quality issues, we recommend stormwater from roadway surfaces not be discharged directly to Waters of the US. Rather, stormwater should be channeled toward green infrastructure, such as bioswales, that would allow first flush road pollutants to be captured prior to the discharge to surface waters, particularly those surface waters that connect to drinking water intakes. (USEPA)

33. Consider using pollinator promoting plants and/or plant seed mixtures for reclaiming disturbed areas associated with construction/modification activities. (USEPA)

34. The project must comply with the City of Indianapolis Storm Water Design and Construction Manual including Chapter 700 Stormwater Quality and Chapter 600 Erosion and Sediment Control. (DPW)

35. Projects within the 100-year floodplain must submit plan information to the Department of Business and Neighborhood Services for a FLD permit. If this project is within a 100-year floodplain, please refer to design memo no. 2017.11. (DPW)

Section K – Agency Coordination

Agency coordination was initiated on October 6, 2017 with an invitation (Appendix C-1) to a RAM held on November 14, 2017 (Appendix C-26). The list of RAM members and the dates of written responses, if received, are provided below in Table 18.

Table 18. Resource Agency Correspondence

AGENCY	RESPONSE	APPENDIX PAGE #
USACE	October 24, 2019	F-102
USFWS	April 16, 2019	C-80
USEPA	January 9, 2018	C-9
NRCS	June 3, 2019	C-32
NPS	November 6, 2017	C-17
HUD	None	N/A
DFW	November 17, 2017	C-4
IDNR DHPA	November 3, 2017	D-45
IGWS	May 31, 2019	C-42
IDEM	May 31, 2019	C-37
Marion County Surveyor	None	N/A
Indy Parks	None[1]	N/A
DPW	February 6, 2019	C-35
CEG	None	N/A
Indianapolis MPO	None	N/A
IDNR Division of Outdoor Recreation[2]	June 16, 2020	C-95

N/A = Not Applicable

[1] A written response to the RAM was not received. Refer to Appendix C-88 to C-93 for other records of correspondence with Indy Parks

[2]RAM coordination sent per NPS request on June 15, 2020