APPENDIX D:
Section 106 of the National Historic Preservation Act

SECTION 1

Submittal of this form is only required for projects where Category B applies. Projects qualifying under Category A do not require submittal of this form. SECTION 2 (for Conditions of Category B.1 for curb/sidewalk) or SECTION 3 (for Conditions of Category B.9 for drainage structures) may be required as determined by INDOT-Cultural Resources Office (INDOT-CRO) review. INDOT-CRO will notify applicant if the Minor Projects PA does not apply.

Part 1: Project Information-Completed by Applicant (Consultant/PM/Project Sponsor/INDOT District Staff)*

**A qualified professional historian (QP) is not required to complete Part I INDOT-Cultural Resources Office (INDOT-CRO) staff will be responsible for completion of Part II.*

Original Submission Date: June 6, 2022 **Amended Submission Date*:** July 31, 2023

**Consult with INDOT-CRO to determine whether an amendment is required. For revisions/updates to original form, please detail in applicable sections below. Please use red font to distinguish the revisions/updates.*

Submitted By (Provide Name and Firm/Organization):

Sydney Heidenreich
Metric Environmental, LLC
6958 Hillsdale Court
Indianapolis, IN 46250
sydneyh@metricenv.com

Project Designation Number: 1901781

Route Number: Clinton Street

Feature crossed (if applicable): Otter Creek

City/Township: Otter Creek Township **County:** Vigo County

Project Description: The project includes milling and resurfacing of North Clinton Street between Park and Imperial Avenues, 1.12 miles, as well as widening of North Clinton Street as required to expand the corridor to a three-lane section through the addition of a 12-foot continuous center two-way left-turn lane (TWLTL). The corridor would also include two 11-foot travel lanes, 4-foot paved shoulders with additional 4-foot paved mailbox approach (as required), and an 8-foot asphalt pedestrian path for pedestrians located on the east side of the roadway to be separated by a 10-foot grass buffer for the entire project length. A traffic signal will be installed on the east side of the intersection of Hasselburger Avenue and North Clinton Street, along with Americans with Disabilities Act (ADA) compliant curb ramps and pedestrian push button along the new trail. The additional improvements include pavement widening, HMA shoulder, and paved trail along the east side of Clinton Street extending to Imperial Avenue.

A left turn lane on southbound Clinton Street will be added at its intersection with Crystle Avenue (eastbound). The large, full-width approach along the east side of Clinton Street that accesses a gas station at the northeast corner of Clinton Street and Crystle Avenue will be removed, and a 24-foot-wide approach will be constructed in the northbound lane of Clinton Street. At the northwest quadrant of this intersection the existing drive approach that outlets into the corner radius will be removed and a new paved approach will be constructed along the north side of Hasselburger Avenue to access this drive. (Note: Crystle Avenue becomes Hasselburger Avenue west of Clinton Street).

The need for this project was first identified during a study prepared for by Vigo County in partnership with Indiana's Local Technical Assistance Program (LTAP), analyzing the county-wide crash data for Vigo County from 2014 to 2018. Through that study, the North Clinton Street corridor was identified as a safety concern due

to the large number of crashes recorded throughout the corridor, with the most predominant crash type being rear-end collisions. Additionally, the County wishes to evaluate alternates that also improve the safety and connectivity for pedestrians along the corridor.

The existing corridor of North Clinton Street consists of a two-lane roadway, with 12-foot travel lanes and paved shoulder sections ranging from 3 to 10 feet in width. The project corridor is bordered primarily by residential properties, including multiple intersections with entrances into subdivisions.

The reconstruction project will utilize the existing pavement, widening along the east and west sides of Clinton Street, with hot mix asphalt (HMA) overlays on the existing pavement.

Vigo County Bridge No. 242 (Asset #84-00242, NBI #8400169), which carries North Clinton Street over Otter Creek, would also be rehabilitated as part of this undertaking. The structure was constructed in 1993 and is a three-span continuous prestressed concrete box beam bridge that is 156 feet long. Since construction there is no record of repairs made to this structure. The findings of a Special Inspection Report conducted on the bridge in 2021 found cracking in the exterior beams near pier supports. For this reason, the project engineers recommended rehabilitation of the bridge superstructure by replacing the exterior beam lines and sealing cracks in additional beams. The HMA will stop before the bridge and continue at the end of the bridge.

There will be 2.913 acres of permanent right-of-way and 0.428 acres of temporary right-of-way. The project will likely be constructed in phases to keep the roadway open during construction.

If the project includes any curb, curb ramp, or sidewalk work, please specify the location(s) of such work:

An 8-inch barrier curb with adjacent 8-foot-wide concrete sidewalk will be constructed along the east side of Clinton Street from Park Avenue through the existing Otter Creek bridge to the north side.

For bridge or small structure projects, please list feature crossed, structure number, NBI number, and structure type:

Vigo County Bridge No. 242 (Asset #84-00242, NBI #8400169), which carries North Clinton Street over Otter Creek and is a three-span continuous prestressed concrete box beam bridge that is 156 feet long.

For bridge projects, is the bridge included in INDOT's Historic Bridge Inventory (https://www.in.gov/indot/2531.htm)?

☐ **Yes** ☒ **No**

If yes, did the inventory determine the bridge eligible for or listed in the National Register of Historic Places? Please provide page # of entry in Historic Bridge Inventory.

☐ **Yes** ☐ **No**

Inventory Page #_____

Will there be right-of-way acquisition as part of this project?

☒ **Yes** ☐ **No**

If yes was checked above, please check all that apply:

☒ **Permanent** ☒ **Temporary** ☐ **Reacquisition**

If applicable, identify right-of-way acquisition locations in text below and in attached mapping. Please specify how much (both temporary and permanent) and indicate what activities are included in the proposed right-of-way:

There will be acquisition of 2.913 acres of permanent right-of-way and 0.428 acres of temporary right-of-way.

Is there *any* potential for additional temporary right-of-way to be needed later for purposes such as access, staging, etc.?
☒ **Yes** ☐ **No**

Archaeology (check one):

☐ **All proposed activities are presumed to occur in previously disturbed soils***
**INDOT-CRO will notify you if project area incudes undisturbed soils and requires an archaeological reconnaissance.*

☒ **Project takes place in undisturbed soils and the archaeology report is included in submission or will be forthcoming***
** If an archaeology report is required, the Minor Projects PA Form will not be finalized until the report is reviewed and approved by INDOT-CRO. For INDOT-sponsored projects, INDOT-CRO may be able to complete the archaeological investigation. If you would like to request that INDOT-CRO complete an archaeological investigation, please contact the INDOT-CRO archaeology team lead. See CRM Pt. 1 Ch. 3 for current contact information.*

Please specify all applicable categories and condition(s) (highlight applicable conditions in yellow):

Category B consists of projects that require documentation and review by INDOT Cultural Resources Office to determine the degree of existing soil disturbance within the project area or assess if properties listed in or eligible for inclusion in the National Register of Historic Places (hereinafter referred to as the National Register) are present within or adjacent to the project area and will be impacted by the project.

B-1. Replacement, repair, or installation of curbs, curb ramps, or sidewalks, including when such projects are associated with roadway work such as surface replacement, reconstruction, rehabilitation, or resurfacing projects, including overlays, shoulder treatments, pavement repair, seal coating, pavement grinding, and pavement marking, under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)
One of the two conditions listed below must be satisfied *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work occurs in previously disturbed soils; *OR*
ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the Division of Historic Preservation and Archaeology (DHPA) and any archaeological site form information will be entered directly into the State Historic Architectural and Archaeological Database (SHAARD) by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)
One of the two conditions listed below must be satisfied *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *OR*

ii. Work occurs adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource under one of the two additional conditions listed below *(EITHER Condition a OR Condition b must be met and field work and documentation must be completed as described below)*:

a. No unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and historic brick or stone retaining walls are present in the project area adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *OR*

b. Unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and historic brick or stone retaining walls are present in the project area adjacent to or within a National Register-listed or National Register-eligible individual above-ground resource or district and ANY ONE of the conditions *(1, 2, or 3)* listed below must be fulfilled:

1. Unusual features described above will not be impacted by the project. Firm commitments regarding the avoidance of these features must be listed in the MPPA determination form and the NEPA document and must be entered into the INDOT Project Commitments Database. These projects will also be flagged for quality assurance reviews by INDOT Cultural Resources Office during/after project construction
2. Unusual features described above have been determined not to contribute to the significance of the historic resource by INDOT Cultural Resources Office in consultation with the SHPO based on an analysis and justification prepared by their staff or review of such information from other qualified professional historians.
3. Impacts to unusual features described above have been determined by INDOT Cultural Resources Office to be so minimal that they do not diminish any of the characteristics that contribute to the significance of the historic resource, based on an analysis and justification prepared by their staff or review of such information from other qualified professional historians.

B-2. Installation of new lighting, signals, signage and other traffic control devices under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]:***

Condition A (Archaeological Resources)

One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied):*

i. Work occurs in previously disturbed soils; *OR*

ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

B-3. Construction of added travel, turning, or auxiliary lanes (e.g., bicycle, truck climbing, acceleration and deceleration lanes) and shoulder widening under the following conditions ***[BOTH Condition A, which***

pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]:

Condition A (Archaeological Resources)
One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied):*

i. Work occurs in previously disturbed soils; *OR*
ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)
Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

B-8. Construction of pedestrian facilities including trails, multi-use paths, greenways, and associated minor activities defined below, under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]:***

Condition A (Archaeological Resources)
One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied):*

i. Work occurs within areas previously disturbed by vertical and horizontal construction activities, including existing roadway, sidewalk, or rail bed, and is not on, within or adjacent to a National Register listed or eligible site; *OR*
ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)
Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

Activities associated with this category include the following:

- Pavement surface installation, replacement, rehabilitation, resurfacing, and reconstruction work, including widening, laying down of crushed stone or gravel, shoulder treatments, pavement repair, seal coating, pavement grinding, pavement marking, etc.;
- Installation of new signals, signage, and other traffic control devices;
- Installation of new safety appurtenances such as guardrails and barriers;
- Installation of plant materials and hardscape landscaping elements, including, but not limited to bike racks, benches, trash cans, lighting, and other amenities;
- Trail heads and parking lots;

- Installation of pipes, culverts, and pedestrian bridges.

B-12. Replacement, widening, or raising the elevation of the superstructure on existing bridges, and bridge replacement projects (when both the superstructure and substructure are removed), under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)

One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work occurs in previously disturbed soils; *OR*

ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

The conditions listed below must be met ***(BOTH Condition i and Condition ii must be satisfied)***

i. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*

ii. With regard to the subject bridge, at least one of the conditions listed below is satisfied *(AT LEAST one of the conditions a, b or c, must be fulfilled)*:

   a. The latest Historic Bridge Inventory identified the bridge as non-historic (see http://www.in.gov/indot/2531.htm);

   b. The bridge was built after 1945, and is a common type as defined in Section V. of the *Program Comment Issued for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges* issued by the Advisory Council on Historic Preservation on November 2, 2012 for so long as that Program Comment remains in effect AND the considerations listed in Section IV of the Program Comment do not apply;

   c. The bridge is part of the Interstate system and was determined not eligible for the National Register under the Section 106 Exemption Regarding Effects to the Interstate Highway System adopted by the Advisory Council on Historic Preservation on March 10, 2005, for so long as that Exemption remains in effect.

Check ☐ if SECTION 2: Minor Projects PA Category B-1, Condition B-ii Submission is included

Check ☐ if SECTION 3: Minor Projects PA Category B-9, Condition B-i-c-2 or B-ii-b-3 Submission is included

Part II: Completed by INDOT-CRO

Amendments will be shown in red font.

Information reviewed (please check all that apply):

General project location map ☒ USGS map ☒ Aerial photograph ☒ Soil survey data ☒

General project area photos ☒ Archaeology Reports ☒ Historic Property Reports ☒

Indiana Historic Buildings, Bridges, and Cemeteries Map/Interim Report ☒

Bridge inspection information/BIAS ☒ Historic Bridge Inventory Database ☐

SHAARD ☒ SHAARD GIS ☒ Streetview Imagery ☒ County GIS Data/Property Cards ☒

Other (please specify): Project information, photos, and maps provided by Metric Environmental on June 6, 2022, and on file at INDOT-CRO.

Updated project information, MPPA, and Phase Ia archaeology report submitted by Metric Environmental on July 31, 2023, and on file at INDOT-CRO.

Copenhaver, Megan, Christopher Stevenson, and Zoe Lawton
2024 Phase Ia Archaeological Reconnaissance Survey for the Proposed North Clinton Street Improvements from Park Avenue to Imperial Avenue and Vigo County Bridge No. 242 (NBI No. 8400169) Over Otter Creek Rehabilitation Project, Otter Creek Township, Vigo County, Indiana (INDOT Des. No. 1901781). Report on file, Indiana Department of Transportation, Cultural Resources Office, Indianapolis, IN.

Are there any commitments associated with this project? If yes, please explain and include in the Additional Comments Section below. yes ☐ no ☒

Does the project result in a de minimis impact to a Section 4(f) protected historic resource? If yes, please explain in the Additional Comments Section below. yes ☐ no ☒

Additional Comments:

<u>Above-ground Resources</u>

An INDOT-Cultural Resources Office (CRO) historian who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 first performed a desktop review, checking the Indiana Register of Historic Sites and Structures (State Register) and National Register of Historic Places (National Register) lists for Vigo County. No listed resources are present within 0.25 mile of the project area, a distance that would serve as an adequate area of potential effects (APE) given the scope of the project and the surrounding terrain.

The *Vigo County Interim Report* (1984; Otter Creek Township) of the Indiana Historic Sites and Structures Inventory (IHSSI) was also consulted. The National Register & IHSSI information is available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM). The SHAARD information was checked against the Interim Report hard copy maps. No IHSSI resources are recorded within 0.25 mile of the project.

According to the IHSSI rating system, generally properties rated "contributing" do not possess the level of historical or architectural significance necessary to be considered individually National Register eligible, although they would contribute to a historic district. If they retain material integrity, properties rated “notable” might possess the necessary level of significance after further research. Properties rated “outstanding” usually possess the necessary level of significance to be considered National Register eligible if they retain material integrity. Historic districts identified in the IHSSI are usually considered eligible for the National Register.

An INDOT-CRO historian performed a desktop review of the project area. Given the density of the built environment and the limited scope of work, properties within 0.15 mile of the project are considered adjacent to the project area, except at Clinton Street and Hasselburger Avenue/Crystle Avenue intersection. The scope of work at the intersection includes the installation of a new traffic light. Due to the height and visibility of a traffic light, properties within 0.25 mile of the intersection are considered adjacent to the project area. All properties were reviewed using County GIS data and street-view imagery.

Properties adjacent to the project area are predominantly residential with commercial properties present along the roadway. They range in construction date from the nineteenth century to the twenty-first century, though the majority date to the early and mid-twentieth century, and include a range of styles, most commonly Ranch, bungalow, American Small House, and vernacular. Based on the County GIS data and street-view imagery, it appears that most of the properties that will be 50 years or older by the time of project letting in 2026 have experienced significant alterations including window and siding replacement and additions. There is no evidence that any of these properties possess the cultural significance or retain the material integrity necessary to be considered eligible to the National Register for the purposes of this determination. The INDOT-CRO historian did not identify any historic district adjacent to the proposed project.

The subject bridge (Bridge #84-00242; NBI #8400169) is a continuous prestressed concrete box beam bridge built in 1993. The bridge length is 156 feet and the deck width, out-to-out, is 48.3 feet. The bridge was not included in the INDOT-sponsored *Historic Bridge Inventory* due to its construction after 1965, which was the cutoff year for inclusion in the inventory. On November 2, 2012, the Advisory Council on Historic Preservation (ACHP) issued the *Program Comment for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges* (Program Comment). The Program Comment relieves federal agencies from the Section 106 requirement to consider the effects of undertakings on most concrete and steel bridges built after 1945. On March 19, 2013, federal agencies were approved to use the Program Comment for Indiana projects.

The Program Comment applies for this bridge because it has not been previously listed in or determined eligible for listing in the National Register of Historic Places and it is not located in or adjacent to a historic district (Section IV.A of the Program Comment). As an example of a concrete box bridge, this bridge is also not one of the types to which the Program Comment does not apply (arch bridges, truss bridges, bridges with movable spans, suspension bridges, cable-stayed bridges, or covered bridges [Section IV.B]). Additionally, this bridge has not been identified as having exceptional significance for association with a person or event, being a very early or particularly important example of its type in the state or the nation, having distinctive engineering or architectural features that depart from standard designs, or displaying other elements that were engineered to respond to a unique environmental context (Section IV.C). This bridge also has not been identified as having some exceptional quality. Because the above criteria from the Program Comment have been met, no individual consideration under Section 106 is required for Bridge #84-00242.

*UPDATE October 2023—The northern project termini has been extended to Imperial Avenue. The scope of work within this additional area is limited to widening the roadway for a left turn lane (southbound to eastbound) and removing and replacing private drives/approaches. Given the density of the built environment and the limited scope of work, properties within 0.15 mile of the project are considered adjacent to the project area for the purposes of this determination. However, these properties were previously reviewed as part of the original project since they fall within 0.25 mile of the intersection of Clinton Street and Hasselburger Avenue/Crystle Avenue. Therefore, no additional review is required.

Based on the available information, as summarized above, no above-ground concerns exist as long as the project scope does not change.

Archaeological Resources

INDOT Cultural Resources Office (CRO) archaeologists, Matthew Coon and KayLee Blum, who meet the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61, reviewed the MPPA request submitted by Metric Environmental on June 6, 2022, and conducted a desktop review of the project area and completed an archaeological assessment.

Regarding archaeological resources, the proposed project is limited to the existing roadway within the project limits. This project requires the acquisition of 6.47 acres of right-of-way, along with 1.0 acre of temporary right-of-way. Work will occur within the existing and newly acquired right-of-way which consists of North Clinton St., residential driveways, road grade and fill soils, and utilities. The project area consists of poorly drained soils and is within previously disturbed soils. According to SHAARD GIS, there are 8 archaeological sites located within 1 mile of the survey area (12VI21, 12VI120, 12VI315, 12VI316, 12VI317, 12VI1732, 12VI1733, 12VI1734). These sites are located far enough away to not be impacted by the project. Since the project will be confined to the existing construction footprint in disturbed soils, there are no archaeological concerns.

October 2023 Update: INDOT-CRO were notified of project scope changes on July 31, 2023. The previous MPPA submission did not require archaeological investigation. The project area boundaries were being extended north to the intersection of Imperial Avenue and into potentially undisturbed soils, therefore a Phase Ia reconnaissance was conducted. The 12.1-acre survey area in its entirety was investigated via visual inspection and shovel test probing in 15 m intervals on the east and west sides of N Clinton St. No archaeological deposits were located during the reconnaissance (Copenhaver et al. 2024). Therefore, there are no archaeological concerns as long as the project scope and footprint do not change.

Accidental Discovery: If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, construction within 100 feet of the discovery will be stopped, and INDOT-CRO and the Division of Natural Resources-Division of Historic Preservation and Archaeology (DNR-DHPA) will be notified immediately.

INDOT-CRO staff reviewer(s): Kelyn Alexander, Matthew Coon, KayLee Blum

INDOT Approval Date: 7/11/2022

Amendment Approval Date (if applicable): 2/21/2024

****Be sure to attach this form to the National Environmental Policy Act documentation for this project. Also, the NEPA documentation shall reference and include the description of the specific stipulation in the PA that qualifies the project as exempt from further Section 106 review.*

Please attach the following to this form:

- **General Location Map.** This map should allow the INDOT-CRO reviewer to quickly locate the project.
- **Aerial photography map(s) of project area.** This map must include project limits. It may also include SHAARD data, but SHAARD data is not required.
- **If bridge or small structure project, please attach photographs of bridge or small structure.** Photographs can be found in inspection reports located in INDOT's Bridge Inspection Application System (BIAS), as well as other project documents, such as engineering assessments or mini-scopes.

Map depicting potential temporary and/or permanent right-of-way acquisitions. In the email submission to INDOT-CRO, please also include:

- **A GIS polygon shapefile or KMZ file of the project area** (shapefiles are preferred). Shapefiles should use "NAD_1983_UTM" projected coordinate system. In addition, these files should contain the following *text* attribute field: DES_NO. The project designation number should be entered in this field.
- **If the project takes place in undisturbed soils, attach the results of the archaeological investigation, if completed.** *Note: The MPPA Submission Form may be submitted before the archaeology report. INDOT-CRO staff will process the above-ground portion of the form in advance of the archaeological portion of the form. However, a completed determination form will not be returned to the applicant until after the archaeology report has been reviewed and approved by INDOT-CRO.*

ARCHAEOLOGICAL SHORT REPORT

PHASE IA ARCHAEOLOGICAL RECONNAISSANCE SURVEY FOR THE PROPOSED NORTH CLINTON STREET IMPROVEMENTS FROM PARK AVENUE TO IMPERIAL AVENUE AND VIGO COUNTY BRIDGE NO. 242 (NBI NO. 8400169) OVER OTTER CREEK REHABILITATION PROJECT, OTTER CREEK TOWNSHIP, VIGO COUNTY, INDIANA (INDOT DES. NO. 1901781)

PREPARED FOR:
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LEAD AGENCY:
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Megan Copenhaver, MA, RPA
Christopher M. Stevenson, MS, RPA
And Zoe Lawton, MS

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Samuel P. Snell

Samuel P. Snell, MS, RPA
Archaeological Principal Investigator
sams@metricenv.com
July 27, 2023

INDIANA ARCHAEOLOGICAL SHORT REPORT

State Form 54566 (R3 / 3-22)

INDIANA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF HISTORIC PRESERVATION AND ARCHAEOLOGY
402 West Washington Street, Room W274
Indianapolis, Indiana 46204-2739
Telephone Number: (317) 232-1646
Fax Number: (317) 232-0693
E-mail: dhpa@dnr.IN.gov

Where applicable, the use of this form is recommended but not required by the Division of Historic Preservation and Archaeology (DHPA).

Name(s) of author(s)	Date *(month, day, year)*
Megan Copenhaver, MA, RPA, Christopher Stevenson, MS, RPA, and Zoe Lawton, MS	July 27, 2023

Title of project
Phase Ia Archaeological Reconnaissance Survey for the Proposed North Clinton Street Improvements from Park Avenue to Imperial Avenue and Vigo County Bridge No. 242 (NBI No. 8400169) Over Otter Creek Rehabilitation Project, Otter Creek Township, Vigo County, Indiana (INDOT Des. No. 1901781)

This document is being used to report on the results of:
☐ Records check only ☒ Records check and Phase 1a archaeological reconnaissance
☐ An addendum to a previous archaeological report. *For an addendum, provide the following information.*

Name(s) of author(s) of previous report
NA

Title of previous report
NA

Date of previous report *(month, day, year)*	DHPA number
NA	NA

PROJECT OVERVIEW

Description of project

The proposed project entails road improvements to North Clinton Street from Park Avenue to Imperial Avenue and the rehabilitation of Vigo County Bridge No. 242 (NBI No. 8400169) in Otter Creek Township, Vigo County, Indiana (Figure 1). The project includes the construction of a continuous three-lane roadway section in place of the existing two-lane section. The three-lane section will consist of two full travel lanes with a continuous center two-way left-turn lane (TWLTL). The corridor would also include two 11-foot travel lanes, 4-foot paved shoulders with additional 4-foot paved mailbox approach (as required), and an 8-foot asphalt pedestrian path for pedestrians located on the east side of the roadway to be separated by a 10-foot grass buffer for the entire project length. A traffic signal will be installed on the east side of the intersection of Hasselburger Avenue and North Clinton Street, along with Americans with Disabilities Act (ADA) compliant curb ramps and pedestrian push button along the new trail. The additional improvements include pavement widening, HMA shoulder, and paved trail along the east side of Clinton Street extending to Imperial Avenue.

A left turn lane on southbound Clinton Street will be added at its intersection with Crystal Avenue (eastbound). The large, full-width approach along the east side of Clinton Street that accesses a gas station at the northeast corner of Clinton Street and Crystal Avenue will be removed, and a 24-foot-wide approach will be constructed in the northbound lane of Clinton Street. And at the northwest quadrant of this corner the existing drive approach that outlets into the corner radius will be removed and a new paved approach will be constructed along the north side of Hasselburger Avenue to access this drive. (Note: Crystal Avenue becomes Hasselburger Avenue west of Clinton Street).

The need for this project was first identified during a study prepared for by Vigo County in partnership with Indiana's Local Technical Assistance Program (LTAP), analyzing the county-wide crash data for Vigo County from 2014 to 2018. Through that study, the North Clinton Street corridor was identified as a safety concern due to the large number of crashes recorded throughout the corridor, with the most predominant crash type being rear-end collisions. Additionally, the County wishes to evaluate alternates that also improve the safety and connectivity for pedestrians along the corridor.

The existing corridor of North Clinton Street consists of a two-lane roadway, with 12-foot travel lanes and paved shoulder sections ranging from 3 to 10 feet in width. The project corridor is bordered primarily by residential properties, including multiple intersections with entrances into subdivisions.

The reconstruction project will utilize the existing pavement, widening along the east and west sides of Clinton Street, with hot mix asphalt (HMA) overlays on the existing pavement.

Vigo County Bridge No. 242 (Asset #84-00242, NBI #8400169), which carries North Clinton Street over Otter Creek, would also be rehabilitated as part of this undertaking. The structure was constructed in 1993 and is a three-span continuous prestressed concrete box beam bridge that is 156 feet long. Since construction there is no record of repairs made to this structure. The findings of a Special Inspection Report conducted on the bridge in 2021 found cracking in the exterior beams near pier supports. For this reason, the project engineers recommended rehabilitation of the bridge superstructure by replacing the exterior beam lines and sealing cracks in additional beams. The HMA will stop before the bridge and continue at the end of the bridge.

There will be 1.2 hectares (ha) (2.913 acres [ac])of permanent right-of-way and 0.17 ha (0.428 ac). of temporary right-of-way. The project will likely be constructed in phases to keep the roadway open during construction.

The project is approximately 1.8 kilometers (km) (1.1 miles [mi]) in length between Park Avenue and Imperial Avenue and encompassed a total of 4.9 (ha) (12.1 ac), which corresponds to the Phase Ia survey area.

Because of several design changes, the survey area was revisited three times.

INDOT designation number(s)	Project number	DHPA number	DHPA plan number
1901781	21-0068	NA	NA

Prepared for: *(Company / Institution / Agency)*
HWC Engineering

Name of contact
Paul Lincks, P.E.

Address *(number and street, city, state, and ZIP code)*
303 Scribner Drive, Suite 201, New Albany, IN 47150

Telephone number	E-mail address
[redacted]	[redacted]

Name of principal investigator
Samuel P. Snell, MS, RPA

Name of company / institution
Metric Environmental, LLC

Address *(number and street, city, state, and ZIP code)*
6958 Hillsdale Court, Indianapolis, IN 46250

Telephone number	E-mail address
[redacted]	[redacted]

Signature of principal investigator *(Required)*	Date *(month, day, year)*

PROJECT LOCATION

County	USGS 7.5' series topographic quadrangle	Civil township
Vigo	Rosedale, IN	Otter Creek

Legal Location

Grid alignment
SW

1/4	1/4	1/4	1/4	Section	Township	Range
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Comments
[redacted]

[redacted]

☒ Private ☐ Local Government ☒ State Government ☐ Federal Government ☐ Other

Name of owner
Various

Address of owner *(number and street, city, state, and ZIP code)*
Various

PROJECT AREA DETAILS

See Short Report instructions for required references to be consulted.

Size of project area *(hectares)*	Size of project area *(acres)*
4.9	12.1
Natural region Southwestern Lowlands Natural Region (Indiana Geographic Information Council 2020)	Topography Outwash plains and floodplain
Soil(s) information Camden silt loam, 0 to 2 percent slopes (CaA) Elston sandy loam, 0 to 2 percent slopes (ElA) Elston sandy loam, 2 to 6 percent slopes (ElB) Genesee fine sandy loam, sandy variant (Gf) (United States Department of Agriculture 2019)	Watershed Middle Wabash-Busseron (Indiana Geographic Information Council 2020)
Current land usage Residential and commerical	
Comments The Genesee Series consists of very deep, well drained soils that formed in loamy alluvium on flood plains. Soil Taxonomy: Inceptisols (have the potential to contain buried horizons with Woodland to late Precontact archaeological sites) Subgroup: Fluventic Eutrudepts Typical Profile: These soils include brown or light gray silt loam A Horizons extending 0-20 centimeters (cm) (0 to 8 inches [in]) over dark yellowish brown loam and silt loam B Horizons. In order to investigate the potential for buried horizons within alluvial soils, soil cores were advanced at 30 meter (m) (98.4 feet [ft]) intervals in the base of shovel test probes (STPs). Figures 6 and 7 depict the locations of mapped alluvial soils within the survey area.	

RECORDS CHECK	
☐ Records check only; no field investigation conducted.	Date of records check *(month, day, year)* March 4, 2022; updated November 30, 2022; updated June 13, 2023
Records consulted *(Check all that apply)* ☒ Archaeological site forms, reports in SHAARD, and SHAARD Archaeology and Structures Map Web Application ☒ Cultural Resource Management reports, other research reports, etc., on file in locations other than SHAARD ☒ Historical documents and maps from other institutions / resources ☒ IHSSI / NRHP structures records in SHAARD ☒ Cemetery records in SHAARD	
Within the Project Area	
Previously recorded archaeological sites *(Include citations)* No previously recorded archaeological sites are located within the current survey area.	
Previous archaeological studies within the project area *(Include citations)* No previously recorded archaeological studies are located within the current survey area.	
Name(s) of previously recorded cemetery(ies) No previously recorded cemeteries are located within the current survey area.	
Cemetery registry number(s) NA	
Outside the Project Area	
Distance from boundary *(Check one)* ☒ Area researched was a half (½) mile radius from the boundary of the project area. ☐ Area researched was a one (1) mile radius from the boundary of the project area. ☐ Area researched was a two (2) mile radius from the boundary of the project area.	
Previously recorded archaeological sites *(Include citations)* [redacted]	

[redacted]

Previous archaeological studies *(Include citations)*

[redacted]

Name(s) of previously recorded cemetery(ies)

Denny Cemetery
Located 335.7 m (1,101.3 ft) west of the current survey area.

Otter Creek Union Cemetery
Located 210 m (688.9 ft) west of the current survey area.

Cemetery registry number(s)

CR-84-66 (Denny) (IHSSI No. not recorded)
Not rated. (Indiana Department of Natural Resources 2023)

CR-84-75 (Otter Creek Union) (IHSSI No. not recorded)
Not rated. (Indiana Department of Natural Resources 2023)

FIELD INVESTIGATION

Date(s) of field investigation *(month, day, year)*	Name of field supervisor
May 10 and 11, 2022; December 1, 2022; June 15, 2023	Megan Copenhaver, MA, RPA; Christopher Stevenson, MS, RPA

Names of field crew

Christopher Stevenson; Elijah Weber; Zoe Lawton; Jacob Overstreet; Clara Peters

Field Conditions

Surface visibility	Factors affecting visibility
0 Percent	Vegetation, riprap
Slope	**Environmental (weather) conditions during the survey**
0-30 Percent	Sunny, dry, 60s; partly sunny, dry, 30s; Sunny, dry, 80s

Methods

Surface survey *(Check all that apply)*

☒ Visual walkover — Interval: ☐ Thirty (30) meters ☒ Other *(Describe below.)*
☐ Pedestrian survey — Interval: ☐ Five (5) meters ☐ Ten (10) meters ☐ Other *(Describe below.)*

Describe methods.

Visual Inspection: Areas of obvious physical disturbance and/or greater than 20 percent slope were visually inspected with a walkover at 10-m (32.8-ft) intervals. In some areas, this was generally sufficient to document obvious disturbances such as buried utilities. If grass or other vegetation obscured the ground surface, then it was walked and signs of disturbance (e.g., landscaping, utilities, drainage ditches, etc.) were noted. Photographs were taken as appropriate.

Shovel probes *(Check all that apply)*

☒ Shovel probes — Interval: ☐ Five (5) meters ☐ Ten (10) meters ☒ Fifteen (15) meters ☐ Other *(Describe below)*

The standard is screened shovel probes using ¼" size mesh. If shovel probes were not screened, or a different size mesh was utilized, an explanation must be provided in the methods below.

Describe methods.

Shovel Test Probes (STP): In relatively level areas, where the ground surface had less than 30 percent visibility and there was no obvious sign of disturbances, shovel probing was utilized. This method consisted of systematically digging shovel probes every 15-m (49.2-ft). The STPs measured at least 30 cm (12 in) in diameter and extended to a depth to penetrate the sterile subsoil by at least 5 cm (2 in) or to 50 cm (19.6 in), whichever came first. If cultural remains were encountered, the testing interval would be reduced to 5 m (16.4 ft) and the STPs excavated in two arbitrary levels in order to see where any artifacts may come from and to separate out modern trash from potential historic artifacts. The top level would be 15 cm (5.9 in) and then level two would be excavated to the soil change or 50 cm (19.6 in), whichever came first.

A standard record was kept that includes soil profile, soil texture, soil color (Munsell), and presence/absence of cultural materials.

Cores / auger probes *(Check all that apply)*

☒ Cores / auger probes — Interval: ☐ Five (5) meters ☐ Ten (10) meters ☐ Fifteen (15) meters ☒ Other *(Describe below)*

The standard is screened cores / auger probes using ¼" size mesh. If cores / auger probes were not screened, or a different size mesh was utilized, an explanation must be provided in the methods below.

Describe methods.

Soil Cores: In portions of the survey area where alluvial soils have been mapped, soil cores were advanced at 30-m (98.4-ft) intervals using a 1.8-cm (0.75-in) Oakfield soil core in the bases of STPs. The soil cores extended to a maximum depth of 100 cm (39.3 in) below ground surface in order to detect potentially buried horizons.

Additional field investigation comments

The survey area was investigated in accordance with Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology Guidebook (IDNR, DHPA 2022) and the INDOT Cultural Resources Manual (INDOT, CRO 2023). The survey area was subject to visual walkover, and shovel testing, and soil cores. Any specific changes to methodology were based upon conditions encountered in the field and are further described within the following section.

RESULTS

Summary of relevant regional culture background

Cultural manifestations near the project reflect the general sequence from Paleoindian through historic American. [redacted]

The Atlas Map of Vigo County, Indiana (Andreas 1874), the Map of Vigo County, Indiana (Hamilton and Peckham 1858), the Standard Atlas of Vigo County, Indiana (Vigo Atlas Map Company 1907), the Map of Vigo County, Indiana Showing Rural Delivery Service (United States Post Office Department 1909), the Map of Vigo County, Cultural (Indiana Highway Survey Commission 1936), and the Plat Book of Vigo County, Indiana (W.W. Hixson & Company 1937) were investigated. All of these maps show a road following North Clinton Street in its current alignment and demonstrate sparse structures within the vicinity of the survey area.

The 1950, 1960, 2010, 2013, 2016, and 2019 Rosedale, IN USGS topographic maps were investigated (United States Geological Survey 2020a). All these maps show a road that follows the current alignment of North Clinton Street and demonstrate an increase in residential and commercial structures in the vicinity of the survey area throughout the 20th and 21st centuries.

Historic aerial photographs from 1939, 1946, 1954, 1958, 1966, and 1974 (Indiana Geological and Water Survey 2020); 1949, 1952, and 1962 (United States Geological Survey 2020b); and Google Earth imagery 1985-2020 were investigated (Google Earth 2022). These aerials all show North Clinton Street in its current alignment and reflect a gradual increase of residential structures within the vicinity of the survey area. A structure located in the northeast quadrant of the intersection of North Clinton Street and Park Avenue was demolished between 2011 and 2014. The 2014 Google Earth image depicts disturbances north of Grant Street due to the construction of the Otter Creek Fire Department Station 1.

Records check *(Check all that apply)*

- ☐ The project area does not have the potential to contain archaeological resources. *Provide explanation / justification.*
- ☐ There are previously recorded archaeological resources within the project area, but those resources do not warrant additional archaeological investigation. *Provide explanation / justification.*
- ☒ The project area contains previously recorded archaeological resources that warrant additional investigation and/or the project area has the potential to contain archaeological resources. *Provide explanation / justification.*
  - ☒ Based upon the records check results, a reconnaissance has been conducted.
- ☐ A cemetery is located within or adjacent to the project area.

Explanation / justification

The survey area has the potential to contain intact soils and thus has the potential to contain previously unidentified archaeological resources.

Phase 1a archaeological reconnaissance *(Check all that apply)*

- ☐ No Phase 1a reconnaissance was conducted.
- ☒ Phase 1a reconnaissance located no archaeological resources.
- ☐ Previously recorded sites were in the project area.
  - ☐ Artifacts and/or features at a previously recorded site(s) within the project area were not discovered. *List the site(s) below.*
- ☐ Phase 1a reconnaissance has identified landforms conducive to buried archaeological deposits. *Describe below.*

List sites.

NA

Describe landforms.

NA

Number of shovel probes excavated	Number of cores / auger probes
95 (79)	5

Describe disturbances. Attach photographs documenting disturbances.
Road grade slope, roadside ditch, past and recent construction, buried utilities, landscaping, riprap.

Actual area surveyed *(hectares)*	Actual area surveyed *(acres)*
4.9	12.1

Explain results of fieldwork.
The survey area was initially visually inspected and divided into eight sections designated as Area 1 through Area 8 [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

No archaeological sites were identified during this survey.

RECOMMENDATIONS

Records check *(Check all that apply)*

- ☒ No archaeological investigation is recommended before the project is allowed to proceed because the records check has determined that the project area does not have the potential to contain archaeological resources.
- ☐ A Phase 1a archaeological reconnaissance is recommended.
- ☒ Based upon the records check results, a Phase 1a archaeological reconnaissance was recommended and has been conducted.
- ☐ A cemetery development plan may be required under Indiana Code 14-21-1-26.5 because project ground disturbance will be within 100 feet of a cemetery.

Phase 1a archaeological reconnaissance *(Check all that apply)*

- ☒ It is recommended that the project be allowed to proceed as planned because the Phase 1a archaeological reconnaissance has located no archaeological sites within the project area and/or previously recorded sites that were investigated warrant no additional investigation.
- ☐ It is recommended that Phase 1c archaeological subsurface reconnaissance be conducted before the project is allowed to proceed. The Phase 1a archaeological reconnaissance has determined that the project area includes landforms which have the potential to contain buried archaeological deposits.

Other recommendations / commitments

No Phase Ic investigation is recommended. Deep soil cores did not show any evidence of potential buried cultural surfaces and the proposed scope of work in the area of alluvial soils will not involve excavations deeper than the soil cores investigated.

In the unlikely event that archaeological deposits or human remains are encountered during the construction phase of the project, all work must cease within 30 m (100 ft) of the find and archaeologists from the Indiana Division of Historic Preservation and Archaeology and the Indiana Department of Transportation Cultural Resources Office will be notified.

Pursuant to IC-14-21-1, if any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646.

REQUIRED ATTACHMENTS

☒ Figure showing project location within Indiana
☒ USGS topographic map showing the project area *(1:24,000 scale)*
☒ Aerial photograph showing the project area, land use and survey methods
☒ Photographs of the project area, including, if applicable, photographs documenting disturbances
☐ Project plans *(if available)*

Other attachments

References cited *(See short report instructions for required references to be consulted)*

Andreas, A. T.
1874 Atlas Map of Vigo County, Indiana. A.T. Andreas, Chicago, IL.

Google Earth
2022 Google Earth Pro. Desktop software, <https://www.google.com/earth/versions/#earth-pro>, accessed June 13, 2023.

Hamilton, O. and Wm. C. Peckham
1858 Map of Vigo County, Indiana. O. Hamilton and Wm. C. Peckam, Milwaukee, WI.

Indiana Department of Natural Resources
2023 Indiana Buildings, Bridges and Cemeteries Map, Indiana Buildings, Bridges, and Cemeteries Map (arcgis.com), accessed June 13, 2023.

Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology (IDNR, DHPA)
2022 Guidebook for Indiana Historic Sites and Structures Inventory – Archaeological Sites. Manuscript on file, Division of Historic Preservation and Archaeology, Indiana Department of Natural Resources, Indianapolis.

2023 Indiana State Historical Architectural and Archaeological Research Database (SHAARD). Electronic Document, Welcome to SHAARD (in.gov), accessed June 13, 2023.

Indiana Department of Transportation, Cultural Resources Office (INDOT, CRO)
2023 Cultural Resources Manual. Electronic document, <https://www.in.gov/indot/crm/INDOT>, accessed May 11, 2023.

Indiana Geographic Information Council
2020 Indiana Map, <https://maps.indiana.edu/>, accessed June 13, 2023.

Indiana Geological and Water Survey
2020 Indiana Historical Aerial Photo Index, <https://igws.indiana.edu/IHAPI/Map/>, accessed June 13, 2023.

Indiana Highway Survey Commission
1936 Map of Vigo County, Cultural. Indiana Highway Survey Commission, Indianapolis, IN.

McGregor, John R.
1985 Survey of Historic Industrial Sites and Structures in West Central Indiana. Archaeological report (AR-11-00579) prepared by Indiana State University, Terre Haute, IN.

United States Department of Agriculture
2019 Web Soil Survey, <https://websoilsurvey.nrcs.usda.gov>, accessed June 13, 2023.

United States Geological Survey
2020a topoView, <https://ngmdb.usgs.gov/topoview/>, accessed June 13, 2023.

2020b Earth Explorer, <https://earthexplorer.usgs.gov/>, accessed June 13, 2023.

United State Post Office Department
1909 Map of Vigo County, Indiana Showing Rural Delivery Service. United States Post Office Department, Washington, D.C.

Vigo Atlas Map Company
1907 Standard Atlas of Vigo County, Indiana. Vigo Atlas Map Company, Terre Haute, IN.

W.W. Hixson & Company
1937 Plat Book of Vigo County, Indiana. W.W. Hixson & Company, Rockford, IL.

Comments

CURATION

Location of project documentation

Field notes and photographs will be curated at the Metric Environmental, LLC, Indianapolis Office.

APPENDIX E:
Red Flag and Hazardous Materials

Date: July 18, 2023

To: Site Assessment & Management (SAM)
Environmental Policy Office - Environmental Services Division (ESD)
Indiana Department of Transportation (INDOT)
100 N Senate Avenue, Room N758-ES
Indianapolis, IN 46204

From: Colin Keith
Metric Environmental, LLC
6958 Hillsdale Court
Indianapolis, IN 46250
colink@metricenv.com

Re: RED FLAG INVESTIGATION
DES #1901781, Local Project
Roadway Reconstruction and Bridge Rehabilitation
North Clinton Street, from Park Avenue to Imperial Avenue
Vigo County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The existing roadway is exhibiting signs of pavement distress. Intersections along this stretch of Clinton Street lack dedicated left turn lanes, causing long queues in traffic and rear end collisions. No sidewalks are present along Clinton Street, forcing pedestrians to walk along the shoulders of the roadway and providing no accessibility for pedestrians with disabilities. The preferred alternative will include reconstructing Clinton Street and constructing a sidewalk with curb ramps to meet current ADA standards. Clinton Street will be widened to include three lanes of traffic with the addition of a continuous 12-foot-wide dedicated two-way left turn lane. The corridor will include two 12-foot-wide travel lanes, variable-width paved shoulders (with 4-foot paved mailbox approaches where necessary), and an 8-foot-wide sidewalk or asphalt pedestrian path on the east side of the road. The pedestrian trail will be separated from the roadway with a 10-foot-wide grass buffer. A traffic signal will be installed at the intersection of Hasselburger Avenue and North Clinton Street, along with Americans with Disabilities Act (ADA) compliant curb ramps and pedestrian push button pedestals.

Vigo County Bridge No. 242 (Structure No. 84-00242), which carries North Clinton Street over Otter Creek, will also be rehabilitated as part of the project. Vigo 242 is located near the southern terminus of the project area, approximately 0.10 mile north of Park Avenue. The bridge is a three-span continuous concrete box beam bridge with a length of 156 feet, a deck width of 48.3 feet, and a skew of 18 degrees. The bridge was originally constructed in 1993 and has not been rehabilitated since. The bridge deck will be replaced, along with approximately 7.5 of coping and outer beams. Reconstruction will be required at the end bents for the coping and beam replacement. The reinforced concrete approaches, bridge rail transitions, and bridge railing will also be replaced. A new concrete sidewalk will be installed along the east side of the bridge. Work under the OHWM will be required for the installation of riprap around the inner piers.

Bridge Work Included in Project: Yes ☒ No ☐ Structure #(s) 84-00242

Is the bridge Historical? Yes ☐ No ☒; Select ☐ Non-Select ☐

(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).

Culvert Work Included in Project: Yes ☐ No ☒ Structure #(s) _____

Proposed right of way: Temporary ☒ # Acres ~0.41, Permanent ☒ # Acres ~3.93, Not Applicable (N/A) ☐

Type and proposed depth of excavation: Excavation up to five (5) feet below grade for roadway and sidewalk work and bridge rehabilitation.

Maintenance of traffic (MOT): Traffic will be maintained on Clinton Street with the use of phased construction and alternating lane closures.

Work in waterway: Yes ☒ No ☐ Below ordinary high water mark: Yes ☒ No ☐

State Project: ☐ LPA: ☒

Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

Infrastructure
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:

Religious Facilities	**4***	Recreational Facilities	**2**
Airports[1]	**1**	Pipelines	**4**
Cemeteries	**2**	Railroads	**1**
Hospitals	**N/A**	Trails	**1**
Schools	**1**	Managed Lands	**N/A**

[1]In order to complete the required airport review, a review of public-use airports within 3.8 miles (20,000 feet) is required.

Explanation:

Religious Facilities*: Four (4) religious facilities, two (2) mapped and two (2) unmapped, are located within the 0.5 mile search radius. The nearest religious facility is North Terre Haute Christian Church, which is approximately 0.03 mile east of the southern project terminus. Coordination with North Terre Haute Christian Church will occur.

Airports: One (1) airport is located within the 0.5 mile search radius. The airport, Sky King, is a public-use facility and is approximately 0.32 mile north of the northern project terminus. Coordination with INDOT Aviation will occur.

Cemeteries: Two (2) cemeteries are located within the 0.5 mile search radius. The nearest cemetery is Otter Creek Union, approximately 0.10 mile west of the central project area. No impact is expected.

Schools: One (1) school is located within the 0.5 mile search radius. Otter Creek Middle School is approximately 0.19 mile south of the southern project terminus. No impact is expected.

Recreational Facilities: Two (2) recreational facilities are located within the 0.5 mile search radius. The nearest recreational facility is Big G's Drive-In Golf Center, approximately 0.08 mile south of the southern project terminus; however, the facility appears to be no longer in operation. The nearest operational recreational

facility is Otter Creek Middle School, located approximately 0.19 mile south of the southern project terminus. No impact is expected.

Pipelines: Four (4) pipeline segments are located within the 0.5 mile search radius. The nearest is a natural gas pipeline owned by Terre Haute Gas Corp that runs parallel to the project area, approximately 0.02 mile to the east. Coordination with Terre Haute Gas Corp will occur.

Railroads: One (1) railroad segment is located within the 0.5 mile search radius. The railroad, owned by CSX, is approximately 0.31 mile southeast of the southern project terminus. No impact is expected.

Trails: One (1) trail segment is located within the 0.5 mile search radius. The trail, US 41 at Lost Creek to Rosedale Road, is approximately 0.49 mile south of the southern project terminus. No impact is expected.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI – Points	**N/A**	Canal Routes – Historic	**N/A**
Karst Springs	**N/A**	NWI – Wetlands	**9**
Canal Structures – Historic	**N/A**	Lakes	**N/A**
NPS NRI Listed	**N/A**	Floodplain – DFIRM	**8**
NWI – Lines	**15**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**1**	Sinkhole Areas	**N/A**
Rivers and Streams	**1**	Sinking-Stream Basins	**N/A**

Explanation:
NWI – Lines: Fifteen (15) NWI line segments are located within the 0.5 mile search radius. One (1) segment, representing Otter Creek, flows through the southern project area. A Waters of the US Report is recommended based on mapped features, and coordination with the appropriate agency, if applicable, will occur.

IDEM 303d Listed Streams and Lakes (Impaired): One (1) 303d listed stream segment is located within the 0.5 mile search radius. Otter Creek flows through the southern project area. Otter Creek is listed as impaired for *E. coli* and pH. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure. Concerning pH, Best Management Practices (BMPs) will be used to avoid further degradation to the stream.

Rivers and Streams: One (1) stream segment is located within the 0.5 mile search radius. Otter Creek flows through the southern project area. A Waters of the US Report is recommended based on mapped features, and coordination with the appropriate agency, if applicable, will occur.

NWI – Wetlands: Nine (9) wetland polygons are located within the 0.5 mile search radius. One (1) wetland is adjacent to the west of the southern project area. A Waters of the US Report is recommended based on mapped features, and coordination with the appropriate agency, if applicable, will occur.

Floodplain – DFIRM: Eight (8) floodplain polygons are located within the 0.5 mile search radius. The southern project area is within or adjacent to four (4) of the floodplain polygons. Coordination with the appropriate agency will occur.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	**N/A**	Mineral Resources	**N/A**
Mines – Surface	**N/A**	Mines – Underground	**N/A**

Explanation: No mining or mineral exploration features were identified within the 0.5 mile search radius.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	**N/A**	Manufactured Gas Plant Sites	**N/A**
RCRA Generator/ TSD	**N/A**	Open Dump Waste Sites	**N/A**
RCRA Corrective Action Sites	**N/A**	Restricted Waste Sites	**N/A**
State Cleanup Sites	**N/A**	Waste Transfer Stations	**N/A**
Septage Waste Sites	**N/A**	Tire Waste Sites	**N/A**
Underground Storage Tank (UST) Sites	**1***	Confined Feeding Operations (CFO)	**N/A**
Voluntary Remediation Program	**N/A**	Brownfields	**N/A**
Construction Demolition Waste	**N/A**	Institutional Controls	**N/A**
Solid Waste Landfill	**N/A**	NPDES Facilities	**3**
Infectious/Medical Waste Sites	**N/A**	NPDES Pipe Locations	**N/A**
Leaking Underground Storage (LUST) Sites	**3**	Notice of Contamination Sites	**N/A**

Unless otherwise noted, site specific details presented in this section were obtained from documents reviewed on the Indiana Department of Environmental Management (IDEM) Virtual File Cabinet (VFC).

Explanation:
Underground Storage Tank (UST) Sites*: There are no UST sites mapped within the 0.5 mile search radius; however, a review of street-level photography indicated the presence of a building in the northwest quadrant of the intersection of Park Avenue and Clinton Street at the southern project terminus that is visually consistent with a former filling station. The property (currently occupied by Parting Hair Salon, 5120 N. Clinton St.) does not appear in the UST or LUST databases, which could indicate it might have ceased operations as a filling station prior to 1986, when UST registration became a requirement. Due to the lack of available data regarding subsurface conditions at the property, it is possible that petroleum-related contamination could be present;

additionally, due to the age of suspect filling station operations and the historic use of leaded gasoline, lead contamination would likely be present concurrent with any petroleum release. If excavation occurs in this area, it is possible that petroleum contamination may be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Before proper removal and disposal of soil and/or groundwater, analysis for lead will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

Leaking Underground Storage (LUST) Sites: Three (3) LUST sites are located within the 0.5 mile search radius. All are within or adjacent to the project area and are discussed separately below.

- Pit Stop Marathon, 6321 N. Clinton St, Agency Interest (AI) ID #54557, is near the northern project terminus on the northeast corner of Clinton Street and Crystle/E. Hasselburger Avenue. The facility is in the early stage of addressing a release that was discovered in November 2021. Free product has been observed in on-site wells, and a petroleum constituent plume in the groundwater has been identified extending westward (following the groundwater flow direction) across Clinton Street to impact a residential well opposite the gas station. Corrective actions are still under evaluation. Groundwater at the location is fairly deep, with depth-to-water measurements in the monitoring wells ranging from 27-60 feet below grade. Although it is unlikely that project activities would encounter the impacted groundwater, there may be soil impacts extending to shallower depths. If groundwater monitoring wells are encountered in the project area, they should be maintained in-place. If they cannot be maintained, then the contractor must contact the INDOT Project Manager who will notify the INDOT Permits Group. The INDOT Permits Group will notify the permit holder that the well must be removed prior to construction. The permit holder is responsible for coordination with IDEM and the INDOT Permits Group for replacement or relocation of the well. If a property owner cannot be found in connection with the monitoring well, then well abandonment will be included in the project contract. All well abandonment activities must be completed by an Indiana Licensed Well Driller in accordance with 312 IAC 13-10. Regardless of whether the well is abandoned by the contractor or the property owner, a record of well abandonment, including the well driller's license number, must be provided to the INDOT Project Manager once the well has been abandoned. If excavation occurs in this area, it is possible petroleum contamination may be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. Because this is an active site, coordination with the IDEM Project Manager, Doug Bartz (dbartz@idem.IN.gov) will occur.
- Jiffy Mini-Mart #518 (aka Phillips 66), 5083 N. Lafayette St., AI ID #54884, is adjacent to the southern project terminus on the southeast corner of Park Avenue and Lafayette Street (which becomes Clinton Street north of Park Avenue). The facility notified IDEM in September 1992 that it intended to remove all five (5) existing USTs as a part of installing new tanks. Upon removal of the tanks, impacted soil was discovered in the excavation. The facility notified IDEM of a release and indicated that corrective action would be determined. No other documents related to the release were found in the VFC file, so it is unknown whether or not any corrective action or additional investigation was implemented during reconstruction of the site. Due to the lack of available information, petroleum-related contamination could still be present. If excavation occurs in this area, it is possible that petroleum contamination will be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.
- Sky King Airport Inc., 6050 Clinton Road, AI ID #55068, is mapped on the west side of Clinton Street between Avalon and Emerald Avenues; however, maps included in a UST closure report indicate the former UST area was located near the airport hangars, approximately 0.38 mile north/northwest of the northern project terminus. No impact is expected.

NPDES Facilities: Three (3) NPDES facilities are located within the 0.5 mile search radius. One (1) facility is adjacent to the project area. Otter Creek Firehouse, 5701 N. Clinton St., Permit #INR10H480, is on the northeast corner of Clinton Street and Grant Avenue. The permit status is terminated, with an expiration date of October 24, 2018. No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

The Vigo County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is provided at https://www.in.gov/dnr/nature-preserves/files/np_vigo.pdf. A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did not indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in an urban area surrounded by residential and commercial development. The July 9, 2022, inspection report for Bridge #84-00242 states that no evidence of bats was seen or heard under the bridge. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

RECOMMENDATIONS SECTION

Include recommendations from each section. If there are no recommendations, please indicate N/A:

INFRASTRUCTURE:
Religious Facilities: North Terre Haute Christian Church is approximately 0.03 mile east of the southern project terminus. Coordination with North Terre Haute Christian Church will occur.

Airports: Sky King Airport is a public-use facility approximately 0.32 mile north of the northern project terminus. Coordination with INDOT Aviation will occur.

Pipelines: A natural gas pipeline segment owned by Terre Haute Gas Corp runs parallel to the project area, approximately 0.02 mile to the east. Coordination with Terre Haute Gas Corp will occur.

WATER RESOURCES: A Waters of the US Report is recommended based on mapped features and coordination with the appropriate agency, if applicable, will occur for the following features:

- One (1) NWI line, representing Otter Creek, flows through the southern project area.
- One (1) stream segment, representing Otter Creek, flows through the southern project area.
- One (1) wetland is adjacent to the west of the southern project area.
- The southern project area is within or adjacent to four (4) floodplain polygons (coordination only).

IDEM 303d Listed Streams and Lakes (Impaired): Otter Creek flows through the southern project area and is listed as impaired for *E. coli* and pH. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure. Concerning pH, BMPs will be used to avoid further degradation to the stream.

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS:
Underground Storage Tank (UST) Sites: There are no UST sites mapped within the 0.5 mile search radius; however, a review of street-level photography indicated the presence of a building in the northwest quadrant of the intersection of Park Avenue and Clinton Street at the southern project terminus that is visually consistent with a former filling station. The property (currently occupied by Parting Hair Salon, 5120 N. Clinton St.) does not appear in the UST or LUST databases, which could indicate it might have ceased operations as a filling station prior to 1986, when UST registration became a requirement. Due to the lack of available data regarding subsurface conditions at the property, it is possible that petroleum-related contamination could be present; additionally, due to the age of suspect filling station operations and the historic use of leaded gasoline, lead contamination would likely be present concurrent with any petroleum release. If excavation occurs in this area, it is possible that petroleum contamination may be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Before proper removal and disposal of soil and/or groundwater, analysis for lead will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

Leaking Underground Storage (LUST) Sites:

- Pit Stop Marathon, 6321 N. Clinton St, AI ID #54557, is near the northern project terminus on the northeast corner of Clinton Street and Crystle/E. Hasselburger Avenue. The facility is in the early stage of addressing a release that was discovered in November 2021. Free product has been observed in on-site wells, and a petroleum constituent plume in the groundwater has been identified extending westward (following the groundwater flow direction) across Clinton Street to impact a residential well opposite the gas station. Corrective actions are still under evaluation. Groundwater at the location is fairly deep, with depth-to-water measurements in the monitoring wells ranging from 27-60 feet below grade. Although it is unlikely that project activities would encounter the impacted groundwater, there may be soil impacts extending to shallower depths. If groundwater monitoring wells are encountered in the project area, they should be maintained in-place. If they cannot be maintained, then the contractor must contact the INDOT Project Manager who will notify the INDOT Permits Group. The INDOT Permits Group will notify the permit holder that the well must be removed prior to construction. The permit holder is responsible for coordination with IDEM and the INDOT Permits Group for replacement or relocation of the well. If a property owner cannot be found in connection with the monitoring well, then well abandonment will be included in the project contract. All well abandonment activities must be completed by an Indiana Licensed Well Driller in accordance with 312 IAC 13-10. Regardless of whether the well is abandoned by the contractor or the property owner, a record of well abandonment, including the well driller's license number, must be provided to the INDOT Project Manager once the well has been abandoned. If excavation occurs in this area, it is possible petroleum contamination may be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. Because this is an active site, coordination with the IDEM Project Manager, Doug Bartz (dbartz@idem.IN.gov) will occur.
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lack of available information, petroleum-related contamination could still be present. If excavation occurs in this area, it is possible that petroleum contamination will be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

ECOLOGICAL INFORMATION: Coordination with USFWS and IDNR will occur. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation INDOT Projects".

INDOT ESD concurrence: Nicole Fohey-Breting August 4, 2023 (Signature)

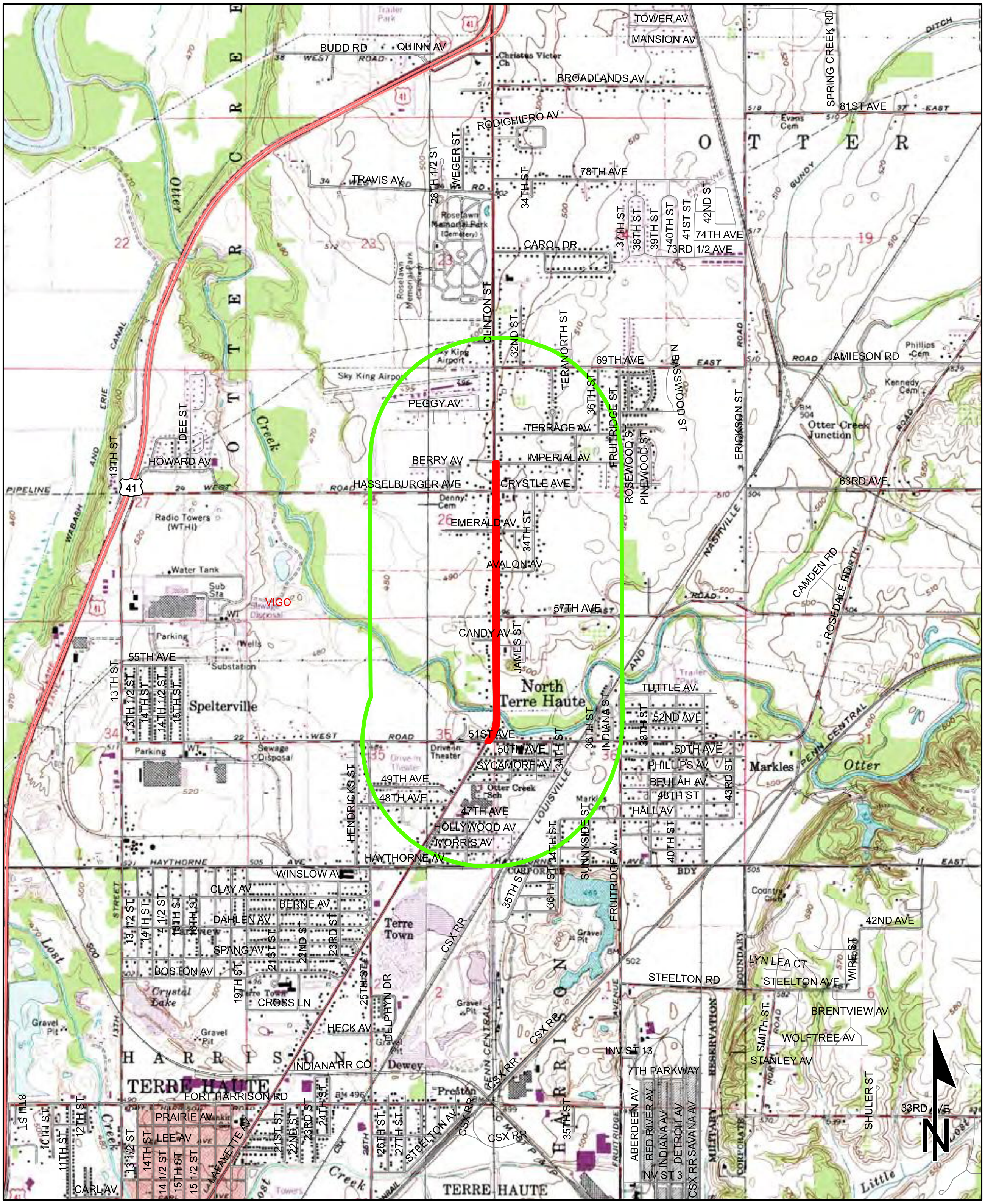
Prepared by:
Colin Keith
Project Scientist
Metric Environmental, LLC

Graphics:

A map for each report section with a 0.5 mile search radius buffer around all project area(s) showing all items identified as possible items of concern is attached. If there is not a section map included, please change the YES to N/A:

SITE LOCATION: YES
INFRASTRUCTURE: YES
WATER RESOURCES: YES
MINING/MINERAL EXPLORATION: N/A
HAZARDOUS MATERIAL CONCERNS: YES

Red Flag Investigation - Site Location
North Clinton Street, from Park Avenue to Imperial Avenue
Des. No. 1901781, Roadway Reconstruction and Bridge Rehabilitation
Vigo County, Indiana



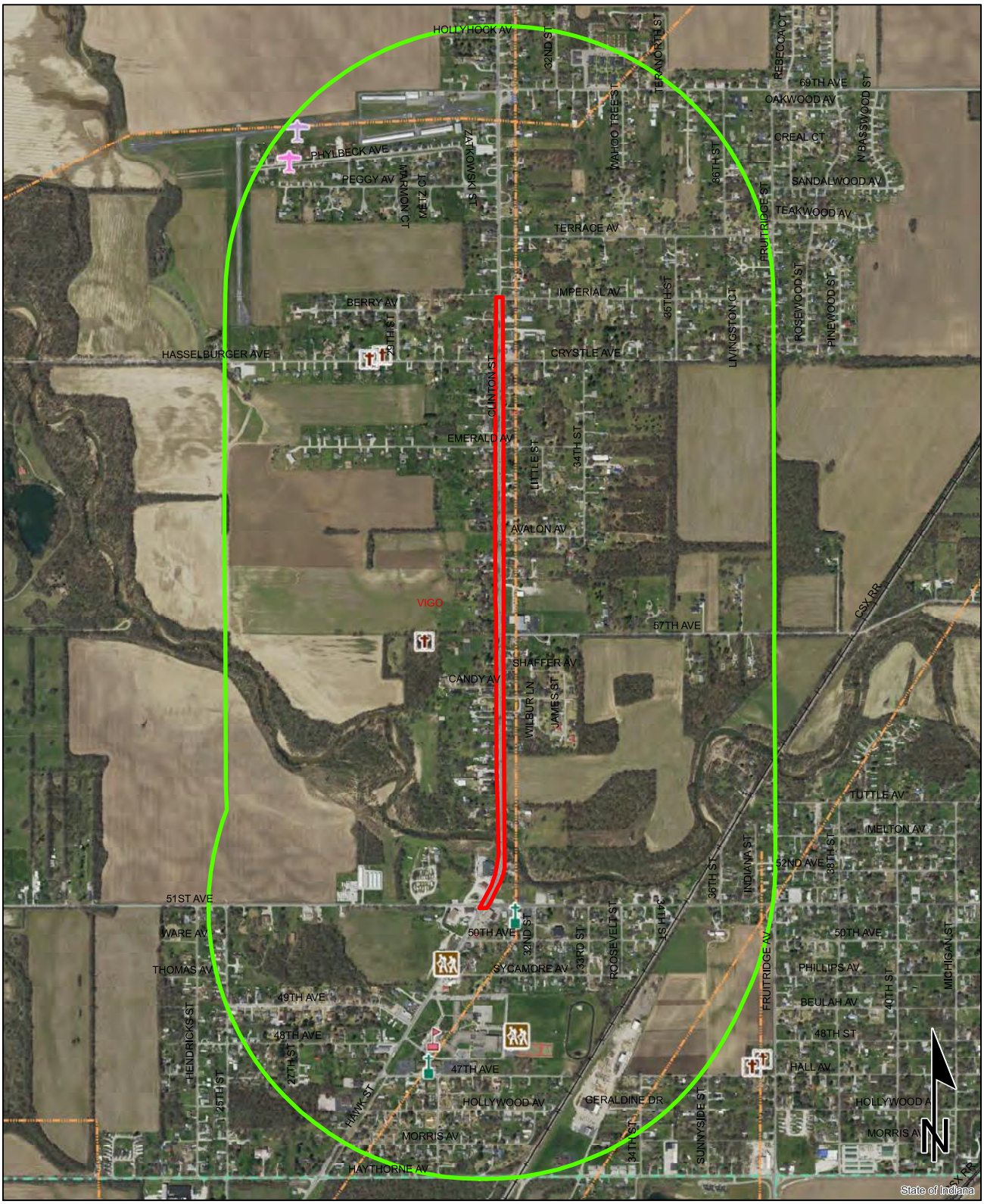
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

0.5 0.25 0 0.5 Miles

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

NEW GOSHEN AND ROSEDALE QUADRANGLES
INDIANA
7.5 MINUTE SERIES (TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
North Clinton Street, from Park Avenue to Imperial Avenue
Des. No. 1901781, Roadway Reconstruction and Bridge Rehabilitation
Vigo County, Indiana



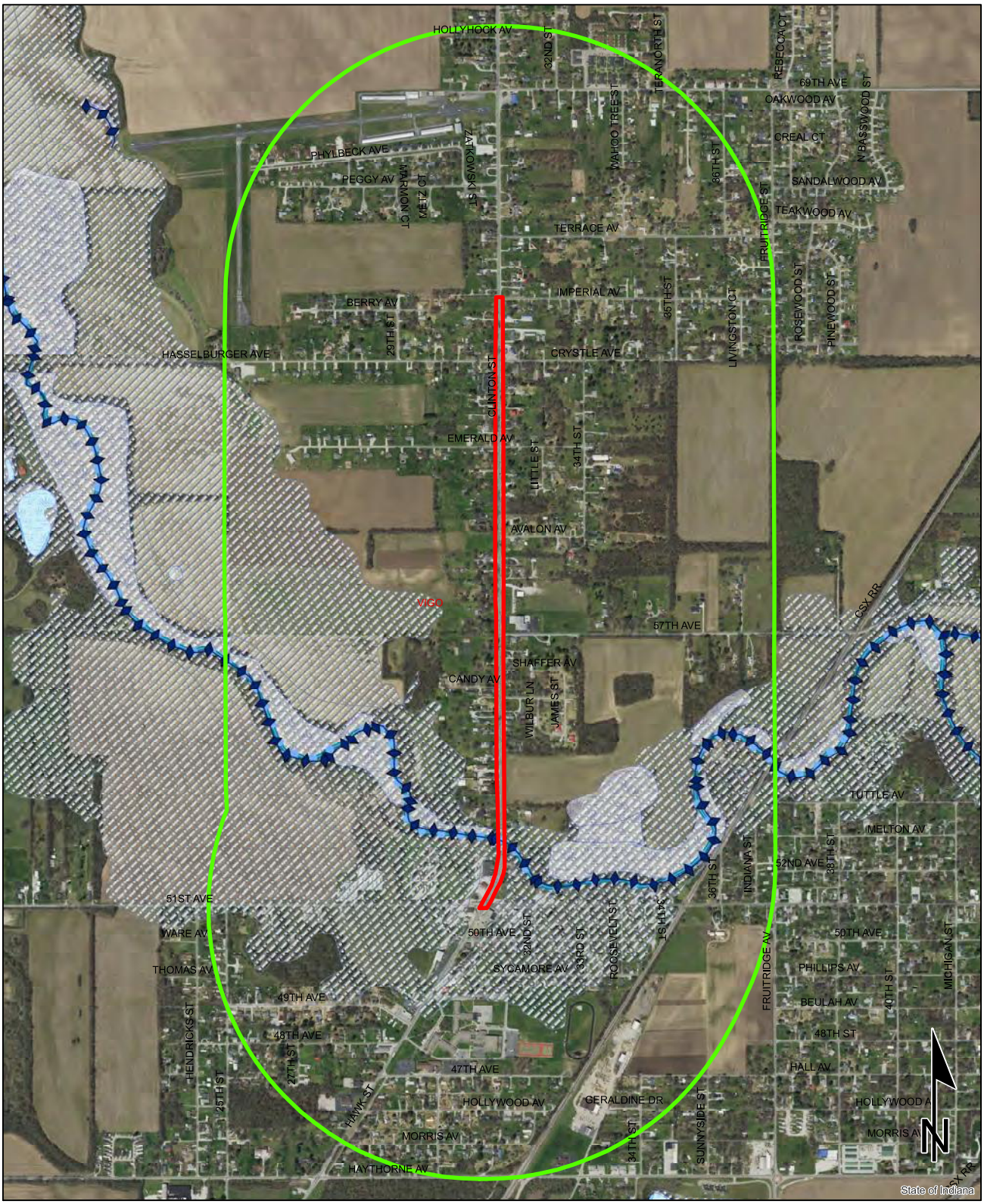
0.2 0.1 0 0.2 Miles

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

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

- Religious Facility
- Airport
- Cemeteries
- Hospital
- School
- Recreation Facility
- Pipeline
- Railroad
- Trails
- Managed Lands
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources
North Clinton Street, from Park Avenue to Imperial Avenue
Des. No. 1901781, Roadway Reconstruction and Bridge Rehabilitation
Vigo County, Indiana



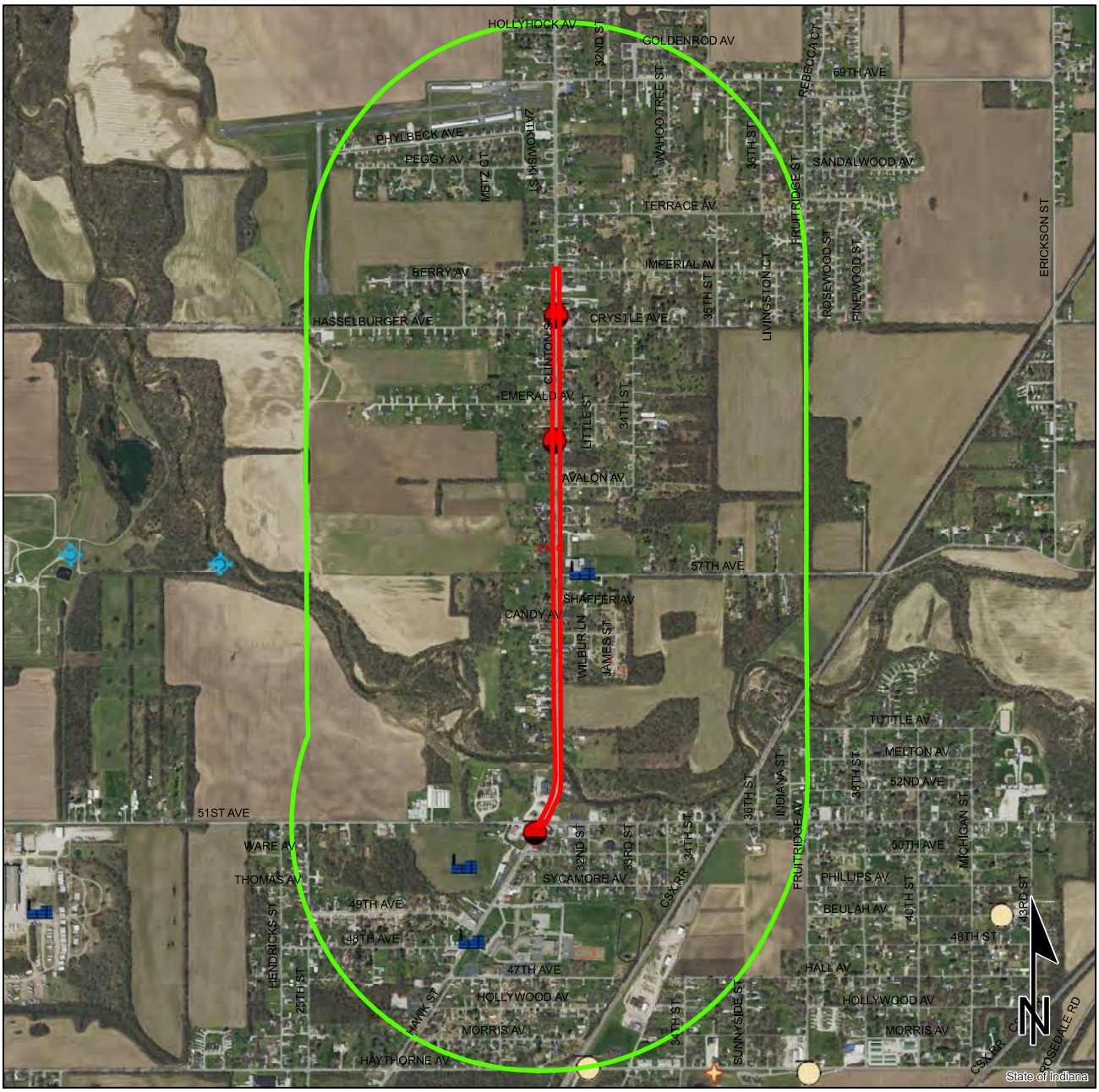
0.2 0.1 0 0.2 Miles

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

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Hazardous Material Concerns
North Clinton Street, from Park Avenue to Imperial Avenue
Des. No. 1901781, Roadway Reconstruction and Bridge Rehabilitation
Vigo County, Indiana



- Brownfield
- RCRA Corrective Action Sites
- Confined Feeding Operation
- Notice_Of_Contamination
- Construction/Demolition Site
- Infectious/Medical Waste Site
- Leaking Underground Storage Tank
- Manufactured Gas Plant
- NPDES Facilites
- NPDES Pipe Locations
- Open Dump Waste Site
- RCRA Generator/TSD
- Restricted Waste Site
- Septage Waste Site
- Solid Waste Landfill
- State Cleanup Site
- Superfund
- Tire Waste Site
- Underground Storage Tank
- Voluntary Remediation Program
- Waste Transfer Station
- Institutional Controls
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

0.25 0.125 0 0.25 Miles

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

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

APPENDIX F:
Water Resources

WATERS DELINEATION REPORT

ROAD IMPROVEMENTS AND BRIDGE REHABILITATION (BRIDGE #242) PROJECT
N. CLINTON STREET FROM PARK AVENUE TO IMPERIAL AVENUE
DES. NO. 1901781

OTTER CREEK TOWNSHIP, VIGO COUNTY, INDIANA

Prepared for:
Vigo County

January 25, 2023

Prepared by:
April Pape

METRIC ENVIRONMENTAL

Complex Environment. Creative Solutions.

6958 Hillsdale Court
Indianapolis, IN 46256
Telephone: 317.400.1633
www.metricenv.com

Exhibits

~~**Exhibit 1 – Location Map**~~

~~**Exhibit 2 – USGS Topographic Map**~~

Exhibit 3 – Natural Resources Conservation Service Soil Survey, National Wetlands Inventory, IDNR Floodway, and NHD Flowline Map

Exhibit 4 – Waters Delineation Map

~~**Exhibit 5 – Photo Location Map**~~

Please note: Some maps and photos have been removed and can be found in Appendix B of the CE document.

Appendices

Appendix A – Wetland Determination Data Sheets

Appendix B – HHEI/QHEI Data Forms

~~**Appendix C – Site Photographs**~~

1.0 INTRODUCTION

Metric Environmental, LLC (Metric) was contracted to perform a determination of the presence of Waters of the United States (U.S.) and/or Waters of the State within the investigated area (IA) of the road improvements and bridge rehabilitation. The proposed project is located in Otter Creek Township, Vigo County, Indiana as shown on **Exhibit 1**. The site investigation, conducted by Kristina Zuniga and April Pape on May 8th 2022, found one stream totaling 227 linear feet (LFT) located within the IA.

2.0 PROJECT DESCRIPTION

The proposed project extends south along N Clinton St from Park Ave to Imperial Ave in Rosedale, Otter Creek Township, Vigo County, Indiana. Specifically, the project is located in Sections 25, 26, 35, ad 36, Township 13 North, Range 9 West. The proposed project involves road improvements and bridge rehabilitation and is approximately a mile in length. A location map showing the project location is provided as **Exhibit 1** and a USGS Indianapolis East and Cumberland, Indiana Quadrangle Topographic Map is provided as **Exhibit 2**.

2.1 Purpose

The objective of this investigation is to identify and delineate the Waters of the U.S. and Waters of the State, including wetlands, streams, and ponds, located within the proposed project study limits. This report identifies the Waters of the U.S. as defined by the U.S. Army Corps of Engineers (USACE) regulations and guidance documents, as well as, Waters of the State and wetlands as defined by the State of Indiana rules and regulations.

2.2 Regulatory Definitions

2.2.1 Waters of the U.S.

The definition of Waters of the U.S. includes Traditional Navigable Waters (TNWs) of the U.S. and adjacent wetlands, non-navigable tributaries to TNWs, and wetlands that directly abut such tributaries (Department of the Army, Corps of Engineers and Environmental Protection agency, 2015). The USACE has jurisdiction over all navigable Waters of the U.S. under the Rivers and Harbors Act of 1899. The USACE also regulates the placement of dredged or fill materials into Waters of the U.S. under Section 404 of the federal Clean Water Act (CWA). Section 404 of the CWA defines the landward limit for non-tidal waters as the Ordinary High Water Mark (OHWM). When adjacent wetlands are present, the limit of jurisdiction extends to the limit of the wetland. Depositing dredge or fill materials into wetlands or other Waters of the U.S. requires written permission through the USACE Section 404 permit process.

2.2.2 Waters of the State

Waters of the State are defined as surface and underground waterbodies, which exist wholly in the State (IDEM, 2016). Private ponds, reservoirs, or facilities built for reduction of pollutants prior to discharge are not included in this definition. In Indiana, two government agencies have jurisdiction over Waters of the State: Indiana Department of Environmental Management (IDEM) and the USACE. IDEM is responsible for maintaining, protecting, and improving the physical, chemical, and biological integrity of Indiana's waters. IDEM administers the Section 401 Water Quality Certification (WQC) Program, and draws its authority from the federal CWA and Indiana's Water Quality Standards. Any person who wishes to place fill materials, excavate or dredge, or mechanically clear within a wetland, lake, river, stream, or other Waters of the State, must first apply for a CWA Section 404 permit through USACE and a Section 401 WQC permit through IDEM. If a Waters of the State is determined to be non-jurisdictional by the USACE, these

waters are regulated by IDEM under the State Isolated Wetlands Law and a State Isolated Wetlands Permit may be required.

2.2.3 Wetlands

Wetlands are a category of Waters of the U.S. for which a specific identification methodology has been developed. Wetlands are identified using three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. Isolated wetlands, or those waters no longer subject to regulation under the CWA, are regulated under Indiana Code (IC) 13-18-22 and 327 Indiana Administrative Code (IAC) 17. This statute creates a category of Waters of the State known as State Regulated Wetlands, which are defined as wetlands as delineated under the *Corps of Engineers Wetlands Delineation Manual (Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0))* and considered isolated and not subject to federal law. Isolated wetlands and waters not regulated under CWA Section 404 in the state of Indiana are still regulated under Indiana's State Isolated Wetland Law. Any person who wishes to place fill materials, excavate or dredge, or mechanically clear within a wetland, lake, river, stream, or other Waters of the State not federally regulated, must apply for and obtain a State Isolated Wetland Permit (IDEM, 2016). For the purposes of expediting the review of the wetlands identified for this project, all wetlands are assumed to be jurisdictional Waters of the U.S. and subject to regulation by the USACE.

3.0 BACKGROUND INFORMATION – EXISTING MAPS

The initial steps in the wetland determination process include a review of documents that provide information on areas where wetlands have been previously identified or that possess a high likelihood of containing wetlands. Several sources of information were consulted to help identify potential jurisdictional areas within the survey boundaries. These resources included:

- U.S. Geological Survey (USGS) 7.5 Minute Topographic Map (Rosedale, IN Quadrangle, 1998)
- U.S. Department of Agriculture (USDA), National Resources Conservation Service (NRCS), Soil Survey Maps (Vigo County, Indiana)
- U.S. Fish and Wildlife Services (USFWS) National Wetlands Inventory (NWI) Map
- U.S. Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM)

A review of the USGS topographic map allowed for interpretation of slopes and the identification of potential Waters of the U.S. within the survey boundary.

Published soil surveys for Vigo County in Indiana were reviewed to identify listed hydric soils and/or potential inclusions of hydric soils. Identified areas containing hydric soils were evaluated against other data collected to identify potential wetland areas. The county soils survey maps were developed from actual field investigations. However, they address only one of the three required wetland criteria (hydric soils) and may reflect historical conditions rather than current site conditions. The resolution of soil maps limits their accuracy as well. The mapping units are often generalized based on topography and many mapping units contain inclusions of other soil types for up to 15% of the area of the unit.

The NWI maps were developed to identify probable wetland areas and are mapped on USGS 7.5-minute quadrangle maps. The NWI maps were prepared from high-altitude photography and in most cases were

not field checked. There are several limitations to the quality of this data. Therefore, the NWI maps should not be used as a sole determination to identify potential wetlands.

FIRM maps were developed to identify areas subject to flood hazards. These maps identify areas located within a flood zone, which may contain wetlands.

Indiana Department of Natural Resources (IDNR) floodway maps were developed to identify areas designated as floodways by the IDNR. These areas were mapped as approximate floodways and/or approved floodways. These maps identify areas within flood zones, which may contain wetlands.

3.1 USGS 7.5-minute Topographic Map

Geographically, the IA are located in Section 25, 26, 35, and 36; Township 13 North; Range 9 West. **Exhibit 2** includes the USGS Rosedale, Indiana Quadrangle Topographic Maps. The flow regime of field-identified streams was verified using the topographic maps, with perennial streams verified as solid blue lines on the map, intermittent streams verified as dashed blue lines on the map, and ephemeral streams verified where no blue lines were present on the map. During a review of the USGS topographic maps, one waterway, Otter Creek, was identified by solid blue lines within the IA as listed in **Table 1**.

Table 1: USGS Topographic Map Identified Streams within Project Study Limits

Stream Name	Flow Regime
Otter Creek	Perennial

Source: USGS 1998

3.2 USDA-NRCS Soil Survey Maps

The NRCS Web Soil Survey (USDA-NRCS, 2016) soil map and soil data for Vigo County was compared against the National and State of Indiana Hydric Soils lists in order to assess the location of hydric soils. The soil map is provided as **Exhibit 3**. **Table 2** identifies the soil unit symbol, map unit name, and hydric soil rating. Six nationally listed hydric soil units were identified within the IA: Bloomfield loamy fine sand (BlC), Camden silt loam (CaA), Elston sandy loam (ElA), Elston sandy loam (ElB), Genesee fine sandy loam (Gf), and Water (W).

Table 2: Soil Map Unit Legend – Soil Map Units within Project Study Limits

Symbol	Map Unit Name	Hydric Rating (%)
BlC	Bloomfield loamy fine sand, 6 to 12 percent	Nonhydric (0%)
CaA	Camden silt loam, 0 to 2 percent slopes	Nonhydric (0%)
ElA	Elston sandy loam, 0 to 2 percent slopes	Nonhydric (0%)
ElB	Elston sandy loam, 2 to 6 percent slopes	Nonhydric (0%)
Gf	Genesee fine sandy loam, sandy variant	Predominantly nonhydric (3%)

Source: USDA-NRCS Web Soil Survey 2016 National Hydric Soils List

3.3 USFWS National Wetlands Inventory (NWI) Map

The NWI map of the area included in **Exhibit 3** was retrieved from the USFWS NWI website (USFWS, 2016). One mapped NWI polygon is located within the IA, listed in the table below and was associated with Otter Creek. The nearest wetland not contained within the IA is located approximately 26.09 ft east of the IA and was also associated with Otter Creek. The NWI wetland identified within the IA is listed in **Table 3**.

Table 3: Mapped NWI Wetlands within the Project Study Limits

Symbol	Wetland Type	Location Within IA	Corresponding Feature
R2UB	Riverine, Lower Perennial, Unconsolidated Bottom	South	Otter Creek

Source: USFWS National Wetlands Inventory 2016

3.4 Flood Insurance Rate Map (FIRM)

The FIRM map of the area, **Exhibit 3,** was retrieved from the FEMA website (FEMA, 2018). One mapped floodplain is located within the IA. This floodplain was identified as Zone AE, an area subject to inundation by the 1 percent annual chance of flood. This floodplain was associated with Otter Creek.

Table 4: 100-Year Floodplain within the Project Study Limits

Flood Zone Code	Water Resource Associated with Floodplain
AE	Otter Creek

Source: FEMA, 2018

4.0 WETLAND AND STREAM DELINEATION METHODOLOGY

For the purpose of identifying wetlands regulated under Section 404 and 401 of the CWA, wetland determinations were made using the three criteria of assessment approach defined in the *1987 U.S. Army Corps of Engineers' Wetland Delineation Manual* and the *Midwest Regional Supplement "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)".* According to the procedure described in the manual, areas that reflect a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology are considered wetlands.

Streams were identified based on the presence of an OHWM as defined in 33 CFR 328.3(3) as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Once identified, streams were assessed using the Ohio EPA Primary Headwater Habitat Evaluation Index (HHEI) as described in the *Ohio EPA Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams (Version 2.3) (October, 2009)* or Qualitative Habitat Evaluation Index (QHEI) as described in the Ohio EPA *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (June, 2006)* to determine overall stream aquatic habitat quality. Streams with a drainage area of less than one square mile or a maximum pool depth less than 40 cm were evaluated using the HHEI assessment and streams with a drainage area greater than one square mile or a pool depth greater than 40 cm were evaluated using the QHEI.

A reconnaissance (waters delineation) was conducted to determine the general topography, plant communities, soils, and hydrology present within the survey boundary. Areas identified as either Waters of the U.S. or Waters of the State were delineated and mapped using a Trimble R1 GNSS Receiver handheld GPS unit with submeter accuracy.

5.0 RESULTS

The field reconnaissance was conducted on May 8th 2022 by Kristina Zuniga and April Pape of Metric. The site was investigated for evidence of hydrophytic vegetation, hydric soil, and wetland hydrology, with sampling points (SP) being dug in areas suspected of being wetlands as shown on **Exhibit 6**. Data was recorded on wetland determination data sheets from the USACE Midwest/ Eastern Mountains Regional Supplement and are included in **Appendix A**. Streams identified within the IA were evaluated using the HHEI and QHEI stream assessments. HHEI and QHEI data sheets are provided in **Appendix B**. A photograph location map is provided as **Exhibit 7** and site photographs are provided in **Appendix C**. The photographs are visual documentation of site conditions at the time of the inspection and are intended to provide representative visual examples of the features found on the site.

5.1 Streams

One stream, Otter Creek, was observed within the IA during the field reconnaissance. **Table 5** lists the streams identified during the site investigation.

Table 5: Streams located within the Project Study Limits

Stream Name	Photo #s	Lat/Long	OHWM Width (ft.)	OHWM Depth (ft.)	USGS Blue-line	Likely Water of the U.S.?	Riffles and Pools?	Dominant Substrate	HHEI/QHEI Score	Potential Stream Impact (ft.)
Otter Creek	7-8, 11-14, 19	39.529662 -87.36987	53’	1.7’	Yes (Perennial)	Yes	Yes	Silt	44.5 (Average)	227

Otter Creek – 227 LFT

Otter Creek flows from northeast to southwest and is approximately 227 linear feet (LFT) (0.276 ac.) long within the IA. Otter Creek flows southwest into the Wabash River, a Section 10 TNW. Therefore, Otter Creek should be considered a jurisdictional Water of the U.S. Otter Creek is associated with a solid blue line on the USGS topographic map, indicating it is likely perennial. Otter Creek was associated with a mapped Riverine, Lower Perennial, Unconsolidated Bottom (R2UB) NWI polygon. The ordinary high water mark (OHWM) was 53 ft. wide and 1.67 ft. deep within the investigated area. Measurements of the OHWM were taken outside the influence of the structure. The dominant stream substrate was silt. Functional riffles and pools were observed within the stream. Sparse amounts of instream cover was observed which included overhanging vegetation and woody debris. No sinuosity and slow current velocity were observed. Streambanks exhibited moderate erosion and the floodplain was composed of shrub or old field on both sides of the stream. Fish, macroinvertebrates, and mussels were not observed within the stream during the field reconnaissance. Vegetation observed along the streambanks included Japanese-knotweed (*Reynoutria japonica*, FACU), Japanese honeysuckle (*Lonicera japonica* FACU), and black locust (*Robinia pseudoacacia*, FACU). According to USGS *Indiana StreamStats*, the drainage area upstream of UNT 1 at the IA is 116.49 square miles. The stream had a QHEI score of 44.5 (moderate). Qualities of the stream listed above contribute to Otter Creek being classified as moderate quality.

5.2 Wetlands

No wetlands were observed during field reconnaissance.

5.3 Upland Sampling Points

One upland sampling point was taken in the project study limits in an area that was suspected of being a wetland. This sampling point did not qualify as a wetland as it did not meet all three wetland criteria. **Table 7** lists the sampling point that was taken but was not associated with a wetland. A description of this upland sampling point is provided in **Table 6**.

Table 6: Upland Sampling Point Data Summary Table

Plot #	Photo Points	Lat/Long	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Within a Wetland
UP1	16-18	39.529561 -87.370034	No	No	No	No

Upland Sampling Point 1 (UP1)

UP1 was located on a slope west of N Clinton St. The dominant vegetation at this sampling point was honey locust (*Gleditsia triacanthos*, FACU) in the sampling/shrub stratum and chickweed (*Stellaria media*, FACU) and tall fescue (*Schedonorus arundinaceus*, FACU) in the herb stratum. The prevalence index (4.21) was greater than 3.0 and no other hydrophytic vegetation indicators were met. To a depth of 20 in., the soil in the test pit was a silt and exhibited a matrix color of 10YR 4/4 (100 percent), with redox features occurring from 0-5 inches, exhibiting a matrix color of 10YR 5/4. This did not meet any of the hydric soil indicators. No primary or secondary indicators of wetland hydrology were observed. Since none of the three required wetland criteria were met, this area did not qualify as a wetland.

6.0 CONCLUSION

One stream totaling 227 LFT (0.276 acre) was identified with the IA. No wetlands were identified within the IA. **Table 7** lists the water features identified and the corresponding acres and linear feet of stream located within the IA.

Table 7: Water Resources Identified within Project Study Limits

Type of Waters	Name	Cowardin Class/ Flow Regime	Estimated Amount of Aquatic Resource in Project Study Limits	Jurisdictional Waters of the U.S.
Stream	Otter Creek	Perennial	227 LFT, 0.276 acre	Yes

We have performed a waters delineation for the proposed road improvement and bridge rehabilitation project. The water resource identified within the IA appears to be jurisdictional Waters of the U.S. Every effort should be taken to avoid and minimize impacts to the waterway. If any wetlands or streams will be impacted by this project, permits may be required by the USACE and IDEM. The final determination of jurisdictional waters is ultimately made by the USACE. This report is our best judgment based on the guidelines set forth by USACE.

7.0 REFERENCES

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WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: N Clinton St from Park Ave to Imperial Ave (Des. No. 1901781) City/County: Vigo County Sampling Date: 5/10/2022

Applicant/Owner: Vigo County State: IN Sampling Point: UP1

Investigator(s): April Pape & Kristina Zuniga Section, Township, Range: Sec 36, T 13 N. R 9 W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex

Slope (%): 1% Lat: 39.529574 Long: -87.370016 Datum: NAD83

Soil Map Unit Name: Gf Genesee fine sandy loam, sandy variant NWI classification: None

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

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Upland Sampling Point 1. Located in floodplain of Otter Creek.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0%	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1. *Gleditsia triacanthos*	5%	Yes	FACU
2.			
3.			
4.			
5.			
	5%	= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. *Stellaria media*	40%	Yes	FACU
2. *Schedonorus arundinaceus*	30%	Yes	FACU
3. *Phacelia purshii*	20%	No	UPL
4. *Galium aparine*	10%	No	FACU
5. *Lamium purpureum*	10%	No	UPL
6. *Rumex crispus*	5%	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	115%	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0%	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species	5%	x3 =	0.15
FACU species	85%	x4 =	3.4
UPL species	30%	x5 =	1.5
Column Totals:	1.20 (A)		5.05 (B)

Prevalence Index = B/A = 4.21

Hydrophytic Vegetation Indicators:

____ 1-Rapid Test for Hydrophytic Vegetation

____ 2-Dominance Test is >50%

____ 3-Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

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

SOIL

Sampling Point: UP1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/3	90	10YR 5/4	10	C	M	S	Faint Redox Concentrations
5-20	10YR 4/3	100					S	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Dark Surface (S7)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

OHEI Score: 44.5

Stream & Location: Otter Creek, Vigo County, INdiana RM: _ _ _._ Date: 5/10/2021 06

Scorers Full Name & Affiliation: Kristina Zuniga, Metric Environmental

River Code: _ _ _ - _ _ _ - _ _ _ STORET #: _ _ _ _ _ _ Lat./Long.: (NAD 83 - decimal °) 39. 529677 /87 .369839 Office verified location ☐

1] SUBSTRATE

Check ONLY **Two** substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐ ☐ BLDR /SLABS [10]			☐ ☐ HARDPAN [4]		
☐ ☐ BOULDER [9]			☐ ☐ DETRITUS [3]		
☐ ☐ COBBLE [8]			☐ ☐ MUCK [2]		
☐ ☐ GRAVEL [7]	10		☐ ☑ SILT [2]	45	
☑ ☐ SAND [6]	45		☐ ☐ ARTIFICIAL [0]		
☐ ☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Check ONE (Or 2 & average)

ORIGIN
- ☐ LIMESTONE [1]
- ☐ TILLS [1]
- ☐ WETLANDS [0]
- ☑ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☑ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☑ NORMAL [0]
- ☐ NONE [1]

Comments

Substrate: 7 (Maximum 20)

2] INSTREAM COVER

Indicate presence 0 to 3: **0**-Absent; **1**-Very small amounts or if more common of marginal quality; **2**-Moderate amounts, but not of highest quality or in small amounts of highest quality; **3**-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

_ UNDERCUT BANKS [1]	_ POOLS > 70cm [2]	_ OXBOWS, BACKWATERS [1]
1 OVERHANGING VEGETATION [1]	_ ROOTWADS [1]	_ AQUATIC MACROPHYTES [1]
_ SHALLOWS (IN SLOW WATER) [1]	_ BOULDERS [1]	1 LOGS OR WOODY DEBRIS [1]
_ ROOTMATS [1]		

AMOUNT

Check ONE (Or 2 & average)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☑ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover Maximum 20: 5

3] CHANNEL MORPHOLOGY

Check ONE in each category (Or 2 & average)

SINUOSITY
- ☐ HIGH [4]
- ☐ MODERATE [3]
- ☐ LOW [2]
- ☑ NONE [1]

DEVELOPMENT
- ☐ EXCELLENT [7]
- ☑ GOOD [5]
- ☐ FAIR [3]
- ☐ POOR [1]

CHANNELIZATION
- ☐ NONE [6]
- ☐ RECOVERED [4]
- ☑ RECOVERING [3]
- ☐ RECENT OR NO RECOVERY [1]

STABILITY
- ☐ HIGH [3]
- ☑ MODERATE [2]
- ☐ LOW [1]

Comments

Channel Maximum 20: 11

4] BANK EROSION AND RIPARIAN ZONE

Check **ONE** in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION

L	R	
☐	☑	NONE / LITTLE [3]
☑	☐	MODERATE [2]
☐	☐	HEAVY / SEVERE [1]

RIPARIAN WIDTH

L	R	
☐	☐	WIDE > 50m [4]
☑	☑	MODERATE 10-50m [3]
☐	☐	NARROW 5-10m [2]
☐	☐	VERY NARROW < 5m [1]
☐	☐	NONE [0]

FLOOD PLAIN QUALITY

L	R	
☐	☐	FOREST, SWAMP [3]
☑	☑	SHRUB OR OLD FIELD [2]
☐	☐	RESIDENTIAL, PARK, NEW FIELD [1]
☐	☐	FENCED PASTURE [1]
☐	☐	OPEN PASTURE, ROWCROP [0]

L	R	
☐	☐	CONSERVATION TILLAGE [1]
☐	☐	URBAN OR INDUSTRIAL [0]
☐	☐	MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian Maximum 10: 7.5

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH

Check **ONE** (ONLY!)
- ☐ > 1m [6]
- ☐ 0.7-<1m [4]
- ☑ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH

Check ONE (Or 2 & average)
- ☐ POOL WIDTH > RIFFLE WIDTH [2]
- ☑ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH > RIFFLE WIDTH [0]

CURRENT VELOCITY

Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☐ FAST [1]
- ☐ MODERATE [1]
- ☑ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current Maximum 12: 4

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). ☑ NO RIFFLE [metric=0]

RIFFLE DEPTH
- ☐ BEST AREAS > 10cm [2]
- ☐ BEST AREAS 5-10cm [1]
- ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH
- ☐ MAXIMUM > 50cm [2]
- ☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
- ☐ STABLE (e.g., Cobble, Boulder) [2]
- ☐ MOD. STABLE (e.g., Large Gravel) [1]
- ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
- ☐ NONE [2]
- ☐ LOW [1]
- ☐ MODERATE [0]
- ☐ EXTENSIVE [-1]

Comments

Riffle / Run Maximum 8: 0

6] GRADIENT

(8.82 ft/mi)

DRAINAGE AREA (116.49 mi²)

- ☐ VERY LOW - LOW [2-4]
- ☑ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: 100 %GLIDE: _____

%RUN: _____ %RIFFLE: _____

Gradient Maximum 10: 10

A] SAMPLED REACH

Check ALL that apply

METHOD

- ☐ BOAT
- ☐ WADE
- ☐ L. LINE
- ☐ OTHER

DISTANCE

- ☐ 0.5 Km
- ☐ 0.2 Km
- ☐ 0.15 Km
- ☐ 0.12 Km
- ☐ OTHER

_____ meters

STAGE

1st -sample pass-	2nd
☐ HIGH	☐
☐ UP	☐
☐ NORMAL	☐
☐ LOW	☐
☐ DRY	☐

CLARITY

1st --sample pass--	2nd
☐ < 20 cm	☐
☐ 20-<40 cm	☐
☐ 40-70 cm	☐
☐ > 70 cm/ CTB	☐
☐ SECCHI DEPTH	☐

1st pass _____ cm

2nd _____ cm

CANOPY

- ☐ > 85%- OPEN
- ☐ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of steam?, *Recreation/* Observed - Inferred, *Other/* Sampling observations, Concerns, Access directions, etc.

B] AESTHETICS

- ☐ NUISANCE ALGAE
- ☐ INVASIVE MACROPHYTES
- ☐ EXCESS TURBIDITY
- ☐ DISCOLORATION
- ☐ FOAM / SCUM
- ☐ OIL SHEEN
- ☐ TRASH / LITTER
- ☐ NUISANCE ODOR
- ☐ SLUDGE DEPOSITS
- ☐ CSOs/SSOs/OUTFALLS

C] RECREATION

POOL: AREA ☐ >100ft² DEPTH ☐ >3ft

D] MAINTENANCE

Circle some & *COMMENT*

PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE SIDED
RELOCATED / CUTOFFS
MOVING-BEDLOAD-STABLE
ARMOURED / SLUMPS
ISLANDS / SCOURED
IMPOUNDED / DESICCATED
FLOOD CONTROL / DRAINAGE

E] ISSUES

WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

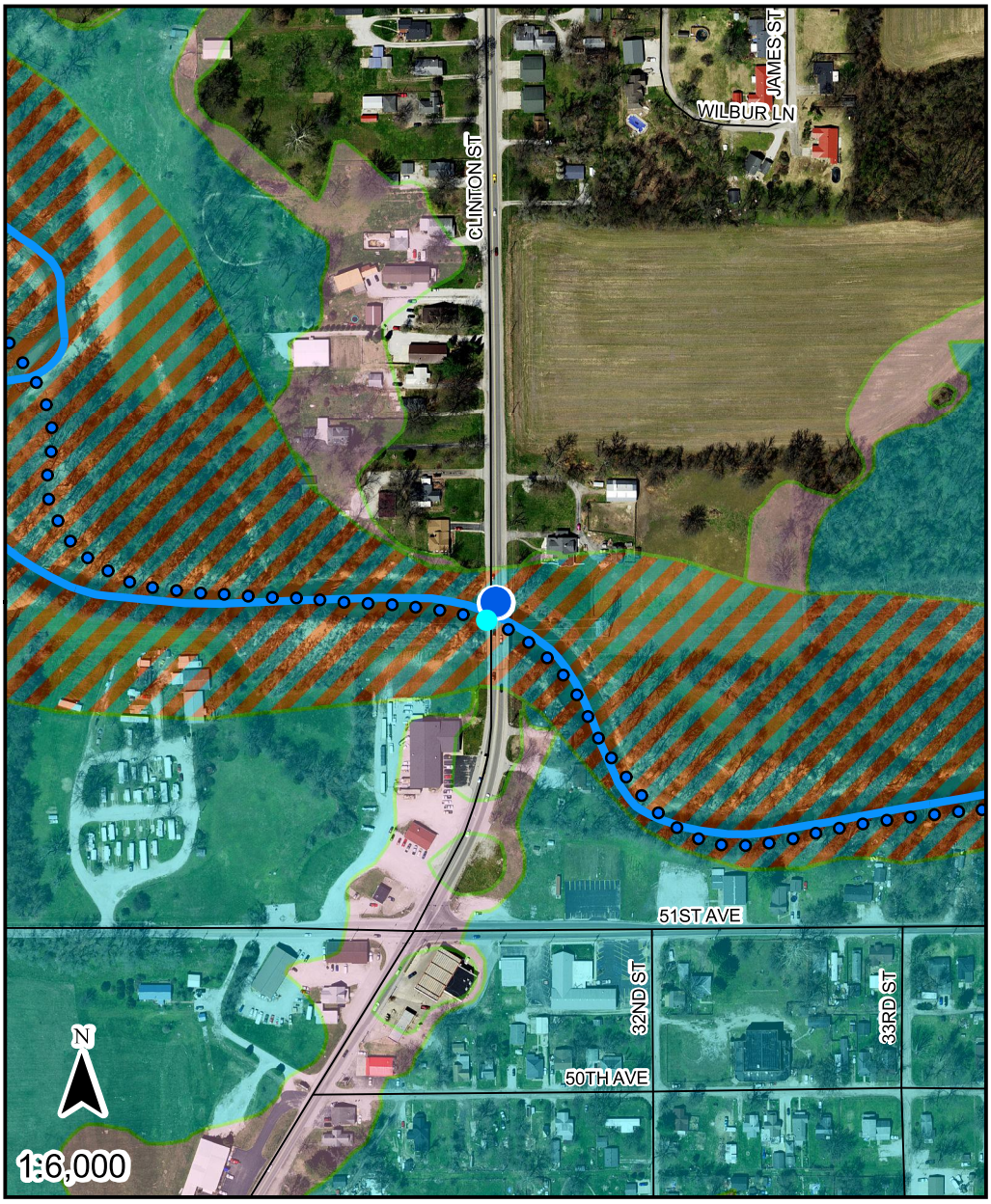
- $\bar{x}$ width
- $\bar{x}$ depth
- max. depth
- $\bar{x}$ bankfull width
- bankfull $\bar{x}$ depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio

Legacy Tree:

Stream Drawing:

Floodplain Analysis & Regulatory Assessment (FARA)

Indiana Department of Natural Resources



Point of Interest

Base Flood Elevation Point

Flood Elevation Points

STUDIED STREAM

Rivers and Streams at least 1 square mile

Drainage Area (sq. miles)

100 - 500

FEMA Zone AE Floodway; FEMA Administrative Floodway

FEMA Zone AE

Additional Floodplain Area; DNR .2 Percent Flood Hazard

Point of Interest Coordinates (WGS84)

Long: **-87.3698043328**

Lat: **39.529772167**

The information provided below is based on the point of interest shown in the map above.

County: **Vigo**

Stream Name: **Otter Creek**

Approximate Ground Elevation: **472.0 feet (NAVD88)**

Base Flood Elevation: **486.1 feet (NAVD88)**

Drainage Area: **Not available**

Best Available Flood Hazard Zone: **FEMA Zone AE Floodway**

National Flood Hazard Zone: **FEMA Zone AE Floodway**

Is a Flood Control Act permit from the DNR needed for this location? **yes**

Is a local floodplain permit needed for this location? **yes-**

Floodplain Administrator: **Sydney Shahar, Assistant Director of Vigo County Area Planning**

Community Jurisdiction: **Vigo County, County proper**

Phone: **(812) 462-3354**

Email: **sydney.shahar@vigocounty.in.gov**

US Army Corps of Engineers District: **Louisville**

Date Generated: 5/1/2023

APPENDIX G:
Public Involvement

HWC ENGINEERING

Confidence in the built environment.

135 N. Pennsylvania, Suite 2800
Indianapolis, Indiana 46204

www.hwcengineering.com

November 17, 2021

Sample

NOTICE OF SURVEY

RE: Clinton Road – Park Avenue to Hasselburger Avenue

Dear Property Owner:

Our firm has been retained by Vigo County to prepare a survey for reconstruction of Clinton Road in your area. The project involves rehabilitation of roadway and drainage structures along Clinton Road between Park Avenue and Hasselburger Avenue. Our information indicates that you own or occupy property near the proposed project. Our employees and/or subcontractors will be performing a survey of the project area in the near future. It may be necessary for them to come onto your property to complete this work. This is permitted by law per Indiana Code IC 25-21.5-9-7. They will show you their identification, if you are available, before coming onto your property. If you have sold this property, or it is occupied by someone else, please let us know the name and address of the new owner or current occupant so we can contact them about the survey.

At this stage, we generally do not know what effect, if any, the project can eventually have on your property. If it is determined later that your property is involved, you will be contacted with additional information.

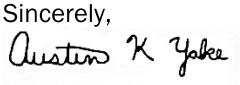
The survey work will include mapping the location of features such as trees, buildings, utilities, landscaping, sidewalks, fences and drives, and obtaining ground elevations. The survey work may also include the identification and mapping of wetlands, archaeological investigations (which may include excavation of small shovel test probes), geotechnical (soil borings), and various other environmental studies. The survey is needed for the proper planning and design of this project. Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey.

If you have any questions or concerns regarding our proposed survey work or schedule, please contact one of the following listed below. This contact information is as follows:

General Questions:
Dave Noble
Asst. Project Engineer
HWC Engineering, Inc.
Terre Haute, IN
(812) 514-5007

Survey Questions:
Austin Yake, PS
Survey Project Manager
HWC Engineering, Inc.
Indianapolis, IN
(812) 787-0969

Sincerely,



Austin K. Yake, PS
Survey Project Manager
HWC Engineering, Inc.
(812) 787-0969
ayake@hwcengineering.com

APPENDIX H:
Air Quality

Federal Transit Administration
Region V
200 West Adams St., Suite 320
Chicago, IL 60606-5253

U.S. Department of Transportation

Federal Highway Administration
Indiana Division
575 N. Pennsylvania St., Rm 254
Indianapolis, IN 46204-1576

September 1, 2023

Mr. Michael Smith
Commissioner
Indiana Department of Transportation
100 N Senate Ave. N955
Indianapolis, IN 46204

SUBJECT: Indiana FY2024-2028 STIP Approval and Associated Federal Planning Finding

Dear Mr. Smith:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed our review of the FY2024-2028 Indiana Statewide Transportation Improvement Program (INSTIP), which was submitted by the Indiana Department of Transportation (INDOT) request letter dated August 23, 2023.

Based on our review of the information provided, certifications of the Statewide and Metropolitan transportation planning processes for and within the state of Indiana, and our participation in those transportation planning processes (including planning certification reviews conducted in Transportation Management Areas), FHWA and FTA are jointly approving the FY2024-2028 STIP, including the Metropolitan Planning Organization (MPO) Transportation Improvement Programs (TIPs) incorporated into the STIP by reference, subject to the corrective actions identified in the attached Federal Planning Finding (FPF) report. FHWA and FTA consider the projects in the 5th year for informational purposes only, and our approval does not exceed four years per 23 CFR 450.220(c).

FHWA and FTA are required under 23 CFR 450.220(b) to document and issue an FPF in conjunction with the approval of the FY2024-2028 STIP. At a minimum, the FPF verifies that the development of the STIP is consistent with the provisions of both the Statewide and Metropolitan transportation planning requirements. FHWA and FTA find that the Indiana FY2024-2028 STIP substantially meets the transportation planning requirements and are approving the STIP subject to the corrective actions outlined in the FPF. This approval is effective September 1, 2023 and is given with the understanding that an eligibility determination of individual projects for funding must be met, and INDOT must ensure the satisfaction of all administrative and statutory requirements, as well as address the corrective actions outlined in the attached report.

If you have questions or need additional information concerning our approval and the FPF, please contact Ms. Erica Tait of the FHWA Indiana Division at (317) 226-7481, or by email at erica.tait@dot.gov, or Mr. Tony Greep of the FTA Region 5 Office at (312) 353-1646, or by email at anthony.greep@dot.gov.

Sincerely,

KELLEY BROOKINS
Digitally signed by KELLEY BROOKINS
Date: 2023.08.31 17:33:15 -05'00'

Kelley Brookins
Regional Administrator
FTA Region V

Sincerely,

JERMAINE R HANNON
Digitally signed by JERMAINE R HANNON
Date: 2023.09.01 11:46:31 -04'00'

Jermaine R. Hannon
Division Administrator
FHWA Indiana Division

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758-Executive Office
Indianapolis, Indiana 46204

PHONE: (855) 463-6848

Eric Holcomb, Governor
Michael Smith, Commissioner

August 28, 2023

Steve Witt, President
Terre Haute Area Metropolitan Planning Organization
900 Wabash Avenue, Suite 202
Terre Haute, IN 47807

Fiscal Year 2024 – 2028 Transportation Improvement Program (TIP) Approval

Dear Mr. Steve Witt:

The Indiana Department of Transportation (INDOT) has completed its review of the FY 2024 – 2028 Transportation Improvement Program for the Terre Haute Area Metropolitan Planning Organization (THAMPO). State and locally initiated transportation projects were reviewed for accuracy and compliance under The Infrastructure Investment and Jobs Act (IIJA), Public Law 117-58.

It is my pleasure to inform you that on behalf of Governor Eric Holcomb, I reaffirm the approval of your FY 2024-2028 Transportation Improvement Program. This document will serve as support for the local and INDOT projects in your area that fall within the FY 2024-2028 timeline and will be included by reference in the FY 2024-2028 Indiana Statewide Improvement Program (STIP).

If you should have any questions, please feel free to contact Roy Nunnally at 317-234-1692.

Sincerely,

Michael Smith, Commissioner
Indiana Department of Transportation

cc: Lyndsay Quist
Louis Feagans
Debbie Calder
Bill Smith
Roy Nunnally
Erica Tait
Patrick Carpenter

File

Vigo County Project Listing

Contract	DES	Route	Work Category	Work Type	Location	AQ Exempt	Sponsor	Fund	Phase	Federal	Match	2024	2025	2026	2027	2028	Total Project Cost (Estimate)
40165	1700437	IR 1038	Local Bridge Project	Bridge Replacement, Other Construction	Bridge #37 Farmerburg Street	Approved 8-21-23	Vigo County		PE								$ 1,175,000.00
									RW								
								STBG	CN		$ 375,000.00	$ 375,000.00					
									CE								
40167	1700439	ST 1039	Local Bridge Project	Bridge Replacement, Other Construction	Bridge #77 French Drive 0.5 miles east of SR 63	Approved 8-21-23	Vigo County		PE								$ 2,100,000.00
									RW								
								STBG	CN		$1,500,000.00				$ 1,500,000.00		
									CE		$ 300,000.00				$ 300,000.00		
40168	1700440	ST 1035	Local Bridge Project	Replace Superstrucute	Bridge 330b Hulman Street 0.5 miles west of Fruitridge	Approved 8-21-23	Vigo County		PE								$ 1,455,000.00
									RW								
								STBG	CN		$ 905,619.00	$ 905,619.00					
									CE								
42521	1901781	ST 1044	Local Road Project	Road Rehabilitation (3R/4R Standards)	Clinton Rd. from Park Ave to Hasselburger	Approved 8-21-23	Vigo County		PE								$ 5,594,000.00
									RW								
								STBG	CN	$ 3,705,600.00	$ 926,400.00			$ 4,632,000.00			
								STBG	CE	$ 769,600.00	$ 192,400.00			$ 962,000.00			
	1902071	IR 1001	Local Bridge Inspection	Bridge Inspection	Countywide (Vigo)	Approved 8-21-23	Vigo County	STBG	PE	$ 228,000.00	$ 57,000.00	$ 265,000.00	$ 20,000.00				$ 285,000.00
									RW								
									CN								
									CE								
	2200082	ST 1046	Railroad Grade Crossing Project	Railroad Protection	DOT# 3422981 Cotton Dr.	Approved 8-21-23	Vigo County		PE								$ 550,000.00
									RW								
								LSP - 130	CN	$ 550,000.00	$ -			$ 550,000.00			
									CE								

Town of West Terre Haute Project Listing

Contract	DES	Route	Work Category	Work Type	Location	AQ Exempt	Sponsor	Fund	Phase	Federal	Match	2024	2025	2026	2027	2028	Total Project Cost (Estimate)
	There are currently no projects programmed in the Town of West Terre Haute																

THRIVE West Central Rural and Senior Transportation

Contract	DES	Route	Work Category	Work Type	Location	AQ Exempt	Sponsor	Fund	Phase	Federal	Match	2024	2025	2026	2027	2028	Total Project Cost (Estimate)	Letting Date
			Public Transportation	Rural & Senior Operating	Non-urbanized Vigo County	Approved 8-21-2023	WCIEDD	5311		$ 175,000.00	$ 175,000.00	$ 350,000.00						
								5311		$ 175,000.00	$ 175,000.00		$ 350,000.00					
								5311		$ 175,000.00	$ 175,000.00			$ 350,000.00				
								5311		$ 175,000.00	$ 175,000.00				$ 350,000.00		$ 1,400,000.00	
			Public Transportation	Preventative Maintenance	Non-urbanized Vigo County	Approved 8-21-2023	WCIEDD	5311		$ 50,000.00	$ 12,500.00	$ 62,500.00						
								5311		$ 50,000.00	$ 12,500.00		$ 62,500.00					
								5311		$ 50,000.00	$ 12,500.00			$ 62,500.00				
								5311		$ 50,000.00	$ 12,500.00				$ 62,500.00		$ 250,000.00	

APPENDIX I:
Additional Studies

Excerpt

ENGINEERING ASSESSMENT REPORT

N. CLINTON STREET REVITALIZATION PROJECT

PARK AVENUE TO BUDD ROAD

VIGO COUNTY, IN

MARCH 26TH, 2021

Prepared For:
Larry Robbins, PE, Vigo County Engineer
127 Oak Street
Terre Haute, IN 47807

Design Engineers:
Wyatt A. Huber, EI
Greg R. Wendling, PE

USI Consultants, Inc.
8415 E. 56th Street, Suite A
Indianapolis, IN 46215

ENGINEERING ASSESSMENT REPORT

ROADWAY PROJECT:
N. Clinton Street Revitalization Project
Park Avenue to Budd Road

Prepared For:
Larry Robbins, PE
Vigo County Engineer

Design Engineers:
Wyatt Huber, EI
Greg Wendling, PE

USI Consultants, Inc.

March 26th, 2021

Purpose of Report >>

The purpose of this report is to document the analysis and evaluation of multiple alternates performed during the engineering assessment phase of project development, including all coordination that has been completed in preparation for this roadway corridor expansion project. This document outlines the evaluated typical sections, alignments, and associated site characteristics for use by Vigo County and their County Engineer in project planning and development.

Project Location >>

This project involves the evaluation of the N. Clinton Street corridor in Vigo County, Indiana, from Park Avenue to Budd Road. The project is approximately 2.8 miles in length, and GPS coordinates are 39°31'40.3" N, 87°22'13.2" W for the start of the project and 39°34'04.4" N, 87°22'12.8" W for the end of the project. A detailed project location map is available for reference in Appendix "A".

Project Purpose and Need >>

The primary purpose of this Engineering Assessment Report is to identify and evaluate alternates for the N. Clinton Street corridor between Park Avenue and Budd Road that will improve safety for all users of the corridor. The need for this project was first identified during a study prepared for by Vigo County in partnership with Indiana's Local Technical Assistance Program (LTAP), analyzing the county-wide crash data for Vigo County from 2014 to 2018. Through that study, the N. Clinton Street corridor was identified as a safety concern due to the large number of crashes recorded throughout the corridor, with the most predominant crash type being rear-end collisions. Additionally, the County wishes to evaluate alternates that also improve the safety and connectivity for pedestrians along the corridor.

Existing Facility >>

The existing corridor of N. Clinton Street consists of a two-lane roadway, with 12-foot travel lanes and paved shoulder sections ranging from 3 to 10 feet in width. Below is a general summary of the existing corridor:

TABLE 1: Roadway Characteristics

	N. Clinton Street
Functional Classification	Urban Principal Arterial
Posted Speed	40 MPH
Member Road Systems	3R Network
	NOT On National Highway System
	NOT On National Truck Network

The project corridor is bordered primarily by residential properties, including multiple intersections with entrances into subdivisions. The Roselawn Cemetery is located adjacent to the northern portion of the project corridor, and field investigations revealed cemetery signs for two additional cemeteries indicating that they may be located within the project limits as well. Additionally, Sky King Airport is located adjacent to the project corridor at Sky King Road and E. Rosehill Avenue.

Drainage within the project area is generally maintained through sheet flow from the roadway, which ponds along the side of the roadway or in dry wells and infiltrates into the soil. Minimal to no ditching exists within the project corridor.

Traffic Data and Analysis

In June 2020, USI placed traffic counters on N. Clinton Street approximately 500 feet south of Hasselburger Avenue and on Hasselburger Avenue, approximately 500 feet west of N. Clinton Street. Traffic data was collected using an Armadillo Tracker Traffic Collector Radar Device, manufactured by Houston Radar. The results are summarized in Table 2 below:

TABLE 2: N. Clinton Street & Hasselburger Avenue Traffic Data							
N. Clinton Street							
Study Year:	2020	AADT:	9958	% Trucks	4.3%	85th %-tile Speed	47 MPH
Design Year	2044		12644				
Hasselburger Avenue							
Study Year:	2020	AADT:	1776	% Trucks	3.2%	85th %-tile Speed	43 MPH
Design Year:	2044		2255				

*Growth factor of 1.00% applied to forecast AADT to design year

A summary of the traffic data analysis performed on N. Clinton Street and Hasselburger Avenue is available in Appendix "B".

Corridor Crash Data and Analysis

As noted above, this study was initiated due to the results of the County-wide crash analysis LTAP performed utilizing data from 2014 – 2018. Visual displays of this analysis, including a County-wide heat map of all analyzed crashes, have been included in Appendix "C" for reference. Review of this map quickly identifies several corridors within the County with a high frequency of crashes (shown as red areas), including the N. Clinton Street corridor. Further analysis was then performed by USI personnel to identify the crashes specific to this corridor to determine what improvement measures could be put in place to improve the safety of the corridor.

The crash data analyzed within this study was provided by Vigo County, originally gathered from Indiana's Automated Reporting Information Exchange System (ARIES), a database maintained by the Indiana State Police encompassing all crash reports for the State of Indiana. From this data, a total of 66 recorded crashes were identified within the project limits of the N. Clinton Street corridor. A Crash Analysis Display showing these recorded crashes across the corridor is available for review in Appendix "C".

Most crashes throughout the corridor were found to have occurred at intersections. To evaluate the performance (or underperformance) of each of these intersections, a RoadHAT analysis was performed following INDOT design guidance to determine an average Index of Crash Frequency (I_{CF}) and an average Index of Crash Cost (I_{CC}). A total of 14 intersections were analyzed, and the following assumptions were made when performing each RoadHAT analysis:

- AADT data for intersections was collected from the INDOT Traffic Count Database System (TCDS) when available
- For streets leading into residential subdivisions where no data was available, an AADT of 300 was assumed
- For other local streets, an AADT of 500 was assumed

The following tables summarize the number and types of crashes, as well as the average RoadHAT results.

N. Clinton Street – Overall Corridor:

TABLE 3: Corridor Crash History			
I_{CC} (avg.)	1.19	Number of Crashes	66
I_{CF} (avg.)	0.44	Number of Fatal and Incapacitating Crashes	0
First Year of Crash Data	2014	Number of Non-Incapacitating Crashes	12
Last Year of Crash Data	2018	Number of Property Damage Only Crashes	54

The RoadHAT 3.0 analysis resulted in an average Index of Crash Frequency (I_{CF}) of 0.44 and an average Index of Crash Cost (I_{CC}) of 1.19. The positive values provided by these results indicate that the intersections throughout the corridor are performing, on average, worse than would be expected when compared to other similar intersections across the State of Indiana. These values correlate to a standard deviation and would indicate that the N. Clinton Street corridor is performing within the 67th percentile for Crash Frequency, and within the 88th percentile for Crash Cost.

TABLE 4: Crash Patterns: Manner of Collision		
Manner of Collision	***Number***	***Percent***
Backing Crash	2 (0)	3.03%
Collision with Animal (Including Deer)	5 (0)	7.58%
Collision with Object in Road	1 (0)	1.52%
Head on Between Motor Vehicles	7 (3)	10.61%
Left Turn, Right Turn, or Angle	8 (1)	12.12%
Opposite Direction Sideswipe	0 (0)	0.00%
Ran Off Road	12 (0)	18.18%
Rear End	26 (6)	39.39%
Same Direction Sideswipe	3 (1)	4.55%
Other	2 (1)	3.03%
Total	66 (12)	100.00%

X (Y): X = Number of Crashes, Y = Number Resulting in Injury/Fatality

Table 4 provides a breakdown of the identified crashes by type, or manner of collision. As shown, rear end crashes are predominant throughout the corridor, accounting for nearly 40% of the overall recorded crashes. Additionally, these recorded crashes account for half of all identified crashes resulting in injury. These results support the earlier assumptions that many of the collisions throughout the corridor are due to rear ends, and this report has focused alternates to address this crash type.

The second most predominant crash type identified was off-road crashes, accounting for approximately 18% of the overall recorded crashes. Further review of these crashes showed that half of the identified off-road crashes occurred under poor roadway surface conditions, resulting from ice, snow/slush, or wet pavement. Due to these results, it was determined that the proposed alternates should focus on providing sufficient shoulder for vehicles to recover.

While performing the crash analysis, the following intersections of Park Avenue and Hasselburger Avenue were identified to have a significant number of crashes within the study period. The

following tables summarize the number and types of crashes, as well as the RoadHAT results, for these specific intersections.

Park Avenue:

TABLE 5: Crash History – Park Avenue			
I_{CC}	1.13	Number of Crashes	11
I_{CF}	2.61	Number of Fatal and Incapacitating Crashes	0
First Year of Crash Data	2014	Number of Non-Incapacitating Crashes	1
Last Year of Crash Data	2018	Number of Property Damage Only Crashes	10

This intersection is located at the beginning of the project study area. The existing intersection is currently signalized, with opposing dedicated left turn lanes on both Park Avenue and N. Clinton Street. This intersection is one of the more highly-traveled intersections along the N. Clinton Street corridor, with an estimated AADT of 1,884 vehicles along Park Avenue.

The RoadHAT 3.0 analysis resulted in an Index of Crash Frequency (I_{CF}) of 2.61 and an Index of Crash Cost (I_{CC}) of 1.13. These values would indicate that the intersection is performing significantly worse than anticipated as the crash frequency for the Park Avenue/N. Clinton Street intersection is greater than 99.55% of similar intersections, and the intersection scored greater than 87.08% of similar intersections for crash cost.

TABLE 6: Crash Patterns: Manner of Collision – Park Avenue		
Manner of Collision	***Number***	***Percent***
Backing Crash	0 (0)	0.00%
Collision with Animal (Including Deer)	0 (0)	0.00%
Collision with Object in Road	0 (0)	0.00%
Head on Between Motor Vehicles	1 (1)	9.09%
Left Turn, Right Turn, or Angle	3 (0)	27.27%
Opposite Direction Sideswipe	0 (0)	0.00%
Ran Off Road	1 (0)	9.09%
Rear End	6 (0)	54.55%
Same Direction Sideswipe	0 (0)	0.00%
Other	0 (0)	0.00%
Total	11 (1)	100.00%

X (Y): X = Number of Crashes, Y = Number Resulting in Injury/Fatality

The predominant crash type at the intersection of Park Avenue and N. Clinton Street was rear end crashes, accounting for approximately 55% of the recorded crashes. The second most prominent crash type resulted from either left turns, right turns, or angle collisions from vehicles turning through the intersection. As the existing intersection of Park Avenue and N. Clinton Street is signalized, these collisions can likely be attributed to drivers failing to yield to the Right-of-Way of others.

Although improvements at this intersection were not evaluated as part of the scope of this report, it is recommended that the designer further analyze this intersection during later project stages for potential improvements that can be implemented to improve safety and performance.

Hasselburger Avenue:

TABLE 7: Crash History – Hasselburger Avenue			
I_{CC}	1.58	Number of Crashes	8
I_{CF}	2.07	Number of Fatal and Incapacitating Crashes	0
First Year of Crash Data	2014	Number of Non-Incapacitating Crashes	4
Last Year of Crash Data	2018	Number of Property Damage Only Crashes	4

This intersection is located approximately one mile north of the Park Avenue and N. Clinton Street intersection. The existing intersection is two-way stop-controlled, with stop conditions on Hasselburger Avenue. This intersection is also a highly-traveled intersection along the N. Clinton Street corridor, with an AADT of 1,776 vehicles along Hasselburger Avenue.

The RoadHAT 3.0 analysis of Hasselburger Avenue resulted in an Index of Crash Frequency (I_{CF}) of 2.07 and an Index of Crash Cost (I_{CC}) of 1.58. These values would indicate that the intersection is performing significantly worse than anticipated as the crash frequency for the Hasselburger Avenue/N. Clinton Street intersection is greater than 98.08% of similar intersections, and the intersection scored greater than 94.30% of similar intersections for crash cost.

TABLE 8: Crash Patterns: Manner of Collision – Hasselburger Avenue		
Manner of Collision	***Number***	***Percent***
Backing Crash	0 (0)	0.00%
Collision with Animal (Including Deer)	0 (0)	0.00%
Collision with Object in Road	0 (0)	0.00%
Head on Between Motor Vehicles	1 (0)	12.50%
Left Turn, Right Turn, or Angle	3 (1)	37.50%
Opposite Direction Sideswipe	0 (0)	0.00%
Ran Off Road	1 (0)	12.50%
Rear End	1 (1)	12.50%
Same Direction Sideswipe	1 (1)	12.50%
Other	1 (0)	12.50%
Total	8 (3)	100.00%

X (Y): X = Number of Crashes, Y = Number Resulting in Injury/Fatality

The predominant crash type at the intersection of Hasselburger Avenue and N. Clinton Street was a combination of left turn, right turn, and angle collisions from vehicles turning through the intersection, comprising approximately 38% of recorded crashes. These crashes are likely attributed to vehicles trying to turn across high volumes of through traffic along N. Clinton Street. Due to the severity of the RoadHAT analysis and the recorded crashes, this report has evaluated intersection improvements at Hasselburger Avenue and N. Clinton Street to mitigate further crashes.

The output reports from the RoadHAT 3.0 analyses, as well as additional tables of crash statistics for N. Clinton Street, Park Avenue, and Hasselburger Avenue are available for reference in Appendix “C”.

Intersection Analysis – Hasselburger Avenue and N. Clinton Street

Due to the severity of the results summarized above, the existing intersection of Hasselburger Avenue and N. Clinton Street was evaluated to determine the existing Level of Service (LOS) and if an improvement such as a traffic signal was warranted and could improve conditions. As part of the evaluation, twelve hours of turning movement data was collected at the Hasselburger Avenue/N. Clinton Street intersection on June 8th, 2020 to determine peak hour turn volumes. The AM and PM peak hour turn volumes are summarized in Table 9 below:

TABLE 9: Hasselburger Ave/N. Clinton St Peak Turn Movements - 2020													
Collected Data Date: 6/8/2020	***EB Hasselburger***			***WB Hasselburger***			***NB Clinton Street***			***SB Clinton Street***			***Total***
Hour	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	-
11:00 am – 12:00 pm	25	11	17	8	5	3	12	253	11	7	270	36	658
4:30 pm – 5:30 pm	63	19	23	11	3	7	22	484	17	11	316	23	999

As shown, there are a moderate amount of turning movements from Eastbound Hasselburger Avenue onto N. Clinton Street, which has a significantly higher amount of through traffic. This further supports the results from the crash analysis above, which identified left turns, right turns, or angle crashes as the predominant crash type at this intersection.

The existing intersection was modeled in the Synchro (Version 10.0) software package to evaluate the anticipated Level of Service (LOS) of the existing intersection during the design year of 2044, assuming no improvements were made. To do this, the collected data above was first forecasted at an assumed 1% growth rate to the design year of 2044. This information is further summarized in Table 10 below:

TABLE 10: Hasselburger Ave/N. Clinton St Peak Turn Movements - 2044													
Forecasted Data	***EB Hasselburger***			***WB Hasselburger***			***NB Clinton Street***			***SB Clinton Street***			***Total***
Hour	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	-
11:00 am – 12:00 pm	32	15	23	11	7	4	16	320	15	11	342	47	843
4:30 pm – 5:30 pm	80	25	30	15	5	10	28	610	22	15	399	30	1269

This forecasted turn volume data was then entered into Synchro, and the results of this analysis are summarized in Table 11 below:

TABLE 11: Existing Intersection Level of Service				
Intersection		***2044 PM Peak Hour****		
		Delay (s)	Queue (veh)	LOS
Hasselburger Avenue at N. Clinton Street	NB	0.3	0.1	A
	SB	0.3	0	A
	EB	28.8	2.1	D
	WB	20.2	0.3	C
*PM Peak Hour is Greater than AM Peak. Only PM Peak was Modeled.				

The existing LOS values were determined by referencing the Highway Capacity Manual LOS criteria for unsignalized intersections. As shown in the table above, the analysis resulted in a LOS D for the eastbound approach (Hasselburger Avenue), and a LOS C for the westbound approach (E. 63rd Street).

To evaluate possible improvements for the Hasselburger Avenue/N. Clinton Street intersection, a traffic signal warrant study was performed per guidance provided in the Indiana Manual of Uniform Traffic Control Devices (IMUTCD). There are nine warrants outlined in the IMUTCD that if met, warrant the installation of a traffic signal. These warrants are summarized below:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak-Hour Vehicular Volume
- Warrant 4: Pedestrian Volume
- Warrant 5: School Crossings
- Warrant 6: Coordinated Signal System
- Warrant 7: Crash Experience
- Warrant 8: Roadway Network
- Warrant 9: Intersection Near Grade Crossing

The intersection was initially evaluated at the posted speed limit of 40 MPH, with N. Clinton Street as the major street, and Hasselburger Avenue as the minor street. Under this configuration, none of the nine warrants were met per IMUTCD guidance and a traffic signal would not be warranted by engineering study. The evaluation of these warrants is summarized in Appendix “D”.

However, using the traffic data collected, USI performed a speed analysis and calculated the 85th-percentile travel speeds of vehicles for both N. Clinton Street and Hasselburger Avenue to be 47 MPH and 43 MPH, respectively. The 85th-percentile travel speed is an important indicator and is a major factor in determining what the posted speed limit for a roadway corridor should be based on engineering principles. The 85th-percentile travel speeds calculated during traffic data analysis would support a posted speed limit of 45 MPH through both corridors and influences the traffic signal warrants of the intersection.

When performing a traffic signal warrant analysis using an assumed speed limit of 45 MPH, it was determined that the intersection of Hasselburger Avenue and N. Clinton Street met three of the nine warrants, identified below:

- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak-Hour Vehicular Volume
- Warrant 7: Crash Experience

The evaluation of these warrants for the 45 MPH design speed is summarized in Appendix “E”. While this report does not make the recommendation to change the posted speed limit along the N. Clinton Street corridor, it was determined that the calculated 85th-percentile traffic speed warranted evaluation at the higher design speed. Since the addition of a traffic signal was proven

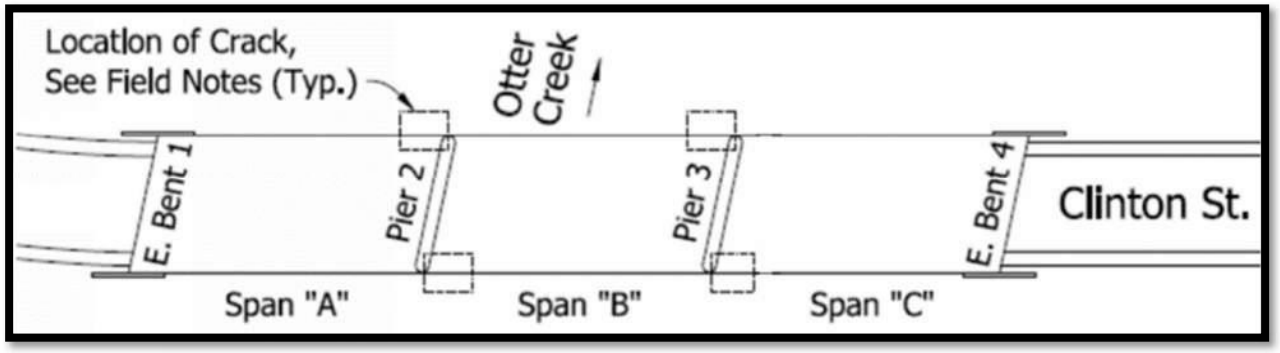
to improve the Level of Service of the intersection through the reduction of queue length and vehicle delay, the alternates summarized within this report were tailored to include traffic signal improvements at Hasselburger Avenue and N. Clinton Street.

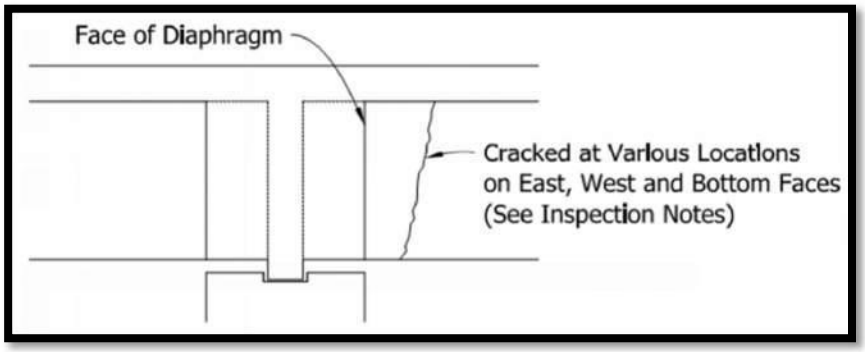
County Bridge No. 242 – Clinton Street over Otter Creek

Located at the south end of the project study area is County Bridge No. 242, which carries N. Clinton Street over Otter Creek. The bridge is a three-span, continuous, composite, prestressed concrete box beam bridge approximately 156 feet in length and at an 18° skew. Per the latest bridge inspection report (completed on July 22nd, 2019), the existing bridge had the following condition ratings:

TABLE 12: Bridge No. 242 Condition Ratings			
Deck	6 – Satisfactory	Substructure	7 – Good
Wearing Surface	7 – Good	Channel	6 – Satisfactory
Superstructure	5 – Fair	Culverts	N – Not Applicable

The bridge was constructed in 1993 with no record of reconstruction or repair. Initial review by USI's Bridge Design and Inspection teams identified some concerns with the bridge condition rating, specifically regarding the superstructure. Diagonal cracks have been recorded in multiple beams near the piers beginning back in 2013, which would trigger the "Special" inspections that would follow. The latest special inspection report recording 4 prestressed concrete beams with cracks, all of which were exterior beams with cracking close to their supports at Piers 2 and 3. This type of cracking can be a serious concern due to their location in high shear areas, which could potentially lead to sudden, brittle failure if not addressed. Below are two exhibits from the 2017 Special Inspection Report further detailing these cracks:





An additional item of note is this structure's Scour Critical rating of "4 – Action is required to protect exposed foundations". This classification is based on a scour analysis which determined that the theoretical depth of scour extends below the pier footing foundations and could introduce potential undermining during large flood events.

As part of the development of this report, USI's bridge design department performed a cursory structural analysis of the existing bridge through coordination with Clark Deitz, Inc. (CDI), who performed the latest inspection and load rating of the structure. CDI utilized non-destructive testing measures to analyze the existing bridge and determined that the existing bridge had sufficient strength for its anticipated loads. However, the continued development of cracks in prestressed concrete beams, especially in regions of high shear forces, is of concern. There are several possible factors that may have contributed to the crack development, including insufficient shear stirrups, insufficient concrete compressive strength, excess debonding of prestressing strands, positive restraint moment induced by long-term beam creep, shrinkage, relaxation, and overweight vehicle passage across the bridge.

While further testing and in-depth analysis will be necessary to fully evaluate the condition of the existing bridge and quantify the extent of the deficiencies, several alternate solutions were evaluated and have been presented within this report for reference by Vigo County. These alternates are summarized below:

Epoxy Injection

One strategy would be to utilize epoxy injection to seal the cracks and prevent the intrusion of chlorides into the beams. This measure would extend the service life of each beam by approximately 15 years but would not necessarily guarantee that additional cracks would not form or that the existing cracks would not expand. Estimated costs for this type of treatment would be $12,500.

Beam End Encasement

Another strategy would be to utilize a fiberwrap or Ultra High-Performance Concrete (UHPC) collar to provide a barrier for the embedded reinforcement and mitigate future crack development or propagation. This method would extend the service life of each beam by approximately 25 years and has been utilized by many Departments of Transportation. However, this method does introduce additional concerns. Use of either material does not guarantee that cracks will not continue to develop, and furthermore these encasements would prevent further observation and inspection of the cracks.

Repairs required to utilize beam end encasement would be more destructive than epoxy injection, requiring portions of the existing deck to be removed so that the wrap or encasement could be cast fully around the beam. With these other incidental repair items required by this method, these costs are estimated at $305,000.

Superstructure Replacement

The final strategy evaluated as part of this report is a full superstructure replacement of the bridge. This solution would provide a new superstructure, eliminating any pre-existing structural and durability concerns. Constructability aspects would have to be carefully vetted during the design due to the conflux of utilities along the corridor, both overhead and underground. Steel beams could be considered due to their relatively lighter weight compared to concrete, as well as small equipment necessary for beam placement. A new superstructure would provide the longest expected service life of the strategies detailed above, estimated at 75 years. However, this is also the costliest option, with preliminary construction costs estimated at $1,280,000 with a 20% contingency applied.

Recommendation

The observed cracks in the existing superstructure should be addressed with one of the aforementioned possible strategies. Due to the extended service life of a new superstructure and the concern regarding the structural integrity of the existing beams, it was recommended by USI's Bridge Design Department that each alternative detailed within this report consider the replacement of the bridge superstructure. Additionally, regardless of what strategy is selected to address the cracking, scour countermeasures should be installed to eliminate further concern of undermining.

A copy of the bridge inspection report, as well as preliminary cost estimates for each strategy, have been included in Appendix "F" for reference.

Existing Right-of-Way

The primary basis for the existing Right-of-Way of the N. Clinton Street corridor comes from a 1923 State Highway project; Federal Aid Project No. 76, Terre Haute – Lyford Road dated 1923. This roadway was originally constructed as State Road 10 and later converted to US Highway 41. The Right-of-Way plans call out a 50-foot (25-foot half) Right-of-Way for the corridor. The Right-of-Way for this section of US 41 was abandoned by INDOT on December 21, 1967 and turned over to the local government.

West Side of Corridor

A preliminary records request was submitted to INDOT and produced Right-of-Way grants for the west half of the corridor only. Copies of the grants provided by INDOT show untimely recordings. However, physical evidence is established that supports holding a portion of these grants from the existing Right-of-Way shown on the FA Project No. 76 plans. The alternates presented within this report use a Right-of-Way of 25-feet for the west side of the N. Clinton Street corridor.

East Side of Corridor

While no grants were found for the east side, further investigation indicates the presence of an abandoned interurban rail line, once belonging to the Terre Haute Traction and Light Company. This line ran adjacent and parallel to the east side of the original SR 10 alignment. A site visit indicated numerous Right-of-Way markers placed at 45 feet from the center line. An initial check of the last deeds of record for the owners on the east side of the corridor show references to this 45-foot line – either by their descriptions calling out and referencing this 45-foot starting point or explicitly excepting these areas from the legal descriptions. Since physical evidence exists, the alternates presented within this report assumes a Right-of-Way of 45-feet for the east side of the N. Clinton Street corridor.

Existing Utilities

Utility companies listed on the Indiana 811 design ticket were provided initial notice of this engineering assessment on January 29th, 2020. As of this report, each utility company has responded to the request for information regarding the project. Below is a summary of the various utility facilities identified within the project study area and their responses at the time of this report.

Duke Energy (Distribution)

Duke Energy maintains overhead 12 kv electric facilities throughout the project area along the east side of N. Clinton Street within the apparent existing Right-of-Way. Duke's poles are wooden with several communication underbuilds throughout the corridor.

Overhead distribution lines cross N. Clinton Street in several locations and split at each intersecting road. The existing poles are located approximately 20 feet from the edge of the existing roadway. Duke has periodic poles along the west side of the roadway, but many of them are further offset from the existing roadway with the exception of twelve poles located from E. Candy Ave. to the southern terminus of the project at Park Ave.

Easement information has not been provided by Duke Energy. From field investigations, it appears that Duke Energy is located within the apparent existing Right-of-Way. Relocations may not be eligible for reimbursement but should be avoided during the design. All of the alternates considered as part of this study have been developed to avoid relocation of Duke facilities.

Duke Energy designated contact: Quentin Knight (dei-dline-coord@duke-energy.com).

Duke Transmission

Duke Energy maintains 345kv high transmission towers crossing N. Clinton Street at the river. No impacts are anticipated to Duke Energy Transmission.

Duke Energy designated contact: Dwayne Wright (DEI-Tline-Coord@duke-energy.com).

CenterPoint Energy – Formerly Vectren - (Distribution)

CenterPoint Energy Distribution maintains a 4-inch Steel Gas Main on the west side of N. Clinton Street throughout the project area. The 4-inch main has lateral crossings at intersecting roads and service lines to homes along N. Clinton Street. Additionally, CenterPoint Energy has service valve locations at the intersections with Hasselburger and Terrace Avenue. The Terrace Avenue station may be avoided, but the Hasselburger service point may be affected by the proposed intersection improvement.

Easement information has not been provided by CenterPoint Energy. While it appears CenterPoint Energy may be located within the apparent existing Right-of-Way, regulator stations and other above ground appurtenances may be located on an easement. If easements are confirmed, relocations within those easements may be eligible for reimbursement. Subsurface Utility Engineering should be utilized to determine exact location of the facilities to aid in avoiding conflicts during the design. For the purpose of this report, it was assumed that any impacts to these facilities would be reimbursable and relocation costs were estimated at $500,000 based on past project experience.

CenterPoint Energy Distribution designated contact:
Steven Neal steven.neal@centerpointenergy.com.

CenterPoint Energy (Transmission)

CenterPoint Energy Transmission responded on February 28th, 2020 and stated that they have no facilities in the area.

Buckeye Pipelines

Buckeye maintains an existing liquid fuel pipeline crossing N. Clinton Street approximately 500 feet north of Rosehill Avenue. Buckeye's facilities are located in an easement and any relocation costs will be eligible for reimbursement. Buckeye's facilities were confirmed to be an 8-inch pipeline transporting nitrogen. Further coordination during the design process will be necessary to ensure all proposed aspects of design, including any proposed drainage improvements or unique construction approaches, meet the requirements and standards of Buckeye Pipeline. If impacts are found to be unavoidable, relocation costs are estimated between $500,000 - $1,000,000. As the N. Clinton Street corridor currently crosses the pipeline, we believe all of the alternates considered as a part of this study can be designed and constructed without the need to relocate their facilities.

Buckeye designated contact: Traci McClernon (tmcclernon@buckeye.com).

JOINK LLC

JOINK maintains fiber optic facilities at the north and south termini of the project area, but have no facilities currently throughout the main corridor. JOINK is expanding fiber optic service rapidly through the area and anticipates facility expansion into the project area in the near future. Further coordination with JOINK will be required during project development.

JOINK LLC designated contact Tim McCombs (timothy.mccombs@joinkllc.com).

NewWave Communications

NewWave maintains both aerial and underground coaxial and fiber optic cables throughout the project area. From field investigation NewWave facilities appear to be located within the apparent existing Right-of-Way primarily along the east side of N. Clinton Street. Subsurface Utility Engineering should be utilized during design to determine the exact location of underground facilities to minimize or avoid conflicts. Relocation costs are not expected to be eligible for reimbursement. Further coordination with New Wave will be required throughout project development.

NewWave Communications designated contact Joshua DeWitt (jdeweitt@newwavecom.com).

Frontier Communications

Frontier maintains both underground and aerial copper and fiber optic facilities within the scope of the project. Frontier's buried facilities are maintained in an underground manhole-duct bank system. Facilities that are located within apparent existing Right-of-Way are not expected to be eligible for reimbursement. Subsurface Utility Engineering should be utilized during design to determine the exact location of underground facilities to minimize or avoid conflicts. Further coordination with Frontier will be required throughout project development.

Frontier Communications designated contact: Alexandra Grabill (Alexandra.grabill@ftr.com).

Spectrum (Charter/Brighthouse)

Spectrum maintains both aerial and underground facilities throughout the project area. Aerial facilities are primarily on poles owned by others. Subsurface Utility Engineering should be utilized during design to determine the exact location of underground facilities to minimize or avoid conflicts. Relocation costs are not expected to be eligible for reimbursement. Further coordination with Spectrum will be required throughout project development.

Spectrum designated contact: Steve Creech (steve.creech@charter.com)

Windstream

Windstream maintains underground fiber optic facilities along the east side of N. Clinton Street from Haythorne Avenue to Rosehill Avenue then continue east extending beyond the project limits. Windstream maintains risers and vaults that are located within the apparent existing Right-of-Way. Subsurface Utility Engineering should be utilized during design to determine the exact location of underground facilities to minimize or avoid conflicts. Relocation costs are not expected to be eligible for reimbursement. Further coordination with Windstream will be required throughout the project development.

Windstream designated contact: Jerome Light (Jerome.light@windstream.com).

City of Terre Haute Utilities

The City of Terre Haute maintains gravity sanitary sewer located throughout the project area. The facilities range in size from 8 to 24 inches in diameter. The City has as-built records and shapefiles of their existing facilities that will be further incorporated into a topographical survey during design. The 8-inch sewer enters the project area at the south crossing N. Clinton Street north of the bridge over Otter Creek. The sewer line generally runs along the east side of N.

Clinton Street with connections to the sewer network at intersections in manholes throughout the corridor. Since the utility facilities are municipally owned and federal funds are expected to be used for the construction of improvements, relocation costs may be eligible for reimbursement even though they are not located in easement. Further coordination with the City of Terre Haute Utilities will be required throughout project development.

City of Terre Haute designated contact: Marcus Maurer (marcus.maurer@terrhaute.in.gov).

Indiana American Water

Indiana American Water maintains 8-inch and 12-inch watermains and appurtenances including but not limited to valves, hydrants, and service lines within the project area. Potential conflicts exist with existing hydrant locations, especially at intersection improvement areas. The existing hydrants do not meet existing clear zone requirements and widening will require relocation. Indiana American Water did not indicate their facilities were in easement and appear be located within the apparent existing Right-of-Way. Subsurface Utility Engineering should be utilized during design to determine the exact location of underground facilities to minimize or avoid conflicts. Relocation costs are not expected to be eligible for reimbursement. Further coordination with Indiana American water will be required throughout project development.

Indiana American Water designated contact: Richard Miller (Richard.H.Miller@amwater.com).

Environmental Considerations

A project study area was established to evaluate any environmental considerations along the existing corridor, using an approximate 15-foot offset from the edge of existing pavement. Within this project study area, the land use is mainly residential, consisting of primarily single-family homes and light commercial properties. A search of available databases and maps resulted in the discovery of several notable environmental considerations, including the identification of two listed Historic Structures. These Historic Structures are further summarized below:

- Historic home, located north of the project study limits (northwest of N. Clinton Street and Budd Road intersection)
- The Jenkins Home, located north of Sky King Airport adjacent to N. Clinton Street

Additionally, it should be noted that there is a possibility that some homes adjacent to N. Clinton Street qualify as Post WWII housing and require preservation.

The desktop review of the project study area also identified several potential hazardous material sites that either occur or have occurred in recent past along the project corridor. These sites include three known Leaking Underground Storage Tanks (LUST), three pipelines, and one NPDES facility. Due to this, there is potential for a Phase I and Phase II Environmental Site Assessment to be necessary as part of this project.

The Roselawn Cemetery exists within the project limits, and two other cemeteries appear adjacent to the project area per the reviewed databases. While these additional cemeteries did not appear on any aerial layers during the desktop review, field visits to the corridor located cemetery signing that would support the findings from the desktop review.

The Sky King Airport is located adjacent to the project study area but is not anticipated to be impacted by any of the proposed alternates.

As part of this initial research, USI requested INDOT Environmental Services to perform a confidential bat check through the study area. No capture sites or roost sites were reported within a 0.5-mile radius of the project area. The existing vehicular structure (County Bridge No. 242) was inspected for bat presence, and no indication of bats was observed.

Finally, at the south end of the project study area is Otter Creek and its associated wetland complexes. All alternates presented within this report will need to evaluate the stream and wetland impacts of proposed improvements to fully determine the permitting needs necessary.

The prepared Red Flag Investigation Displays, National Pipeline Maps, and Confidential Bat Check response are available for reference in Appendix "G".

Project Alternates – Typical Sections >>

Alternate 1: Do Nothing

Alternate 1 leaves the existing corridor as-is without any proposed widening or other pedestrian improvements. This would leave the corridor as a two-lane facility, with no dedicated turn lanes and minimal shoulder in areas for pedestrians to travel. Due to the high number of crashes identified throughout the project corridor, with a large majority being rear end and left-turn, right-turn, and angle crashes associated with turning vehicles, this Alternate does not meet the purpose and need of this project and will be dismissed from further investigation.

Alternate 2: Roadway Expansion (16 ft Two-Way Left-Turn Lane, 10 ft Shoulder)

Roadway Improvements

Alternate 2 proposes widening the N. Clinton Street corridor to a three-lane section from Park Avenue to Budd Road through the addition of a 16-foot two-way left-turn lane (TWLTL) in the center median following INDOT and FHWA design guidance. This alternate maintains 12-foot travel lanes and includes a 10-foot paved shoulder throughout the entirety of the project limits. This alternate was designed utilizing desirable criteria provided in IDM Figure 55-3F and guidance available in the 2013 Indiana Manual of Traffic Control Devices (IMUTCD). A conceptual display of the typical section and alignment of Alternate 2 is available for reference in Appendix "H".

The existing roadway from Park Avenue to County Bridge No. 242 is proposed to be resurfaced, with no additional widening. However, this treatment can be extended down to the intersection of Park Avenue to incorporate additional intersection improvements in tandem with this project. Per the recommendation of USI's Bridge Design Department, a full superstructure replacement of County Bridge No. 242 is proposed to address the shear crack deficiencies observed on the existing prestressed concrete beams and restore the bridge's structural capacity. Widening is proposed north of County Bridge No. 242 and continues north 2.60 miles to a location approximately 250 feet south of Budd Road where the roadway tapers into the existing roadway. Since existing Right-of-Way on the west side of the roadway is narrower than the east side of the corridor, widening is accomplished on the east side of the existing roadway to minimize Right-of-Way impacts.

This improvement provides the necessary storage capacity for vehicles to decelerate and wait for a gap in traffic before making a left turn movement and improves operations for through traffic that would otherwise be delayed. The implementation of a TWLTL has been proven to reduce the

frequency of rear end collisions caused by vehicles slowing at intersections. Additionally, this improvement reduces left turn, right turn, and angle crashes by providing vehicles storage space to wait until a gap is available in traffic.

This alternate also proposes to widen the paved shoulder throughout the project limits from 3 feet to 10 feet, providing sufficient shoulder for vehicles to recover from avoidance of unexpected hazards or overcorrections and provides an area for pedestrians to walk or bike outside of the travel lane. This option is proposed in an effort to fit improvements within existing Right-of-Way and promote sheet flow for drainage. This project will maintain existing drainage patterns and allow runoff to sheet flow away from the roadway and infiltrate into the soil. Dry wells, or other detention devices will be incorporated into the design as necessary and as feasible throughout the project area to further improve corridor drainage.

Intersection Improvements at Hasselburger Avenue

Alternate 2 proposes the installation of a traffic signal at the intersection of Hasselburger Avenue and N. Clinton Street to improve traffic flow, reduce queueing, and reduce vehicle delay. The improvement includes dedicated left turn lanes on N. Clinton Street, with 100 feet of storage for each lane. The proposed intersection improvements were modeled in the Synchro (Version 10.0) software package to determine the proposed LOS of the improvements. These results are summarized in Table 13 below:

TABLE 13: Proposed Intersection Level of Service

Intersection		***2044 PM Peak Hour****	
		Delay (s)	LOS
Hasselburger Avenue at N. Clinton Street	NB	8.7	A
	SB	6.4	A
	EB	17.2	B
	WB	14.6	B
*PM Peak Hour is Greater than AM Peak. Only PM Peak was Modeled.			

The LOS of the intersection approaches were determined by referencing the Highway Capacity Manual (6th Edition) Delay LOS Criteria for Signalized Intersections. The implementation of a traffic signal, assuming standard phasing and timing, improves the eastbound and westbound approach LOS to B. Furthermore, this improvement results in an average LOS A for the entire intersection, exceeding the desirable LOS criteria established per IDM Figure 55-3F.

Anticipated Right-of-Way Impacts

The proposed permanent corridor improvements included in Alternate 2 are able to be constructed within the existing Right-of-Way along N. Clinton Street, with less than 0.5 acres anticipated to be needed for the construction of the traffic signal at Hasselburger Avenue. Four parcels are expected to be impacted for the proposed traffic signal installation. Temporary construction easements may be needed for up to fifteen parcels to tie driveways into the proposed improvements. In an effort to be conservative, all associated Right-of-Way engineering, services and acquisition costs, including temporary construction easements, were assumed to be $10,000 a parcel, for a total of $190,000.

Anticipated Utility Impacts

Utility impacts are anticipated to be minor for the construction of Alternate 2 and will require further coordination and verification of utility facility locations as design progresses. Close coordination will be necessary regarding the high voltage transmission lines above County Bridge No. 242 to avoid impacts and safely construct the project. Due to the length of the corridor and the confluence of utilities in many areas, utility coordination costs, including Subsurface Utility Engineering, during design are estimated at $50,000.

At the time of this report, the only potential utility conflict identified was with the CenterPoint Energy regulator station located in the southwest corner of the Hasselburger Avenue and N. Clinton Street intersection. While the full extent of these impacts and the necessary relocation efforts are not known, $500,000 was estimated as reimbursable costs in an effort to be conservative.

Environmental Considerations

Alternate 2 will require environmental documentation in conjunction with any FHWA or INDOT funding associated with this project. It is anticipated that a Categorical Exclusion Document (CE-1) will be required due to the proposed corridor widening and anticipated Section 106 requirements due to adjacent historical properties. There is potential that this project may involve the purchase of Right-of-Way from historic properties or 4(f) resources. Potential 4(f) and 6(f) resources have been identified in the project study area and will require further investigation during the NEPA process completed during design. There is also potential that this project may involve a Phase I and Phase II Environmental Site Assessment due to the presence of several potential hazardous material sites.

Engineering costs to prepare the Categorical Exclusion Document (CE-1) and acquire the necessary IDEM Rule 5 permit are estimated at $50,000 for the corridor. These costs are based on the assumption that the project will receive a MPPA Category A or B finding during Section 106 investigation, and that no archeological efforts will be necessary. In the event that additional Section 106 work is deemed necessary, the additional environmental efforts are estimated at $20,000. Finally, if it is determined that Phase I and Phase II Environmental Site Assessments are necessary, these efforts are estimated at an additional $20,000. Environmental engineering and preparation fees in total are estimated at $90,000 for the corridor.

Cost Estimate

A preliminary cost estimate, including anticipated construction, preliminary engineering, and Right-of-Way costs, has been prepared for this alternate and summarized below.

TABLE 14: Alternate 2 Preliminary Cost Estimate

Work Item	**PE*	***RW*	*Utilities*	*CN*	*CE*
Corridor Expansion	$840,000	$190,000	$500,000	$4,350,000	$652,500
Superstructure Replacement	$200,000	-	-	$1,330,000	$200,000
Subtotal:	$1,040,000	$190,000	$500,000	$5,680,000	$852,500
Total:					**$8,260,000**

*PE – includes full survey, roadway design and plan development, environmental and geotechnical report preparation, utility coordination and SUE.

**RW – includes Right-of-Way engineering, services, and acquisition costs.

A detailed itemized construction cost estimate, including estimated costs for all resurfacing, widening, shoulder construction, signal installation, and other incidental construction items, is available for reference in Appendix "H".

Alternate 3: Roadway Expansion (14 ft TWLTL, 4 ft Shoulder, 8 ft Pathway)

Alternate 3 proposes the widen the N. Clinton Street corridor as previously described in Alternate 2, with the following changes:

- Alternate 3 proposes the minimum TWLTL width of 14 feet to minimize pavement widening, as allowed by INDOT and FHWA design guidance and provided in IDM Figure 55-3F.
- Alternate 3 proposes a 4-foot paved shoulder as opposed to a 10-foot paved shoulder of Alternate 2, to further minimize the necessary pavement widening.
- Alternate 3 proposes an 8-foot asphalt path for pedestrians, located on the east side of the corridor separated from the roadway by a 10-foot grass buffer.

A conceptual display of typical section and alignment of Alternate 3 is available for reference in Appendix "I". This alternate was evaluated as a method to minimize pavement widening and provide clear separation between the roadway and pedestrian trail. This separation improves the safety of the corridor for pedestrians, as walkers are no longer within the recovery zone of a vehicle. Other than the aspects identified above, Alternate 3 proposes the same modifications to the N. Clinton Street corridor as those outlined in Alternate 2. The improvements at Hasselburger Avenue, anticipated Right-of-Way impacts, utility impacts, and environmental considerations are expected to be nearly identical to those discussed under Alternate 2. Therefore, these items will not be repeated for this section.

Cost Estimate

A preliminary cost estimate, including anticipated construction, preliminary engineering, and Right-of-Way costs, has been prepared for this alternate and summarized below. Preliminary engineering fees include full survey, roadway design and plan development, environmental and geotechnical report preparation, utility coordination and SUE. Right-of-Way engineering, services, and acquisition costs have been summarized in their own line item.

TABLE 15: Alternate 3 Preliminary Cost Estimate

Work Item	**PE*	***RW*	*Utilities*	*CN*	*CE*
Corridor Expansion	$840,000	$190,000	$500,000	$3,390,000	$508,500
Superstructure Replacement	$200,000	-	-	$1,330,000	$200,000
Subtotal:	$1,040,000	$190,000	$500,000	$4,720,000	$708,500
Total:					**$7,160,000**

*PE – includes full survey, roadway design and plan development, environmental and geotechnical report preparation, utility coordination and SUE.

**RW – includes Right-of-Way engineering, services, and acquisition costs.

A detailed itemized construction cost estimate, including estimated costs for all resurfacing, widening, shoulder and path construction, signal installation, and other incidental construction items, is available for reference in Appendix "I".

Alternate 4: Roadway Expansion (14 ft TWLTL, 6 ft Sidewalk, Storm Sewer)

Alternate 4 proposes the widen the N. Clinton Street corridor as previously described in Alternate 2, with the following changes:

- Alternate 4 proposes the minimum TWLTL width of 14 feet to minimize pavement widening, as allowed by INDOT and FHWA design guidance.
- Alternate 4 proposes a 2-foot curb and gutter section in place of a paved shoulder, with a new storm sewer system to convey roadway runoff.
- Alternate 4 proposes 6-foot concrete sidewalk adjacent to both sides of the project corridor.

A conceptual display of typical section and alignment of Alternate 4 is available for reference in Appendix "J". This alternate was evaluated as a method of minimizing pavement widening and providing dedicated areas for pedestrians to walk on both sides of the N. Clinton Street corridor. While the inclusion of sidewalk on both sides of the expanded corridor substantially improves the facilities for pedestrian travelers, this alternate introduces several other concerns to the corridor. As the existing corridor has minimal to no ditching and currently drains via sheet flow, the addition of sidewalk on both sides of the roadway will require the use of a new storm sewer system to collect roadway runoff and convey it to the nearest waterway. Due to the length of the corridor and the limited number of feasible outlets, the addition of a storm sewer system was found to be cost-prohibitive to the project.

Additionally, due to the tight Right-of-Way conditions on the west side of the existing corridor, it is likely that installing a 6-foot sidewalk will require additional Right-of-Way from a large number of parcels and potentially introduce additional utility conflicts requiring relocation.

Due to the additional impacts listed above, it was determined that Alternate 4 is not a feasible solution and therefore has been dismissed from further consideration.

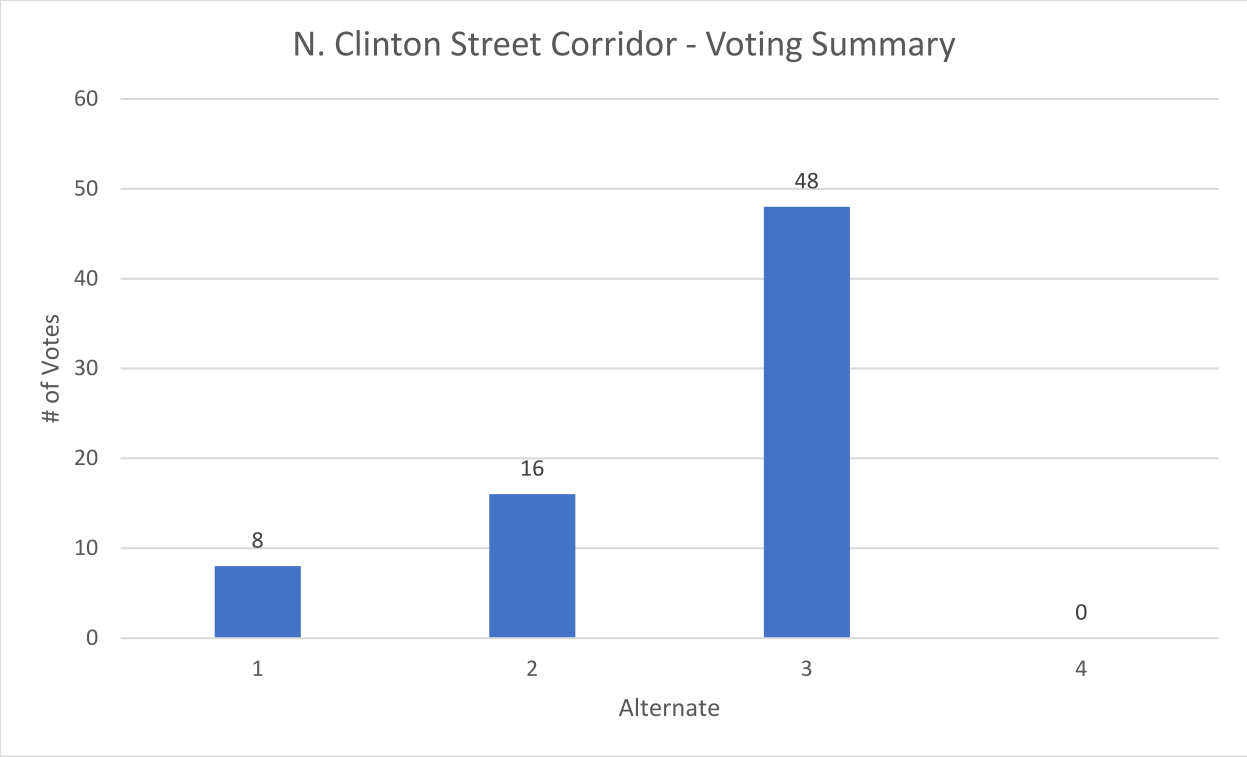
Public Involvement >>

Due to the size of the project and the significance the corridor has to Vigo County and the northern Terre Haute area, Vigo County sought initial public input from stakeholders to present initial concepts and gather public feedback. An in-person public information meeting was held at the Otter Creek Middle School located at 4801 N. Lafayette Street, Terre Haute, Indiana 47805 on December 9th, 2020. In addition to an in-person option, the presentation was presented virtually through Facebook Live, and a landing page including frequently asked questions, displays of each alternate concept, and other project specifics was hosted on USI Consultants' website. These resources, as well as posts on various social media platforms, were provided as platforms for the public to provide questions or comments to be included within this study. This input period was held open until January 15th, 2021, and a summary of the input received is detailed in the following paragraphs below.

Several great questions were asked during the public involvement meeting and USI continued to receive questions or comments from the public for several weeks after. Questions were

answered regularly, either individually or through a social media or website post, with three volumes of Frequently Asked Questions prepared and available on USI's landing page for public viewing. A detailed collection of these FAQ documents has been provided in Appendix "J" for reference.

Additionally, a poll was provided on the landing page for members of the public to vote for their preferred alternate, as well as provide feedback or comments for their selection. At total of 72 individuals provided input to the poll, and the results are summarized in the figure below. A detailed breakdown of the received votes including comments has been provided in Appendix "J", but with any personal information such as names, addresses, or contact information omitted.



As illustrated, there was a strong show of support for Alternate 3, with many comments listing the proposed multi-use trail and safety of pedestrians as primary factors in their voting. Voters for Alternates 1 and 2 provided helpful comments as well, highlighting concerns of demand for and maintenance of the trail system and concerns about impacts to the residents along the east side of the corridor.

Much of the public input received included variations in design details or concepts and will be evaluated further during the later stages of this project. As the alternates provided within this report are conceptual, they have not been modified at this stage to include these considerations. It should be noted that the conceptual alternates detailed within this report are not final designs, and that these concepts are likely to be adjusted due to public input and ideas provided by the

public stakeholders. The following list identifies several items provided by the public that should be investigated further during the design of this project:

- Reducing the width of the grass buffer between the roadway and separated path in Alternate 3 is selected
- Additional improvements to the intersection of N. Clinton Street and Rosehill Avenue
- Additional drainage improvements throughout the corridor. Specific problem areas identified include intersection of N. Clinton Street and Rosehill Avenue
- Intersection sight distance at N. Clinton Street and Budd Road
- Dedicated right-turn lanes at Grant, Rosehill, Carol, and Rodighiero
- Installation of traffic calming measures to help reduce high speeds through the corridor

Conclusion >>

This report is intended to provide detailed information regarding the conceptual alternates within to Vigo County and their County Engineer to facilitate and support the later stages of the project. For the purposes of this report, Alternate 3 is considered the preferred alternative due to the cost savings associated with the minimized pavement section. Any comments, questions, or concerns with the material provided within by the County or their representatives are welcome and may be addressed to whuber@usiconsultants.com.

Excerpt Special Bridge Inspection Report

Structure Information

Structure:	84-00242	Facility Carried:	CLINTON ST
NBI Number:	8400169	Features Intersected:	OTTER CREEK

Inspection Information

Inspection Date:	06/12/2024	Lead Inspector:	Bailey Spear
Inspection Type:	Special	Additional Inspectors:	

Condition Ratings Summary

(58) Deck:	**7**	(59.01) Paint:	**N**
(58.01) Wearing Surface:	**7**	(60) Substructure:	**5**
(58.02) Joints:		(61) Channel / Channel Protection:	**6**
(59) Superstructure:	**5**	(62) Culverts:	**N**
		(113) Scour Critical Bridge:	**4**

Structure:	84-00242	Facility Carried:	CLINTON ST	Inspector:	Bailey Spear
NBI Number:	8400169	Features Intersected:	OTTER CREEK	Inspection Date:	06/12/2024

Special Inspection Summary

Postings:

None.

Conditions:

Bridge is in Generally Fair Condition.

Spalls Along Longitudinal Construction Joints in North RCBA. Large Spalls with Deteriorating Patches Adjacent to Bridge Expansion Joint South RCBA. Full Roadway Width Asphalt Patch Adjacent to RCBA. Unsealed Longitudinal and Transverse Cracks in Asphalt Beyond RCBA's. Deck has Scattered Hairline Cracks and Popouts Throughout Concrete. Bridge Expansion Joint Cracked in Several Locations. Up to 0.030" Shear Cracks at Various Beam Ends at Piers 2 and 3. Cracks on Both Faces and Bottom of Beams. Scattered Hairline Cracks Along Pier Caps. Some Local Scour along Piers 2 and 3, Especially at Pier 3 Upstream Nose. Poor Channel Alignment Aimed at Pier 3/North Bank. Up to 1.4' Footing Exposed at Upstream Nose of Pier 3. Logjams Upstream Faces Piers 2 and 3.

Recommendations:

Rehabilitate Bridge. Seal Longitudinal and Transverse Cracks in Asphalt Beyond RCBA's. Repair Spalled Area in RCBA's with Partial Depth Patching as Needed. Apply Surface/Sealer Healer to Deck. Seal Shear Cracks in Beam Ends with Epoxy. Remove Logjam. Install Designed Riprap Around Both Piers.

Remarks:

This Bridge is on a 24 month Special Inspection Cycle Due to Shear Cracks at Beam Ends. Special Inspections to Occur on a 12 Month Cycle Between Routine Inspections.

History:

Bridge is NOT on NHS, based on INDOT Map:

Structure:	84-00242	Facility Carried:	CLINTON ST	Inspector:	Bailey Spear
NBI Number:	8400169	Features Intersected:	OTTER CREEK	Inspection Date:	06/12/2024

https://indot.maps.arcgis.com/apps/webappviewer/index.html?id=df731deeaa704512923b7732ed3ddad2

Changed NHS Coding and removed Element Level Data. Bill Dittrich 05/14/2018.

Structure:	84-00242	Facility Carried:	CLINTON ST	Inspector:	Bailey Spear
NBI Number:	8400169	Features Intersected:	OTTER CREEK	Inspection Date:	06/12/2024

Inspections

(92) Critical Feature Inspection		(93) Critical Feature Inspection Date	
C) Special Insp Req / Freq:	24 Y	C) Special Insp Date:	07/29/2022

National Bridge Inventory Condition Ratings

(58) Deck:	7 - Good Condition (some minor problems)

Scattered Hairline Cracks and Popouts Throughout Concrete. Multiple Defects in Approach Slabs. Bridge Expansion Joint Cracked in Several Locations.
Material: 8" Concrete on SIP Metal Forms

(58.01) Wearing Surface:	7 - Good Condition

Scattered Hairline Cracks and Popouts Throughout Concrete.
Material: Concrete

(58.04) Joints:			
Joint Type:		Joint Location:	

(59) Superstructure:	5 - Fair Condition (minor section loss)		

Up to 0.030" Shear Cracks at Various Beam Ends at Piers 2 and 3. Cracks on Both Faces and Bottom of Beams (See Table).
Material: PC Box Beams @ 7'-0" Spacing w/ Weep Holes

(59.01) Paint:	N - Not Rated / N/A	Paint Year:	
(59.02) Bearings:		Bearing Type:	

(60) Substructure:	5 - Fair Condition (minor section loss)

Scattered Hairline Cracks Along Pier Caps. Some Local Scour along Piers 2 and 3, Especially at Pier 3 Upstream Nose.
Material: Concrete Caps on Piles.

(61) Channel / Channel Protection:	6 - Bank is beginning to slump. River control devices and embankment protection have widespread minor damage. There is minor stream bed movement evident. Debris is restricting the channel slightly.

Poor Channel Alignment Aimed at Pier 3/North Bank. Up to 1.4' Footing Exposed at Upstream Nose of Pier 3. Logjams Upstream Faces Piers 2 and 3.
Material: Silt Bottom. Riprap Slopes Under Bridge. Natural Slopes Beyond Bridge.

(62) Culverts:	N - Not applicable. Use if structure is not a culvert.

N/A
Material: N/A

(113) Scour Critical Bridges:	4 - Action is required to protect exposed foundations

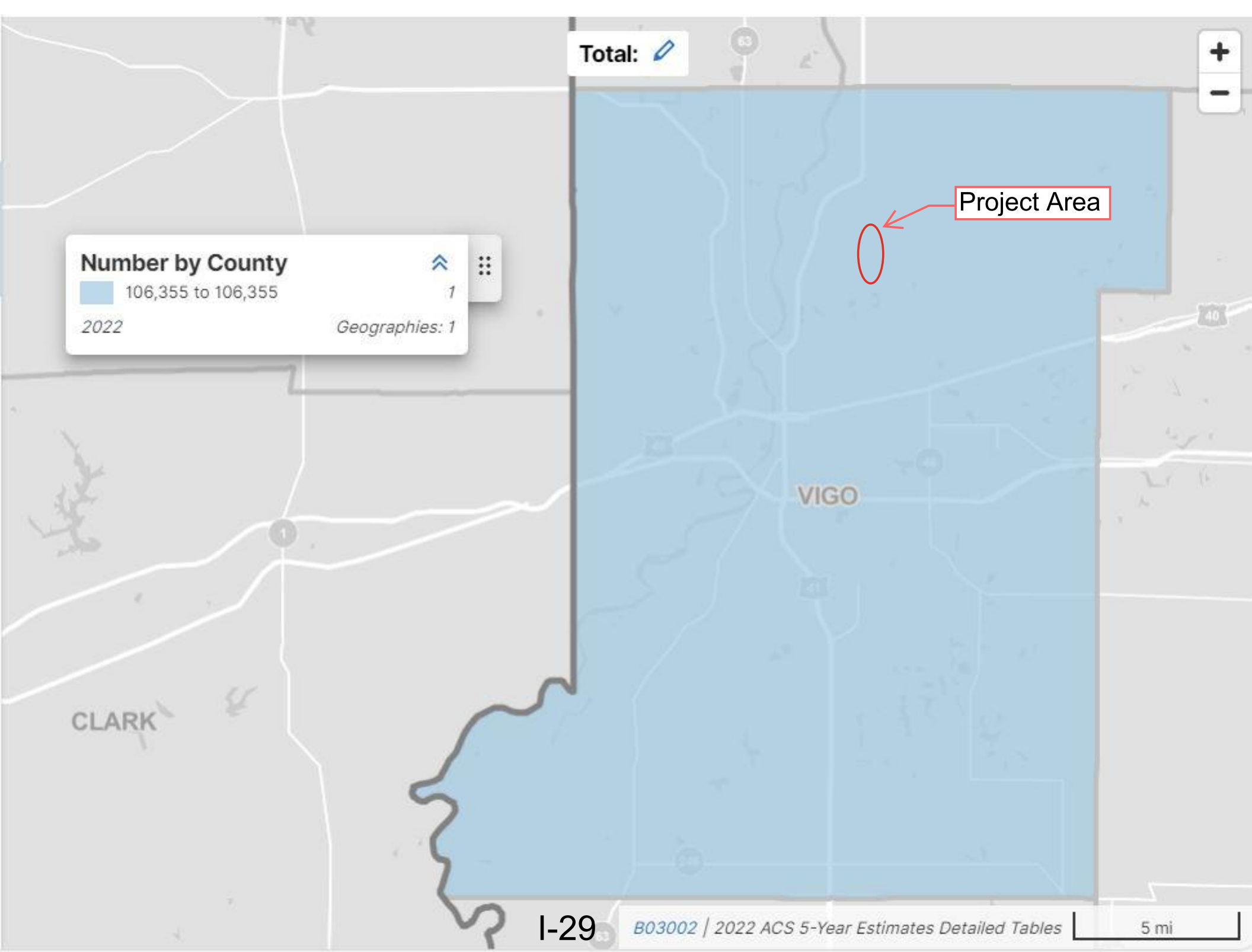
Some Local Scour along Piers 2 and 3, Especially at Pier 3 Upstream Nose. Up to 1.4' Footing Exposed at Upstream Nose of Pier 3.

Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated March 2022)				
ProjectNumber	SubProjectCode	County	Property	
1800625	1800625	Vigo	Fairbanks Park	
1800406	1800406	Vigo	Fairbanks Park	Duplicate Location
1800066	1800066	Vigo	Fowler Park & Wilderness Area	
1800394	1800394	Vigo	Hawthorn Access Site	
1800410	1800410	Vigo	Hawthorn Access Site	Duplicate Location
1800348	1800348	Vigo	Hawthorn Park & Access Site	Duplicate Location
1800152	1800152	Vigo	Hulman Links Golf Course, Terre Haute Golf Course	
1800112	1800112	Vigo	Prairie Creek Park	
1800146	1800146	Vigo	Prairie Creek Park	Duplicate Location
1800360	1800360	Vigo	Spencer F. Ball Park	
1800387	1800387	Vigo	Voorhees Park	

*Park names may have changed. If acquisition of publically owned land or impacts to publically owned land is anticipated, coordination with IDNR, Division of Outdoor Recreation, should occur.

Environmental Justice

This analysis was performed for this project prior to the issuance of recent federal Executive Orders (EO) from January 2025, including EO 14154, EO 14148, and EO 14173. As such, this analysis is included for transparency but is no longer applicable to the impacts analysis for federal projects and this impact was not considered in the federal decision.


Total:
Project Area
Number by County
106,355 to 106,355
1
2022
Geographies: 1
VIGO
CLARK
I-29
B03002 | 2022 ACS 5-Year Estimates Detailed Tables
5 mi

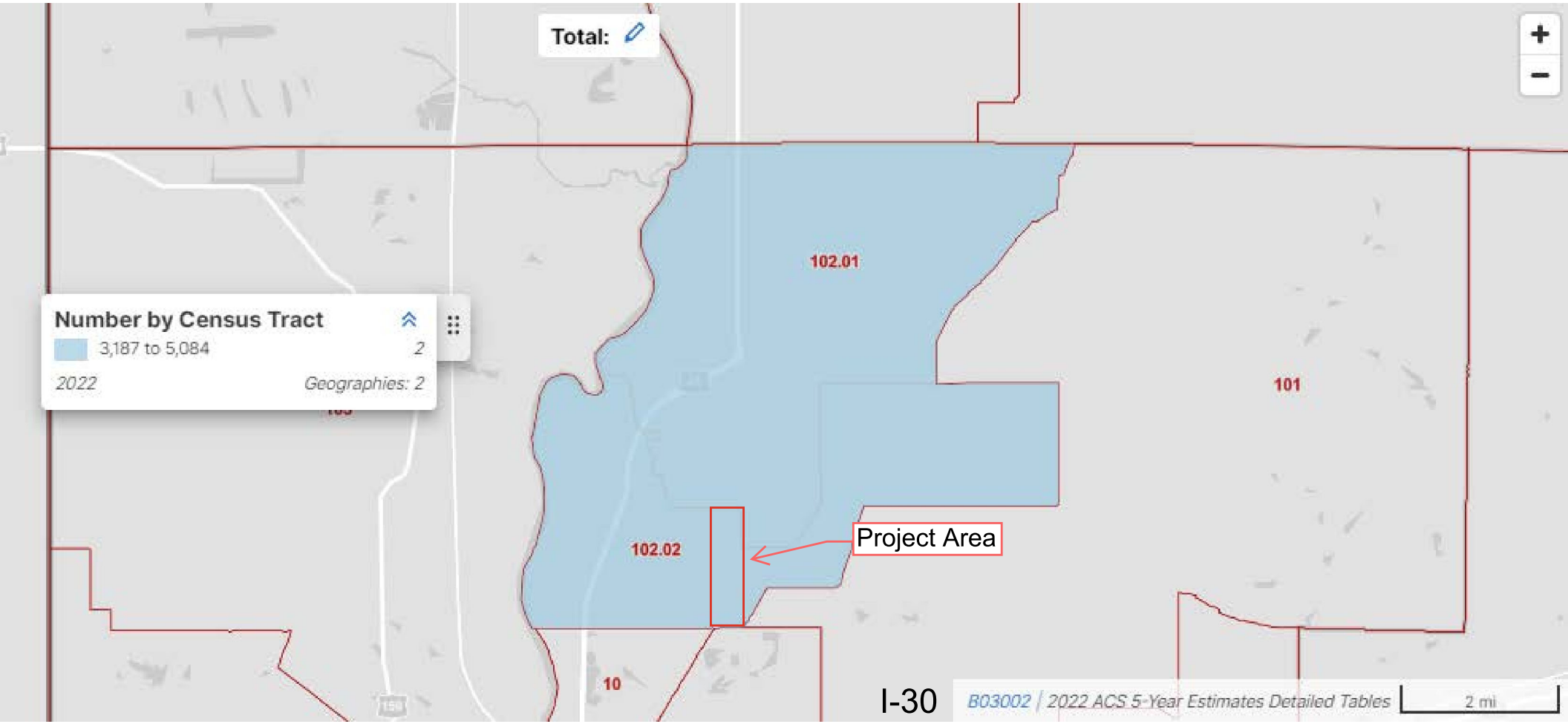
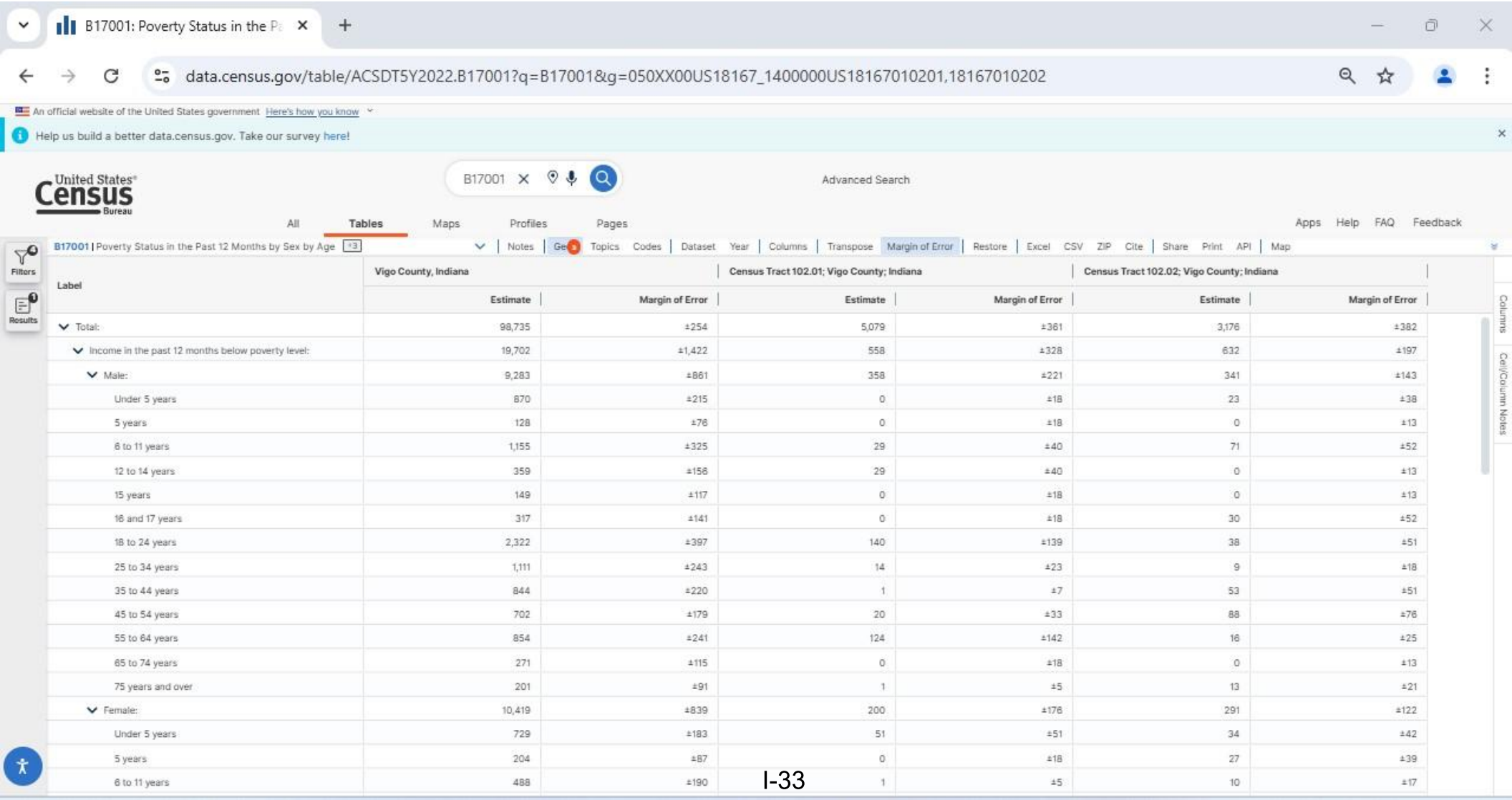

Total:
Number by Census Tract
3,187 to 5,084
2
2022
Geographies: 2
102.01
101
102.02
Project Area
10
I-30
B03002 / 2022 ACS 5-Year Estimates Detailed Tables
2 mi

Table: ACSDT5Y2022.B17001 - Low-income Populations

	Vigo County, Indiana		Census Tract 102.01; Vigo County; Indiana		Census Tract 102.02; Vigo County; Indiana	
Label	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**
Total:	98,735	±254	5,079	±361	3,176	±382
Income in the past 12 months below poverty level:	19,702	±1,422	558	±328	632	±197
Male:	9,283	±861	358	±221	341	±143
Under 5 years	870	±215	0	±18	23	±38
5 years	128	±76	0	±18	0	±13
6 to 11 years	1,155	±325	29	±40	71	±52
12 to 14 years	359	±156	29	±40	0	±13
15 years	149	±117	0	±18	0	±13
16 and 17 years	317	±141	0	±18	30	±52
18 to 24 years	2,322	±397	140	±139	38	±51
25 to 34 years	1,111	±243	14	±23	9	±18
35 to 44 years	844	±220	1	±7	53	±51
45 to 54 years	702	±179	20	±33	88	±76
55 to 64 years	854	±241	124	±142	16	±25
65 to 74 years	271	±115	0	±18	0	±13
75 years and over	201	±91	1	±5	13	±21
Female:	10,419	±839	200	±176	291	±122
Under 5 years	729	±183	51	±51	34	±42
5 years	204	±87	0	±18	27	±39
6 to 11 years	488	±190	1	±5	10	±17
12 to 14 years	473	±155	0	±18	0	±13
15 years	210	±95	27	±38	10	±15
16 and 17 years	257	±103	0	±18	13	±19
18 to 24 years	2,900	±420	63	±53	57	±57
25 to 34 years	1,242	±230	17	±27	8	±11
35 to 44 years	1,207	±277	28	±41	66	±59
45 to 54 years	665	±174	0	±18	6	±11
55 to 64 years	703	±192	13	±20	0	±13
65 to 74 years	690	±201	0	±18	40	±33
75 years and over	651	±164	0	±18	20	±24
Income in the past 12 months at or above poverty level:	79,033	±1,444	4,521	±447	2,544	±395
Male:	39,414	±900	2,305	±271	1,251	±261
Under 5 years	2,112	±223	76	±50	107	±66
5 years	504	±174	73	±80	0	±13
6 to 11 years	2,304	±326	141	±69	77	±71
12 to 14 years	1,419	±243	62	±51	97	±84
15 years	458	±138	18	±28	0	±13
16 and 17 years	1,015	±169	83	±72	20	±35
18 to 24 years	4,114	±452	203	±125	152	±90
25 to 34 years	5,649	±302	230	±106	173	±81
35 to 44 years	4,994	±273	341	±141	63	±51
45 to 54 years	4,999	±247	283	±93	75	±41
55 to 64 years	5,097	±290	436	±160	252	±50
65 to 74 years	4,350	±144	244	±65	177	±60
75 years and over	2,399	±143	115	±55	58	±55

	Vigo County, Indiana		Census Tract 102.01; Vigo County; Indiana		Census Tract 102.02; Vigo County; Indiana	
Label	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**
Female:	39,619	±831	2,216	±316	1,293	±241
Under 5 years	1,911	±201	89	±75	91	±96
5 years	405	±144	0	±18	44	±53
6 to 11 years	2,701	±255	66	±58	18	±20
12 to 14 years	1,453	±241	70	±56	11	±18
15 years	349	±106	13	±22	0	±13
16 and 17 years	915	±129	25	±27	8	±15
18 to 24 years	3,293	±466	163	±108	12	±17
25 to 34 years	4,920	±290	188	±77	207	±93
35 to 44 years	4,428	±284	162	±79	223	±97
45 to 54 years	5,076	±200	328	±153	115	±68
55 to 64 years	5,671	±214	691	±263	296	±98
65 to 74 years	4,681	±206	238	±75	87	±40
75 years and over	3,816	±200	183	±65	181	±116



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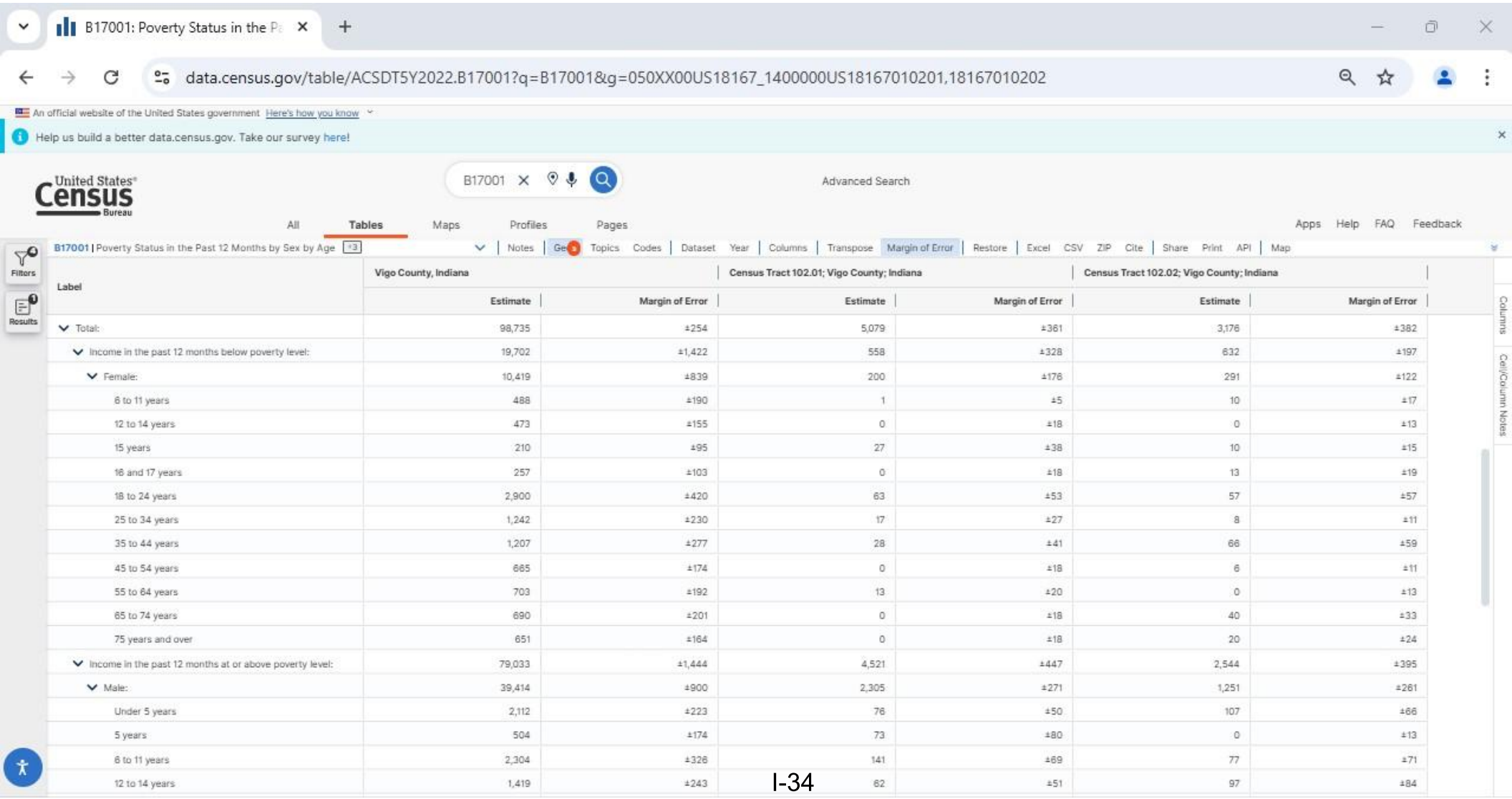

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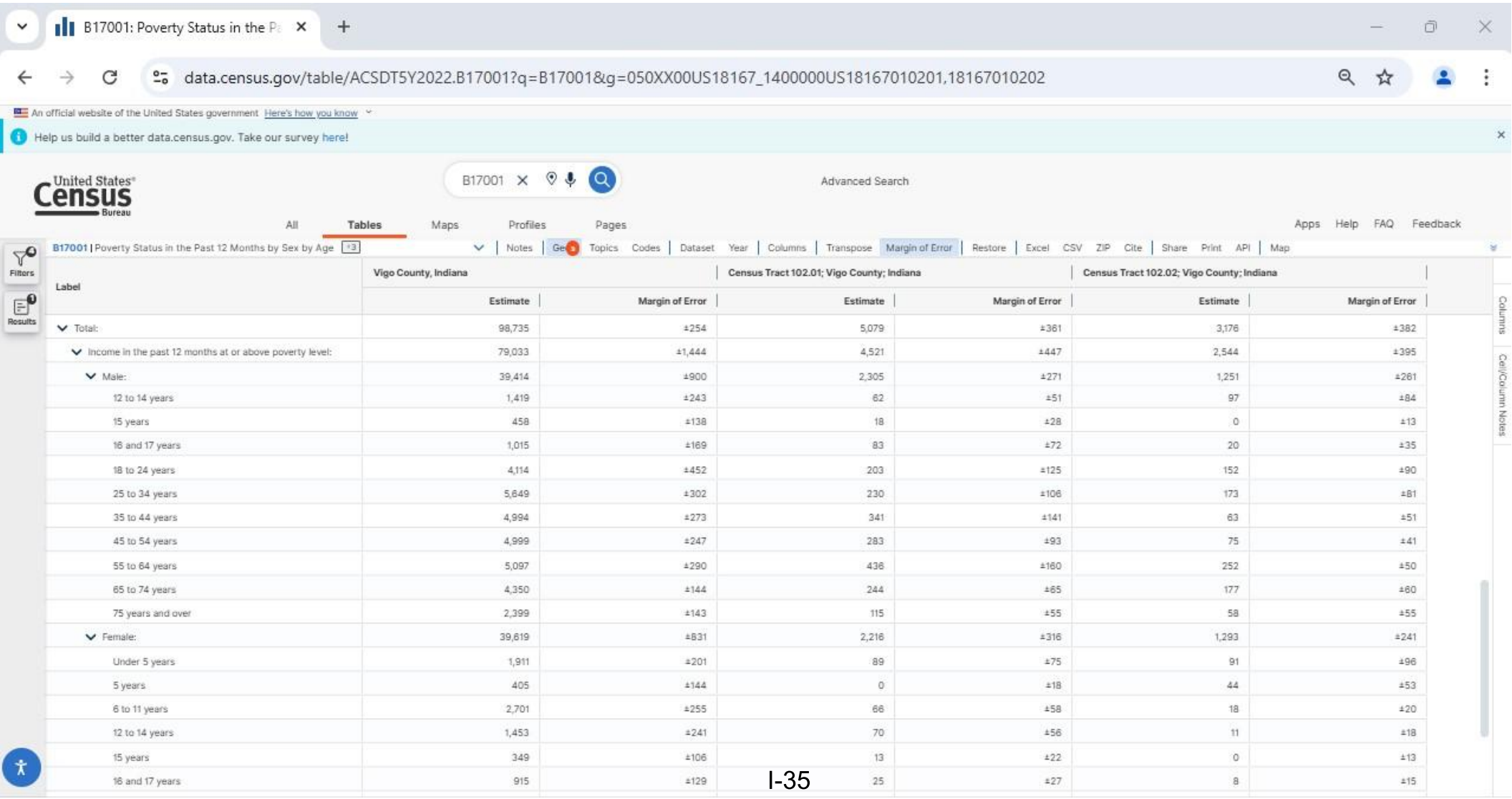

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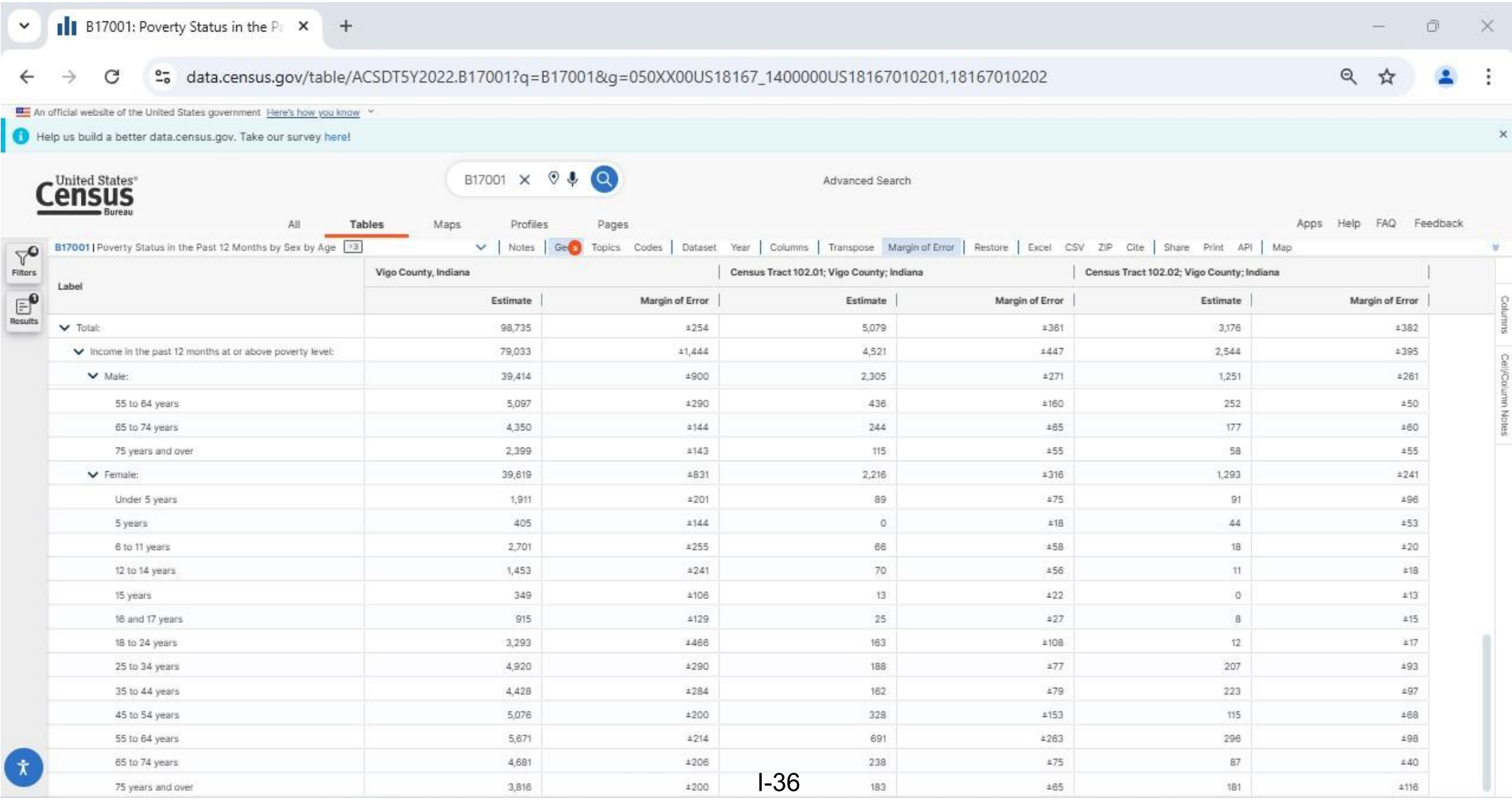

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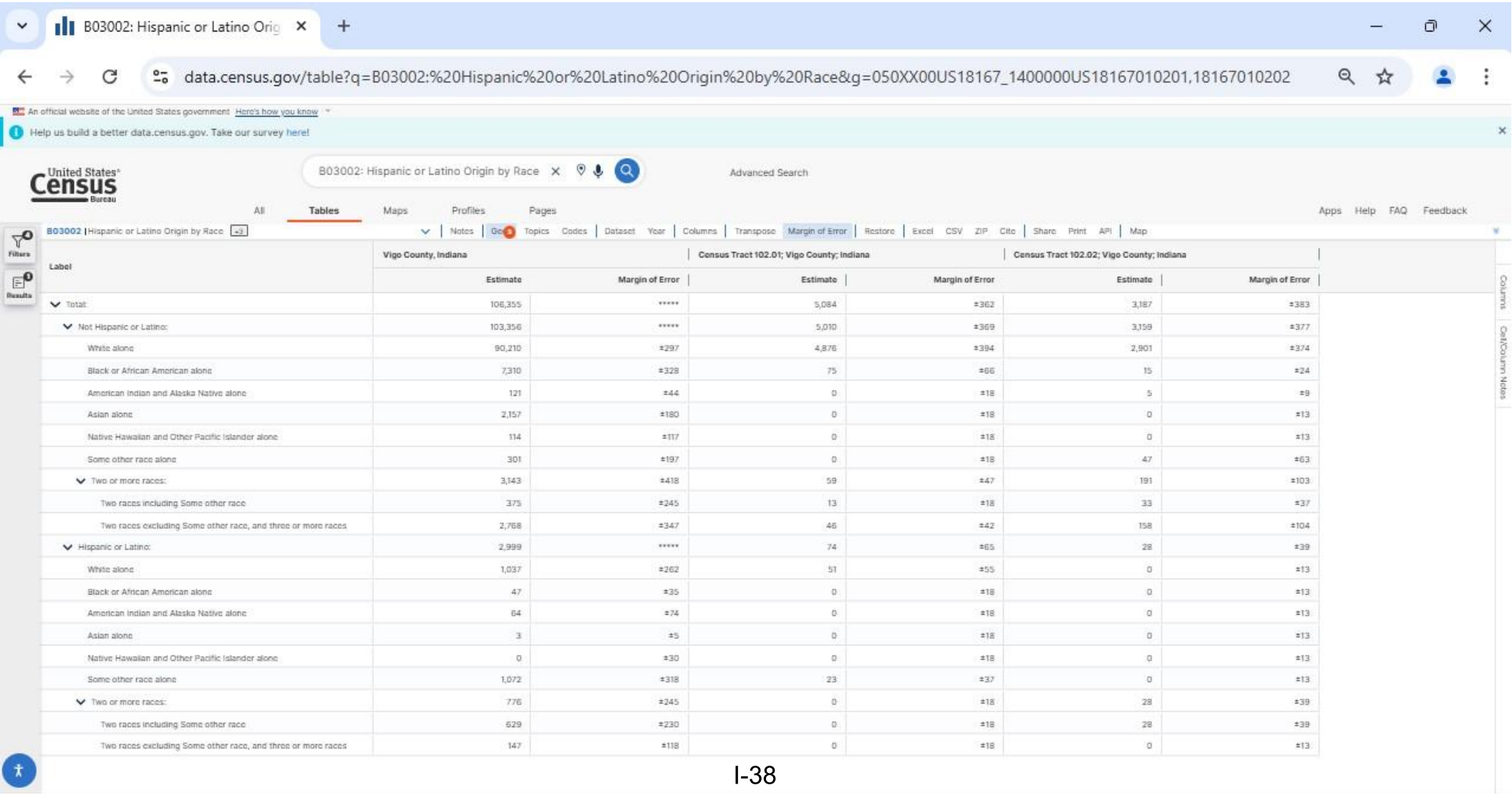
65 to 74 years	4,681	±206	238	±75	87	±40
75 years and over	3,816	±200	183	±65	181	±116

Table: ACSDT5Y2022.B03002 - Minority Populations

	Vigo County, Indiana		Census Tract 102.01; Vigo County; Indiana		Census Tract 102.02; Vigo County; Indiana	
Label	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**
Total:	106,355	*****	5,084	±362	3,187	±383
Not Hispanic or Latino:	103,356	*****	5,010	±369	3,159	±377
White alone	90,210	±297	4,876	±394	2,901	±374
Black or African American alone	7,310	±328	75	±66	15	±24
American Indian and Alaska Native alone	121	±44	0	±18	5	±9
Asian alone	2,157	±180	0	±18	0	±13
Native Hawaiian and Other Pacific Islander alone	114	±117	0	±18	0	±13
Some other race alone	301	±197	0	±18	47	±63
Two or more races:	3,143	±418	59	±47	191	±103
Two races including Some other race	375	±245	13	±18	33	±37
Two races excluding Some other race, and three or more races	2,768	±347	46	±42	158	±104
Hispanic or Latino:	2,999	*****	74	±65	28	±39
White alone	1,037	±262	51	±55	0	±13
Black or African American alone	47	±35	0	±18	0	±13
American Indian and Alaska Native alone	64	±74	0	±18	0	±13
Asian alone	3	±5	0	±18	0	±13
Native Hawaiian and Other Pacific Islander alone	0	±30	0	±18	0	±13
Some other race alone	1,072	±318	23	±37	0	±13
Two or more races:	776	±245	0	±18	28	±39
Two races including Some other race	629	±230	0	±18	28	±39
Two races excluding Some other race, and three or more races	147	±118	0	±18	0	±13



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Two races including Some other race	629	±230	0	±18	28	±39
Two races excluding Some other race, and three or more races	147	±118	0	±18	0	±13

Environmental Justice Analysis, 2022 American Community Survey 5-Year Estimates				
Des. No. 1901781 Clinton Street, from Park Avenue to Imperial Avenue, Road Rehabilitation		**COC**	**AC1**	**AC2**
		Vigo County, Indiana	Census Tract 102.01 Vigo County Indiana	Census Tract 102.02 Vigo County Indiana
	LOW-INCOME			
B17001001	Population for whom poverty status is determined: Total	98,735	5,079	3,176
B17001002	Population for whom poverty status is determined: Income in 2022 below poverty level	19,702	558	632
	Percent Low-Income (Income in 2022 below poverty level/Total population)	19.95%	10.99%	19.90%
	125 Percent of COC (125 x COC Percent Low-Income)	24.94%	**AC <125% COC**	**AC <125% COC**
	Potential Low-Income EJ Impact?		**No**	**No**
	MINORITY			
B03002001	Total Population: Total	106,355	5,084	3,187
B03002002	Total Population: Not Hispanic or Latino	103,356	5,010	3,159
B03002003	Total Population: Not Hispanic or Latino; White alone	90,210	4,876	2,901
B03002004	Total Population: Not Hispanic or Latino; Black or African American alone	7,310	75	15
B03002005	Total Population: Not Hispanic or Latino; American Indian and Alaska Native alone	121	0	5
B03002006	Total Population: Not Hispanic or Latino; Asian alone	2,157	0	0
B03002007	Total Population: Not Hispanic or Latino; Native Hawaiin and Other Pacific Islander alone	114	0	0
B03002008	Total Population: Not Hispanic or Latino; Some other race alone	301	0	47
B03002009	Total Population: Not Hispanic or Latino; Two or more races	3,143	59	191
B03002010	Total Population: Hispanic or Latino	2,999	74	28
B03002011	Total Population: Hispanic or Latino; White alone	1,037	51	0
B03002012	Total Population: Hispanic or Latino; Black or African American alone	47	0	0
B03002013	Total Population: Hispanic or Latino; American Indian and Alaska Native alone	64	0	0
B03002014	Total Population: Hispanic or Latino; Asian alone	3	0	0
B03002015	Total Population: Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	0	0	0
B03002016	Total Population: Hispanic or Latino; Some other race alone	1,072	23	0
B03002017	Total Population: Hispanic or Latino; Two or more races	776	0	28
	Number Non-white/minority (B03002001 - B03002003)	16,145	208	286
	Percent Non-white/Minority (Total population - white alone)/Total population	15.18%	4.09%	8.97%
	125 Percent of COC (125 x COC Percent Non-white/Minority)	18.98%	**AC <125% COC**	**AC <125% COC**
	Potential Minority EJ Impact?		**No**	**No**