

Indiana Department of Transportation

County Hamilton

Route 161st and Union Streets

Des. No. 1700729

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

Road No./County:	161st and Union Streets/Hamilton County
Designation Number:	1700729
Project Description/Termini:	161 st Street and Union Street Intersection Improvements/ 161 st Street: Begin approximately 600 feet west and end approximately 450 feet east of intersection Union Street: Begin approximately 495 feet south and end approximately 600 feet north of intersection

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

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

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

Approval

_____	_____	_____	_____
ESM Signature	Date	ES Signature	Date
_____		_____	
FHWA Signature		Date	

Release for Public Involvement

<u>N/A</u>	_____	<u>REIS</u>	<u>1-27-2020</u>
ESM Initials	Date	ES Initials	Date

Certification of Public Involvement

_____ Office of Public Involvement _____ Date

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

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

Name and Organization of CE/EA Preparer: Tamara Miller, Cardno

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Part I - PUBLIC INVOLVEMENT

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

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

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

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

Remarks: Notice of Entry Section 106 Public Hearing

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

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

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

Sponsor of the Project: City of Westfield INDOT District: Greenfield Local Name of the Facility: 161st Street and Union Street

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

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

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PURPOSE AND NEED:

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

Need:

The intersection of 161st and Union Streets is currently a signal-controlled intersection. The traffic study completed in 2015 evaluated the level of service (LOS) per the 2010 Highway Control Manual (HCM) for 2015 and 2035. LOS for signalized intersections is defined in terms of average control delay per vehicle, which is a direct correlation to driver discomfort, frustration, fuel consumption, and lost travel time. Currently, there are long queues along the west leg extending to U.S. 31 during peak hours. The existing traffic signal controlled intersection at 161st Street and Union Street will operate at an unacceptable LOS at design year (2035) and will continue to cause delay and increased emission output from the existing year (2015) through the design year. The AM and PM Peak Hour HCM LOS for the existing intersection was "B"; however, in 2035 the LOS is predicted to drop to "F" for PM Peak Hour service. An "F" LOS is defined as forced flow, bumper to bumper spacing with a delay of more than 80 seconds. This LOS is characterized by stop-and-go waves, poor travel times, low comfort and convenience, and increased accident exposure. A standard acceptable LOS is "D" or better.

Purpose:

The purpose of the project is to improve the predicted 2035 LOS at the intersection to a level of D or better.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Hamilton Municipality: Westfield

Limits of Proposed Work: 161st Street: Begin approximately 600 feet west and end approximately 450 feet east of intersection
Union Street: Begin approximately 495 south and end approximately 600 feet north of intersection

Total Work Length: 0.4 Mile(s) Total Work Area: 6.8 Acre(s)

Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required?
 If yes, when did the FHWA grant a conditional approval for this project?

Yes¹	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
Date: <input style="width: 100%;" type="text"/>	

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

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

Location:

The project is located at the intersection of 161st Street and Union Street in Westfield, Washington Township, Hamilton County, Indiana (Appendix B, page B-1). The intersection is located approximately 1,200 ft east of the recently reconstructed US 31, which now features a "dog-bone" style roundabout interchange at its intersection with 161st Street.

Existing Conditions:

The intersection of 161st Street and Union Street is currently a single lane in all directions, signal-controlled intersection, which was installed in 2013. There are no dedicated turn lanes. Previously, the intersection was stop-controlled. Both 161st Street and Union Street area classified as Local Urban Arterial per City of Westfield planning documents. The posted design speed on 161st Street is 35 mph and it is 40 mph on Union Street. 161st Street slopes up to its intersection with US 31 at a 6-percent grade. The 161st Street bridge over Cool Creek was replaced in 2013. The Regulated Floodway of Cool Creek is immediately east of the existing intersection and the entire intersection is within the 100-year floodplain. Liberty Park, a public park and wetland conservation area, is located within the southeastern quadrant of the intersection. Natalie Wheeler Trail, an open trail represented by two segments in the Indiana trail database, runs north-south through the project area along the west side of Union Street.

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Preferred Alternative:

This intersection improvement project at 161st Street and Union Street includes the construction of a multi-lane roundabout, drainage improvements, lighting, and minor realignment of the Natalie Wheeler Trail to match the new roundabout. Typical sections and plan and profile sheets are provided in Appendix B, pages B-8 through B-16. Construction on Union Street will begin approximately 425 ft south and end approximately 600 ft north of the intersection, immediately west of the bridge over Cool Creek. Construction limits at Liberty Park will not extend east of the north-south overhead transmission line that is located along the east side of Union Street. Construction on 161st Street will begin approximately 650 ft west and end approximately 300 ft east of intersection. Each roadway will consist of a single, 12-ft travel lane in each direction with variable median width. The roundabout includes two, 15-ft travel lanes with a 12-ft truck apron and internal radius of 47.5 ft. The design includes a 10-ft obstruction free zone on both sides of the road.

Natalie Wheeler Trail will be shifted to the west to align with the new roundabout to avoid and minimize impacts to Liberty Park and the floodway of Cool Creek. In addition to shifting the Natalie Wheeler Trail within the project area to accommodate the slight realignment of Union Street and the roundabout, a 6-ft wide sidewalk will be constructed along each quadrant of the new roundabout to connect to existing facilities on 161st and Union Streets. These sidewalks are classified as proposed and open trail segments in the Indiana trail database. The new sidewalk will not extend into the southeast quadrant of the intersection. Storm water drainage will be constructed throughout the project area and will perpetuate existing drainage patterns. Detention to account for added impervious surface will consist of in-line detention. The outfall will be located on the north side of 161st Street and will be directed into Cool Creek; no storm water will be directed into Liberty Park.

The project will require the closure of 161st Street east of U.S. 31. 161st Street at Carey Road will be closed to through traffic. Union Street will be closed at 156th Street and 169th Street to through traffic (Appendix B, page B-11). Road closure will last for approximately 60 days. The detours will add 4.3 miles for 161st Street and 3.2 miles for Union Street. Details of the proposed MOT are provided in the MOT section in this document. Natalie Wheeler Trail will remain open and American's with Disability Act (ADA) accessible and the parking lot for Liberty Park will remain accessible from Union Street during construction.

The preferred alternative meets the purpose and need by improving LOS and vehicular safety at the intersection. The preferred alternative would produce both an AM and PM LOS of A, which translates to free-flow traffic conditions. The proposed roundabout would improve vehicular safety by relieving congestion and eliminating crossing conflicts that are present at conventional intersections.

OTHER ALTERNATIVES CONSIDERED:

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

No Build:

Under the No Build Alternative, the intersection would remain signalized. This alternative does not address the operational issues causing the traffic congestion and increased motor vehicle accidents. This alternative would avoid impacts to the wetland, floodplain, and forested areas within the project area. The No Build Alternative does not address the project's purpose and need; therefore, this alternative was dismissed from further consideration.

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

- It would not correct existing capacity deficiencies;
- It would not correct existing safety hazards;
- It would not correct the existing roadway geometric deficiencies;
- It would not correct existing deteriorated conditions and maintenance problems; or
- It would result in serious impacts to the motoring public and general welfare of the economy.
- Other (Describe)

X
X

ROADWAY CHARACTER:

161st Street

Functional Classification:	Local Urban Arterial				
Current ADT:	12,383	VPD (2021)	Design Year ADT:	16,583	VPD (2035)
Design Hour Volume (DHV):	1,839	Truck Percentage (%)	1%		
Designed Speed (mph):	35	Legal Speed (mph):	35		

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	Existing	Proposed
Number of Lanes:	2	2
Type of Lanes:	Single 12ft travel lane, each direction	Single travel lane (variable width), each direction
Pavement Width:	24 ft.	28 ft.
Shoulder Width:	2 ft.	2 ft.
Median Width:	0 ft.	0-4 ft.
Sidewalk Width:	0-9 ft.	6-10 ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

Union Street

Functional Classification: Local Urban Arterial
 Current ADT: 5,647 VPD (2021) Design Year ADT: 5,088 VPD (2035)
 Design Hour Volume (DHV): 564 Truck Percentage (%): 3%
 Designed Speed (mph): 40 Legal Speed (mph): 40

	Existing	Proposed
Number of Lanes:	2	2
Type of Lanes:	Single 10 ft travel lane, each direction	Single 12-ft travel lane, each direction
Pavement Width:	20 ft.	24-28 ft.
Shoulder Width:	2 ft.	2 ft.
Median Width:	0 ft.	0-4 ft.
Sidewalk Width:	6-10 ft.	5 ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

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

DESIGN CRITERIA FOR BRIDGES:

Structure/NBI Number(s): 29-00147 Sufficiency Rating: 82.2, Bridge Inspection 9/26/17
 (Rating, Source of Information)

	Existing	Proposed
Bridge Type:	Concrete	N/A
Number of Spans:	One	N/A
Weight Restrictions:	20 ton	N/A ton
Height Restrictions:	N/A ft.	N/A ft.
Curb to Curb Width:	30 ft.	N/A ft.
Outside to Outside Width:	72 ft.	N/A ft.
Shoulder Width:	4 ft.	N/A ft.
Length of Channel Work:		N/A ft.

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

Remarks: Hamilton County Bridge No. 147 carries 161st Street over Cool Creek and is located approximately 100 ft east of the intersection of Union Street and 161st Street, within the project limits and just outside of construction limits. The existing bridge is a 40-ft long and 72-ft wide, precast, reinforced concrete, three-sided flat top structure, which was constructed in 2013. The bridge includes a 10-ft wide pedestrian path on the north side of the road. The structure is supported by modular block retaining with ground reinforcement.

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No construction activities will occur on this structure. The project will not modify this structure, including road surface or pedestrian facilities.

No other bridges or small structures exist within the project limits and no new structures are proposed.

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

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

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

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

Remarks: The MOT for the project will require the closure of 161st Street east of U.S. 31. 161st Street at Carey Road will be closed to through traffic. Union Street will be closed at 156th Street and 169th Street to through traffic (Appendix B, page B-11). Road closure will last for approximately 60 days. The detours will add 4.3 miles for 161st Street and 3.2 miles for Union Street. Local access will be allowed for the Cool Creek Circle subdivisions located along 161st Street, as well as the parking area for Liberty Park, located on Union Street. Natalie Wheeler Trail will remain open and American's with Disability Act (ADA) accessible during construction.

The closures/lane restrictions will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated and all inconveniences will cease upon project completion. Delays may occur during construction but will cease with project completion.

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 340,000 (2017) Right-of-Way: \$ 644,000 (2019) Construction: \$ 2,835,000 (2022)

Anticipated Start Date of Construction: August 2021

Date project incorporated into STIP July 2, 2019

Is the project in an MPO Area? Yes No

If yes,
Name of MPO Indianapolis Metropolitan Planning Organization

Location of Project in TIP Located within the 2020-24 TIP

Date of incorporation by reference into the STIP July 2, 2019

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RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	0.00	0.00
Commercial	0.00	0.00
Agricultural	0.00	0.00
Forest	1.19	0.00
Wetlands	0.03	0.00
Other: Fallow Field	0.11	0.00
Other: Maintained Grass	0.62	0.00
Other: Liberty Park	0.10	0.00
TOTAL	2.05	0.00

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

Remarks: Within the project limits there is a total of 4.59 acres of existing right-of-way and 0.13 acre of apparent right-of-way. The existing City right-of-way along Union Street varies from 18 to 50 ft from the centerline on either side of the road. South of the intersection and on the east side of Union Street, right-of-way is the edge of pavement; however, apparent right-of-way extends for 12 feet. There are also other areas of apparent right-of-way within the northeast and northwest quadrants. Existing and apparent right-of-way consists of transportation corridor, fallow field, wetland, forest, and maintained grass (Appendix B, page B-2). Natalie Wheeler Trail, located along the west side of Union Street, is within an existing City easement. The existing City right-of-way along 161st Street varies from 15 to 100 ft from the centerline.

It is anticipated that a total of 2.05 acres of right-of-way will be required to complete the project. Proposed right-of-way will be required within all quadrants of the intersection. Proposed right-of-way consists of the following:

- Northwest quadrant is maintained roadside grass and forest;
- Northeast quadrant is fallow field and wetland;
- Southwest quadrant is maintained roadside grass; and
- Southeast quadrant is maintained grass, which is part of Liberty Park.

A figure showing existing and proposed right-of-way is provided in Appendix B, pages B-2 and B-12. No temporary right-of-way will be required to complete the project.

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

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

SECTION A – ECOLOGICAL RESOURCES

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

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Remarks:

Based on a desktop review, a site visit on October 31, 2017 by Cardno, the aerial map of the project area (Appendix B, page B-2), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, page E-9), there are six stream segments located within the 0.5 mile search radius. The nearest stream, Cool Creek, is located within the construction limits. A Waters of the U.S. Determination / Wetland Delineation Report was completed for the project on August 14, 2018. Please refer to Appendix F, page F-2 for the partial Waters of the U.S. Determination / Wetland Delineation Report. It was determined that Cool Creek flows into the White River, a Traditional Navigable Water and should be considered a Waters of the United States. The USACE makes all final determinations regarding jurisdiction.

Cool Creek is a perennial stream that flows south through the project area. Within the project area, both banks have a narrow width (approximately 15 ft) riparian corridor, which consists of predominantly fallow agriculture field. The dominant substrates are gravel and sand. Ordinary High Water Mark (OHWM) width is 10 ft and depth is 0.5 ft. Bank Full width is 15 ft and depth is one ft. The project does not include modifications to the existing bridge, which was constructed in 2013. The installation of storm water drainage pipes for the roundabout will require an outfall. Riprap protection of the outfall may extend beneath the OHWM, resulting in minor fill. It is anticipated that construction of this outfall will be authorized under the Section 404 and 401 Regional General Permit (RGP). The project sponsor will notify IDEM prior to project letting. No mitigation is anticipated. The storm water drainage plan will perpetuate the existing drainage patterns and was designed to provide in-line detention to account for increase impervious surface, per Hamilton County requirements.

Cool Creek is on the IDEM Section 303(d) List of Impaired Waters for *Escherichia coli* (Appendix E, page E-5). Work within this creek will be minimal, however; workers who are working in or near water with *E. coli* should take care to wear appropriate personal protective equipment (PPE), observe proper hygiene procedures including regular hand washing, and limit personal exposure.

No Federal Wild and Scenic Rivers; State Natural, Scenic, and Recreational Rivers; Outstanding Rivers for Indiana; or navigable waterways are located within the 0.5-mile search radius.

Early Coordination:

An early coordination request was sent to the United States Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), and Indiana Department of Natural Resources (IDNR) on June 27, 2018 (Appendix C, page C-1). USACE did not respond regarding impacts to streams, rivers, or watercourses. USFWS responded with standard recommendations under the Interim Policy, which are provided in Appendix C, page C-24. IDNR responded with the following standard recommendations (Appendix C, page C-13):

- Do not excavate in the waterway and minimize disturbance to bank vegetation and contain disturbance to within the project limits.
- Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
- Seed and protect disturbed stream banks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

An IDEM Environmental Review Letter was generated on May 8, 2018 (Appendix C, page C-5). Standard recommendations for minimizing impacts to water and biotic quality that are applicable to this project are included in the Environmental Commitments section of this document.

Other Surface Waters

Reservoirs

Lakes

Farm Ponds

Detention Basins

Storm Water Management Facilities

Other: _____

Presence

Impacts

Yes

No

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Remarks: Based on a desktop review, a site visit on October 31, 2017 by Cardno, the aerial map of the project area (Appendix B, page B-2), and the water resource map in the RFI report (Appendix E, page E-9) there are two lakes within the 0.5 mile search radius. These lakes are located outside the project area. Therefore, no impacts are expected.

Early Coordination:
An early coordination request was sent to the USFWS, USACE, IDNR on June 27, 2018 (Appendix C, page C-1). None of these agencies responded regarding impacts to other surface waters. An IDEM Environmental Review Letter was generated on May 8, 2019 (Appendix C, page C-5). Standard recommendations for minimizing impacts to water and biotic quality that are applicable to this project are included in the Environmental Commitments section of this document.

	Presence	Impacts	
		Yes	No
Wetlands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Total wetland area: 0.22 acre(s) Total wetland area impacted: 0.16 acre(s)

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

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
Wetland 01	PEM	0.01	0.00	waters of the U.S.
Wetland 02	PEM	0.05	0.00	waters of the U.S.
Wetland 03	PEM	0.03	0.03	waters of the U.S.
Wetland 04	Class I	0.13	0.13	Isolated, exempt

	Documentation	ES Approval Dates
Wetlands (Mark all that apply)		
Wetland Determination	<input type="checkbox"/>	<input type="checkbox"/>
Wetland Delineation	<input checked="" type="checkbox"/>	N/A
USACE Isolated Waters Determination	<input checked="" type="checkbox"/>	N/A
Mitigation Plan	<input type="checkbox"/>	<input type="checkbox"/>

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

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

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

Remarks: Based on a review of the National Wetlands Inventory (NWI) online mapper (<https://www.fws.gov/wetlands/data/Mapper.html>), the USGS topographic map (Appendix F page F-9), and the RFI Water Resources map (Appendix E page E-9) showed there are 10 wetlands located within the 0.5 mile search radius, and no wetlands within the project area. A site visit was conducted by Cardno on October 31, 2017, and four wetlands were documented during the site visit that were not identified by the desktop review.

There is a wetland mitigation site located within the adjacent parcel in the southeast quadrant of the intersection (Liberty Park) (Appendix B, page B-2). This wetland is located outside the project limits. The mitigation site was released from monitoring in 2011 and responsibility of the site was transferred to the City (Appendix I, page I-5). Liberty Park is owned and maintained by City of Westfield Parks & Recreation Department. The Park Superintendent reviewed the plans and confirmed that the proposed drainage improvements would not impact the wetland mitigation site (Appendix I, page I-6). Standard erosion and sedimentation control measures will be installed around the construction limits of the project. The storm water drainage plan for the project will perpetuate existing drainage patterns. Storm water will not be directed into

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this wetland and the source of hydrology will not be altered. This wetland is outside of the project area and will not be directly or indirectly impacted by the project.

A Waters of the U.S. Determination / Wetland Delineation Report was completed for the project on October 31, 2019. Please refer to Appendix F, page F-2 for select pages of the Waters of the U.S. Determination / Wetland Delineation Report. Four wetlands were documented during this investigation. Three of the four wetlands (Wetland 01, 02, and 03) were considered to be waters of the U.S. Wetland 04 was considered to be isolated. On October 17, 2018, the USACE issued an approved jurisdictional determination, which concluded that Wetland 04 appeared to be an intrastate, isolated, non-navigable water with no hydrological connection to a Waters of the U.S. As such, this wetland is not considered to be a Waters of the U.S. (Appendix F, page F-21). On December 13, 2018, IDEM determined that Wetland 04, a Class I wetland, qualifies as exempt under 327 Indiana Administrative Code (IAC) 17-1-3(7)(E). IDEM determined that the above-mentioned wetland was incidental and exempt from permitting. This Waters of the State determination expires December 13, 2023 (Appendix F, page F-24).

Wetland 01 is a poor quality, emergent wetland located in a swale that extends past the study area on the floodplain of Cool Creek. Dominant vegetation includes Narrow-Leaf Cat-Tail (*Typha angustifolia*) and Common Spike-Rush (*Eleocharis palustris*). Wetland 02 is a poor quality, emergent wetland located in a depression on the floodplain of Cool Creek. Dominant vegetation includes Narrow-Leaf Cat-Tail and Large Barnyard Grass (*Echinochloa crus-galli*). Wetlands 01 and 02 are located outside the construction footprint and will not be directly or indirectly impacted by the proposed project.

Wetland 03 is a poor quality, emergent wetland located in a depression on the floodplain of Cool Creek. Dominant vegetation includes Reed Canary Grass (*Phalaris arundinacea*) and Frank's Sedge (*Carex frankii*). Wetland 03 is within the construction limits of the project. This entire wetland will be graded and seeded with standard INDOT seed mixture Type "U." Shifting the alignment of the roundabout to the west to avoid this wetland would increase impacts to the forest in the northwest quadrant, and shifting the alignment of the roundabout to the south would increase impacts to Liberty Park and the wetland mitigation site in the southeast quadrant. As impacts to this wetland are less than 0.1 acre, it is anticipated that the project will meet the conditions of the Section 404 and 401 Regional General Permit. An authorization request will be sent to IDEM prior to project letting. Mitigation is not anticipated.

Wetland 04 is a poor quality, emergent wetland located in a roadside ditch that flows east along the south side of 161st Street to Union Street. This 0.13 acre wetland is located within existing right-of-way. Dominant vegetation includes Narrow-leaf Cattail. The wetland may have developed due to storm water drainage, which did not have an outlet underneath the multi-use trail or roadway. This wetland does not have a surface water connection to Wetland 01 or Cool Creek and was determined by USACE to be an isolated wetland. IDEM determined that this wetland was incidental and exempt from permitting. Shifting the alignment to avoid this wetland would increase impacts to the forest in the northwest quadrant or the wetland mitigation site in the southeast quadrant.

Early Coordination
An early coordination request was sent to the USFWS, USACE, and IDNR on June 27, 2018 (Appendix C, page C-1). USFWS and IDNR did not have any comments or recommendations regarding impacts to wetlands. USACE and IDEM comments are stated above and related to the jurisdictional status of the wetlands.

Terrestrial Habitat
Unique or High Quality Habitat

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
	X	X	

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

Remarks: Based on a desktop review, a site visit by Cardno on October 31, 2017, and the aerial map of the project area (Appendix B, page B-2), terrestrial habitat within the project area includes maintained right-of-way, fallow field, and mid-successional upland forest.

Approximately 1.5 acres of mid-successional upland forest will be removed as part of this project. Trees will be cleared outside of the restricted season for bats as defined by USFWS. Dominant vegetation includes Black Walnut (*Juglans nigra*), Black Cherry (*Prunus serotina*), Amur honeysuckle (*Lonicera maackii*) in multiple strata, and Clustered Black-Snakeroot (*Sanicula odorata*). In addition, other vegetation observed included Siberian Elm (*Ulmus pumila*), White

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Avens (*Geum canadense*), and Garlic-Mustard (*Alliaria petiolata*). To avoid this forest, the project would need to be shifted to the east, toward the regulated floodway of Cool Creek as well as a conservation area, and this alternative is not practicable. Mitigation measures for tree clearing are discussed in the Threatened and Endangered Species section of this CE document.

Early Coordination
 An early coordination request was sent to the USFWS, USACE, and IDNR on June 27, 2018 (Appendix C, page C-1). On July 26, 2018, IDNR responded with the following statements regarding the project (Appendix C, page C-13):

- The Division of Fish and Wildlife recommends redesigning the project to either avoid or reduce impacts to the wooded area in the northwest quadrant, while still avoiding impacts to the riparian area along Cool Creek, and mitigate for unavoidable impacts. Maintaining habitat connectivity between the existing mitigation areas all along Cool Creek should be a priority. Urban wildlife habitat corridors are essential for the survival of fish, wildlife, and botanical resources.

IDNR also provided the following standard recommendations:

- Revegetate all bare and disturbed areas that will not be mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in regularly mowed areas only.

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

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

Karst

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

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

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

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

Remarks:

This project is located in Hamilton County, which is outside of the designated karst area of the state as identified in the October 13, 1993 Memorandum of Understanding (MOU) between INDOT, IDNR, IDEM, and USFWS. There are no karst features identified within the project area. In the early coordination response, the Indiana Geological Survey (IGS) did not indicate that karst features may exist in the project area (Appendix C, page C-21). IGS responded with the following Environmental Assessment Report, which includes a 0.5 mile radius around the project area (Appendix C, page C-21):

- Geological Hazards- moderate liquefaction potential, floodway;
- Mineral Resources – high potential for bedrock, low potential for sand and gravel; and
- Active or abandoned mineral resources extraction sites – none documented in the 0.5 mile search radius and no impacts are expected.

The designer is aware of the potential for geological and mineral resources within the project area and no impacts are expected.

Threatened or Endangered Species

Within the known range of any federal species
 Any critical habitat identified within project area
 Federal species found in project area (based upon informal consultation)
 State species found in project area (based upon consultation with IDNR)

	<u>Presence</u>		<u>Impacts</u>	
	Yes	No	Yes	No
Within the known range of any federal species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Any critical habitat identified within project area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal species found in project area (based upon informal consultation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State species found in project area (based upon consultation with IDNR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

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Remarks:

Based on a desktop review and the RFI (Appendix E, page E-1), completed by Cardno on July 3, 2017, the IDNR Hamilton County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in Appendix E, page E-11. The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR-Division of Fish & Wildlife (DFW) early coordination response letter dated June 27, 2018 (Appendix C, page C-13), the Natural Heritage Program's Database has been checked and no ETR species and significant areas have been documented within the project vicinity.

Indiana Bat and Northern Long-eared Bat

The project qualifies for the *Limited Formal Programmatic Consultation* for the Indiana bat and northern long-eared bat (NLEB).

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated and other species were found (Appendix C, page C-31). Hamilton County is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). In addition, an effect determination key was completed on March 18, 2019, and based on the responses provided, the project was found to "may affect, likely to adversely affect" the Indiana bat and/or the NLEB (Appendix C, page C-33). Proposed impacts cannot be avoided due to constraints from the floodplain located within the eastern half of the project area and the adjacent conservation area.

The official species list generated from IPaC indicated one other species, Virginia Sneezeweed (*Helenium virginicum*), may occur in the project area. The project qualifies for the USFWS Interim Policy.

INDOT shall satisfy the compensatory mitigation requirements of the formal consultation with USFWS through one of the conservation options outlined on page 41 of the May 20, 2016 *Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana bat and NLEB*. The amount to be paid to the Range-wide In-lieu Fee Program, to be administered by The Conservation Fund, shall be \$954.81. This amount was determined by the Habitat Block Method, which takes the area of suitable habitat to be cleared multiplied by the mitigation ratio for inactive season tree clearing for Hamilton County, multiplied by the compensatory price per acre; 0.06 acre X 1.5 X \$10,609.

INDOT verified the effect finding and submitted to USFWS on March 18, 2019, (Appendix C, page C-48). On March 20, 2019), USFWS concurred with the "may affect, likely to adversely" finding (Appendix C, page C-49). USFWS stated, "The USFWS has reviewed the effects of the proposed Project, which includes FHWA's commitment to implement any applicable mitigation measures as indicated on the LAA Consistency Letter. We confirm that the proposed Project's effects are consistent with those analyzed in the Biological Opinion (BO). The USFWS has determined that project is consistent with the conservation measures and scope of the program analyzed in the BO are not likely to jeopardize the continued existence of the Indiana bat and/or the NLEB." Additionally, a "Reinitiation Notice" is required if: more than 0.06 acre of suitable habitat is to be cleared; new information about listed species is encountered; the project is modified in a manner that causes an effect to the listed species; or a new species or critical habitat is listed that the project may affect. These requirements and the Avoidance and Minimizations Measures (AMMs) from the Project Submittal Form, are included as firm commitments for this project.

Rusty Patched Bumble Bee

On July 3, 2018, Cardno reviewed the USFWS Range Map for the Rusty Patched Bumble Bee (*Bombus affinis*) (<https://www.fws.gov/midwest/endangered/insects/rpbb/rpbbmap.html>) and identified the project area is located outside a High Potential Zone for Rusty Patched Bumble Bee habitat. INDOT Site Assessment and Management (SAM) Unit concurred with the RFI report on July 3, 2018 (Appendix E, page E-5) and confirmed this project is located outside a High Potential Zone for the Rusty Patched Bumble Bee.

Early Coordination

An early coordination request was sent to the USFWS, USACE, and IDNR on June 27, 2018 (Appendix C, page C-1). On July 26, 2018 IDNR responded with the following recommendations (Appendix C, page C-14):

- Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.

On July 3, 2018, USFWS responded with the following statements regarding the project (Appendix C, pages C-24 and C-25), "Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no objections to the project as currently proposed. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation." Standard recommendations related to the proposed project are provided below:

- Do not clear trees or understory vegetation outside the construction zone boundaries. (This restriction is not

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related to the “tree clearing” restriction for potential Indiana Bat habitat.)

- Implement temporary erosion and sediment control methods within areas of disturbed soil. All disturbed soil areas upon project completion will be vegetated following INDOT’s standard specifications.

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

SECTION B – OTHER RESOURCES

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

If a SSA is present, answer the following:

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

Remarks: The project is in Hamilton County, which is not located within the St. Joseph Aquifer System, the only legally designated sole source aquifer in Indiana. Therefore, the FHWA/EPA Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project. No impacts are expected.

The Indiana Department of Environmental Management’s Wellhead Proximity Determinator website (<http://idemmaps.idem.in.gov/whpa/>) was accessed by Cardno on June 27, 2018. The required project location data was provided and it was determined that this project is located within a wellhead protection area. An early coordination request was sent to the Hamilton County Surveyor’s Office (HCSO) on June 27, 2018. On July 20, 2018, the Surveyor responded with the following comment regarding drinking water resources (Appendix C, page C-19):

- Detention will be required for the increase in impervious area being added by this project. Based on the above comment, the storm water drainage system was designed with in-line detention.

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed by Cardno on January 31, 2019. The IDNR data shows one groundwater well located within the project area vicinity. The nearest well is located 555 ft southeast of Union and 161st Streets. No wells are located within the construction footprint; therefore, no impacts are expected.

Urban Area Boundary
Based on the RFI report and a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by Cardno on April 24, 2019; this project is located in an Urban Area Boundary (UAB) location. An early coordination letter was sent on June 24, 2018 to the City of Westfield MS4 Coordinator. The MS4 coordinator did not respond within the 30-day time frame.

Public Water System
Based on a desktop review, a Preliminary Field Check on February 14, 2018 conducted by City of Westfield, the aerial map of the project area (Appendix B, page B-2), and coordination with utilities, this project is located where there is a public water system operated by Citizens Energy Group (CEG). This public water system may need to be relocated as part of the proposed project. A representative from CEG was present at the Preliminary Field Check, which occurred on February 14, 2018. Coordination with CEG will continue throughout the project planning and construction.

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

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

Remarks: Based on a desktop review of The Indiana Department of Natural Resources Indiana Floodway Information Portal website (<http://dnrmmaps.dnr.in.gov/appsphp/fdms/>) by Cardno on April 24, 2019 and the RFI report; this project is located in a 100-year floodplain as determined from approved IDNR floodplain maps (Appendix F, page F-1). An early coordination letter was sent on April 24, 2019 to the local Floodplain Administrator. They did not respond to this letter. This project qualifies as a Category 4 per the INDOT CE Manual, which states project involving replacement of existing drainage structures on essentially the same alignment.

Three (3) homes are located within the base floodplain within 1,000 feet upstream and zero (0) homes are located within the base floodplain within 1,000 feet downstream. The proposed structure will have an effective capacity such that backwater surface elevations are not expected to substantially increase. As a result, there will be no substantial adverse impacts on natural and beneficial floodplain values, there will be no substantial change in flood risks, and there will be no substantial increase in potential for interruption or termination of emergency service or emergency evacuation routes; therefore, it has been determined that this encroachment is not substantial. A hydraulic design study will not be completed for this project, as the storm water drainage pipes are not major structures (greater than 100 square feet).

Early Coordination
 An early coordination request was sent to the Hamilton County Surveyor on June 27, 2018. On July 20, 2018, the Surveyor responding with the following comment regarding the floodplain (Appendix C, page C-19):

- Part of this intersection falls in the floodplain of Cool Creek Regulated Drain and mitigation for any fill will be required under Hamilton County Ordinance 9-26-16-A.

An early coordination request was sent to IDNR – Division of Fish and Wildlife on June 27, 2018. On July 26, 2018 they responded that formal approval by the Department of Natural Resources under the regulatory programs administered by the Division of Water may be required for this project (Appendix C, page C-13). The following comments were provided:

- We recommend a mitigation plan be developed (and submitted with the permit application, if required) for any unavoidable habitat impacts that will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at: <http://www.in.gov/legislative/iac/20140806-IR-312140295NRA.xml.pdf>.
- Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees).

The above IDNR commitments are firm, as a Construction in a Floodway Permit will be required for this project. All applicable Hamilton County and IDNR recommendations are included in the Environmental Commitments section of this CE document.

Farmland	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Agricultural Lands	X		X
Prime Farmland (per NRCS)	X		X

Total Points (from Section VII of CPA-106/AD-1006* 123

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

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

Remarks: Based on a desktop review, a site visit on October 31, 2017 by Cardno, the aerial map of the project area (Appendix B, page B-2), and early coordination response from the Natural Resources Conservation Service (NRCS) there are 1.9 acres of Prime Farmland within the project limits as defined by the Farmland Protection Policy Act. An early coordination letter was sent on June 27, 2018 to the NRCS. Coordination with NRCS resulted in a score of 123 on the NRCS-CPA-106/AD 1006 Form (Appendix C, page C-17). NRCS's threshold score for significant impacts to farmland that result in

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the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland. The State Conservationist responded that the proposed project will cause a conversion of prime farmland (Appendix C, page C-16). However, the areas identified as Prime Farmland are not currently farmed. Land use within the areas identified as Prime Farmland include maintained right-of-way, existing transportation corridor, upland woodlot, and fallow field (Appendix B, page B-2). As such, no impacts to Prime Farmland or agricultural fields are anticipated.

SECTION C – CULTURAL RESOURCES

	Category	Type	INDOT Approval Dates	N/A
Minor Projects PA Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Eligible and/or Listed Resource Present

Results of Research

Archaeology	<input type="checkbox"/>
NRHP Buildings/Site(s)	<input type="checkbox"/>
NRHP District(s)	<input type="checkbox"/>
NRHP Bridge(s)	<input type="checkbox"/>

Project Effect

No Historic Properties Affected No Adverse Effect Adverse Effect

Documentation Prepared

Documentation (mark all that apply)

		ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report	X	September 18, 2018	October 22, 2019
Historic Property Report			
Archaeological Records Check/ Review			
Archaeological Phase Ia Survey Report	X	September 18, 2018	October 22, 2019
Archaeological Phase Ib Survey Report	X	April 10, 2019	May 14, 2019
Archaeological Phase Ic Survey Report			
Archaeological Phase II Investigation Report			
Archaeological Phase III Data Recovery			
APE, Eligibility and Effect Determination	X	June 25, 2019	August 1, 2019
800.11 Documentation	X	June 25, 2019	August 1, 2019

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

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

Area of Potential Effect (APE): The recommended Area of Potential Effects (APE) for this project is defined as a 23.71 acre area including and surrounding the proposed 161st and Union Street Intersection Improvement project area (Appendix D, Page D-6). The APE extends approximately 700 ft north from the intersection of 161st and Union Street, 675 ft south of the intersection, 920 ft west of the intersection, and 610 ft east of the intersection. The APE includes deciduous woodlots, a mitigation wetland, a walking trail, and fallow and mowed areas surrounding the project area.

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Coordination with Consulting Parties: Consulting Parties included in the list below were sent a copy of the consulting party information and the Historic Property Short Report (HPSR) was made available on the Indiana Section 106 Consultation and Outreach Portal Enterprise (IN SCOPE) website on September 18, 2018 (Appendix D, Page D-23). The Indiana State Historic Preservation Officer (SHPO) is an automatic Consulting Party.

Consulting Party	Chose to Participate
Westfield-Washington Historical Society and Museum	No
Indiana Landmarks Central Regional Office	Yes
Indianapolis Metropolitan Planning Organization,	No
Hamilton County Historical Society/Hamilton County Museum of History	No
Hamilton County Surveyor	No
Hamilton County Historian,	No
Hamilton County Genealogist	No
Hamilton County Genealogical Society	No
Hamilton County Commissioners	No
City of Westfield Street Superintendent	No
City of Westfield Engineer	No
Delaware Nation of Oklahoma	Yes
Delaware Tribe of Indians, Oklahoma	No
Eastern Shawnee Tribe of Oklahoma	No
Miami Tribe of Oklahoma	Yes
Peoria Tribe of Indians of Oklahoma	No
Pokagon Band of Potawatomi Indians	No

The Delaware Nation of Oklahoma chose to participate and requested updates on progress and if any discoveries arose (Appendix D, page D-26). The Miami Tribe of Oklahoma chose to participate, and while they are not currently aware of any information directly linking the Miami Tribe to the project APE, they requested to be notified immediately if any human remains or cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) were identified as a result of the project (Appendix D, page D-31). Indiana Landmarks responded to the early coordination request. They concurred with the APE and confirmed they knew of no NRHP-listed or eligible properties within the APE (Appendix D, page D-28). No additional comments from Consulting Parties were received regarding the eligibility recommendations presented in the HPSR. No other responses from Consulting Parties were received for this project during the 30-day comment period.

Archaeology: A Phase Ia Archaeological Records Review and Reconnaissance (Phase Ia) was completed by Cardno and submitted to INDOT- CRO on May 22, 2018. The Phase Ia reconnaissance located one new archaeological site. Site 12H1825 consists of a historic artifact scatter that likely represents a former structure location. No foundations or other features were identified in conjunction with the site, though a number of architectural debris (brick fragments and nails) was recovered from several of the shovel test units. Based on the data collected during this investigation, site 12H1825 may have the potential to yield additional information important to the history of Westfield. Avoidance of this site was recommended. INDOT-CRO approved the Phase Ia report findings on September 18, 2018 (Appendix D, page D-15). The report was forwarded to the SHPO, who concurred with the results on October 22, 2018 (Appendix D, page D-29).

Following completion of the Phase Ia report, the City of Westfield determined that site 12H1825 could not be avoided by proposed project activities. Cardno completed a Phase Ib Work Plan, which was approved by INDOT-CRO on November 20, 2018 and submitted to the SHPO on the same day (Appendix D, pages D-17 and D-32). The SHPO approved the work plan on December 7, 2019 (Appendix D, page D-33) and Cardno conducted Phase Ib archaeological testing for site 12H1825 in December 2018. Two features were identified during test unit excavation; however, these features were subsequently determined to be non-cultural in nature. No intact evidence of the structure(s) noted through historic research were identified during the investigation, though artifact density and distribution suggests that the structure once stood in the center of the site as it is currently defined. Following INDOT-CRO approval of the Phase Ib report on April 10, 2019 (Appendix D, page D-19), it was submitted to the SHPO, who concurred on May 14, 2019 that site 12H1825 is not eligible for the NRHP (Appendix D, page D-36).

Historic Properties: The Historic Property investigation located no historic resources in the project area. The report was approved by INDOT CRO on September 18, 2019 and forwarded to the SHPO on the same day. By letter dated October

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22, 2019, the SHPO concurred with the findings of the HPSR (Appendix D, page D-29).

Based on a desktop review completed for the RFI report (Appendix E, page E-2), there are three cemeteries located within 0.5 mile of the project. The nearest cemetery is 0.44 mile north of the project area. No impact is expected.

Documentation, Findings: The Section 106 800.11 finding of “No Historic Properties Affected” was submitted to INDOT-CRO on May 15, 2019. INDOT, on behalf of FHWA, concurred with this recommendation and signed the finding of “No Historic Properties Affected” on June 25, 2019 (Appendix D, page D-1). The finding was forwarded to the SHPO on July 10, 2019. By letter dated August 1, 2019, the SHPO concurred with the finding of “No Historic Properties Affected” (Appendix D, page D-42).

Public Involvement: INDOT, acting on FHWA's behalf, has determined a "No Historic Properties Affected" finding is appropriate for this undertaking. This finding was placed in a public notice in *The Indianapolis Star* on July 12, 2019 and was followed by a 30-day comment period, which ended August 11, 2019 (Appendix D, page D-40). No comments were received during this comment period. The Section 106 process has been completed and the responsibilities of the FHWA under Section 106 have been fulfilled.

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

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

Parks & Other Recreational Land

- Publicly owned park
- Publicly owned recreation area
- Other (school, state/national forest, bikeway, etc.)

Presence

X
X

Use

Yes	No
X	
	X

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

X

FHWA

Approval date

--

Wildlife & Waterfowl Refuges

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

Presence

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA

Approval date

--

Historic Properties

- Sites eligible and/or listed on the NRHP

Presence

--

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA

Approval date

--

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

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

Remarks:

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

Based on a desktop review, a site visit by Cardno on October 31, 2017, the aerial map of the project area (Appendix B, page B-2), and the RFI report (Appendix E, page E-2), there are 24 potential 4(f) resources located within 0.5 mile of the project (23 trail segments and one managed land). Each trail may be represented by multiple segments. The managed land is Cool Creek Park, which is located 0.32 miles south of the project area and will not be impacted by the project. Six (6) trail segments (two planned, two potential, and two open) are located in the project area. The Natalie Wheeler Trail is located along the west side of Union Street and represents the two open trail segments. The remaining trail segments are represented by existing sidewalks, which are classified as trails in the database used for the analysis, or proposed trails that have not been constructed. Liberty Park, a publically owned park, was not identified during the desktop review but is located within the project area. No other public recreation areas, historical properties, or wildlife refuges were identified.

Natalie Wheeler Trail is owned by the City of Westfield and open to the public, which makes this property eligible for protection under Section 4(f). This trail will be relocated as part of the proposed project to accommodate the roundabout footprint. The Natalie Wheeler Trail will remain open during construction and also retain ADA compliance throughout construction. A pedestrian MOT plan will be implemented for construction. Coordination between the City Engineer and the Superintendent of City Parks has been on-going throughout project development

Impacts to the trail meet the conditions of a Temporary Occupancy and will not constitute a Section 4(f) use.

A Temporary Occupancy will not constitute a Section 4(f) use when all of the below conditions listed in 23 CFR 774.13(d) are satisfied:

1. Duration must be temporary - A pedestrian MOT will be implemented which will maintain ADA compliance. The trail will remain open for use by the public with no permanent transfer of property (This has been included as a firm commitment).
2. Scope of the work must be minor - The project will not change the nature of the trail.
3. There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or a permanent basis - A detour will be provided during the construction. The land’s use as a trail, including activities, features, and attributes will be restored at a higher function once the project is complete.
4. The land being used must be fully restored - The trail will be fully restored on a new alignment.
5. There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions – A signed concurrence letter from the City of Westfield – Parks and Recreation Department is provided in Appendix I, page I-3. Follow up consultation was completed to ensure that the OWJ was aware of the realignment of the trail (Appendix I, page I-4).

Liberty Park, a publically owned park and Section 4(f) resource, is located in the southeast quadrant of the project area (Appendix I, page I-6). This park contains a wetland mitigation site with a boardwalk, path, and parking facilities. The wetland mitigation site was released from monitoring in 2011 and responsibility for the site was transferred to the City of Westfield – Parks and Recreation Department (Appendix I, page I-7). Existing right-of-way at this location ends at the edge of pavement. Apparent right-of-way extends along Union Street 12 ft from the edge of pavement (0.1 acre). An additional 12 ft strip of proposed right-of-way equaling 0.1 acre will need to be converted from park to transportation use. Both the areas of apparent and proposed right-of-way consist of maintained grass with an overhead transmission line. The construction activities will be limited to the area within apparent right-of-way. Construction in this area consists of three underdrains and side slopes. Access to the parking lot and boardwalk will be maintained throughout construction. There are no modifications planned that would impact signage, the boardwalk, or wetland. In addition, the parking area is outside the project limits and will remain open and accessible during construction.

In consultation with INDOT, the City has determined that impacts will most likely result in a *de minimis* finding. The impacts to the park will be minor and the proposed project will not adversely impact the activities, features, and attributes

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that qualify the property for protection under Section 4(f) of the Department of Transportation Act of 1966 and in accordance with SAFETEA-LU Section 6009 (a). In a letter dated October 17, 2019 the City notified the Parks and Recreation Department of this determination, as this department has jurisdiction over Liberty Park (Appendix I, page I-9).

Once public involvement has been completed, the City will provide public comments to the Parks and Recreation Department and request written concurrence that the project will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f).

The issuance of the *de minimis* finding is in concurrence with FHWA's approval of this environmental document.

Section 6(f) Involvement

Presence

Use

Yes

No

Section 6(f) Property

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

Remarks:

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

A review of 6(f) properties on the Land and Water Conservation Fund (LWCF) website at <https://www.lwcfcoalition.com/tmap-of-lwcf/> revealed a total of eleven properties in Hamilton County (Appendix I, page I-12). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources as a result of this project. An early coordination letter was sent to IDNR on June 27, 2018. IDNR did not respond regarding the presence of Section 6(f) properties (Appendix C, page C-13).

SECTION E – Air Quality

Air Quality

Conformity Status of the Project

Is the project in an air quality non-attainment or maintenance area?

Yes

No

If YES, then:

Is the project in the most current MPO TIP?

Is the project exempt from conformity?

If the project is NOT exempt from conformity, then:

Is the project in the Transportation Plan (TP)?

Is a hot spot analysis required (CO/PM)?

Level of MSAT Analysis required?

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

Remarks:

STIP/TIP

This project is included in the Fiscal Year (FY) 2020-2024 Indianapolis Metropolitan Planning Organization Transportation Improvement Program (MPO TIP) and 2020-2024 Statewide Transportation Improvement Program (STIP) (Appendix H, pages H-1 through H-3).

Attainment Status

The proposed project is located in Hamilton County, which is currently in a maintenance area for Ozone according to the *Full Maintenance Plan Update for the Indianapolis, Indiana 1997 8-hour Ozone Area*, dated June 20, 2019 (https://www.in.gov/idem/airquality/files/redesignation_central_ozone_plan.pdf). This project has been identified as being exempt from air quality analysis in accordance with 40 CFR Part 93.126 and this project is not a project of air

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quality concern (40 CFR Part 93.123). Therefore, the project will have no significant impact on air quality.

MSAT

This project is of a type qualifying as a categorical exclusion (Group 1) under 23 CFR 771.117(c), or exempt under the Clean Air Act conformity rule under 40 CFR 93.126, and as such, a Mobile Source Air Toxics analysis is not required.

SECTION F - NOISE

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

	No	Yes/ Date
ES Review of Noise Analysis		

Remarks: The proposed project is a Type III project. In accordance with 23 CFR 772 and the current *Indiana Department of Transportation Highway Traffic Noise Analysis Policy*, this action does not require a formal noise analysis.

SECTION G – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors

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

Remarks:

Local Land Use Policies
 The City of Westfield completed a Thoroughfare Plan in December 2006 and a Comprehensive Plan in 2007 (<https://www.westfield.in.gov/topic/index.php?topicid=30&structureid=124>). The project is also within the Pedestrian Corridor MPO Regional Plan boundaries. The most recent amendment to the Thoroughfare Plan (October 14, 2018), specifically addresses vehicular and pedestrian connectivity related to the US 31 Major Moves Improvements. The project would improve travel flow through this intersection as it relates to the newly improved intersection of 161st Street and US 31 to the west, as well as maintain the existing Natalie Wheeler Trail, which will also improve multimodal connectivity.

Community Events
 There are no community facilities, such as schools or fairgrounds, within the project area. Liberty Park is a passive recreation area, with no events offered. The MOT will add 19 miles for 161st Street and 9 miles for Union Street. Local access will be allowed for the subdivision located along 161st Street, Cool Creek Circle, as well as the parking area for Liberty Park, which is located on Union Street. Natalie Wheeler Trail will remain open and ADA accessible during construction. Impacts to community events are not expected.

Transition Plan
 The City of Westfield has an ADA Transition Plan, which was adopted in June, 2015 (<https://www.westfield.in.gov/egov/apps/document/center.egov?view=detail&id=4557>). The multi-use trail that will be improved as a part of the proposed project and the new sidewalks will be ADA-compliant.

No substantial economic or community impacts are expected to develop as a result of this project.

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Indirect and Cumulative Impacts

Will the proposed action result in substantial indirect or cumulative impacts?

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

Remarks:

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

There will be no substantial indirect or cumulative impacts as a result of the proposed project.

Public Facilities & Services

Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities? *Discuss how the maintenance of traffic will affect public facilities and services.*

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

Remarks:

Based on a desktop review, a site visit by Cardno on October 31, 2017, the aerial map of the project area (Appendix B, page B-2), and the RFI (Appendix E, page E-2), there are no health or educational facilities, fire, police, emergency services, or religious institutions located within 0.5 mile of the project.

It is anticipated that construction for the project will last approximately 60 days. During this time, temporary impacts associated with construction such as increased travel times due to road closure, vehicular operating costs, construction noise, and fugitive dust will occur. The recommended MOT detour during construction of the proposed project is nine miles for Union Street and 19 miles for 161st Street. However, minimal travel delay impacts on health and educational facilities, fire, police, emergency services, religious institutions, public transportation, or pedestrian and bicycle facilities are anticipated.

Below ground utilities located within the project area that have indicated that impacts are likely include AT&T, Citizens Energy Group – Water, Comcast, Frontier Communications, Indiana Fiber Networks, Zayo, Metro Fibernet, and Duke. The relocation of these utilities is anticipated. Coordination with the various utilities will continue throughout planning, design, and construction.

Early Coordination
 An early coordination letter was sent to the City of Westfield Fire, Police, Parks and Recreation Departments, and the HCSO on June 27, 2018. The Westfield Fire Department responded with the following comment (Appendix C, page C-18):

- Provide the start and completion date of the project so the department can evaluate response times for emergencies and potential re-routing.

On July 20, 2018, the Surveyor responded with the following comments regarding public facilities (Appendix C, page C-19):

- There are two county section corners in this intersection and the replacement will need to be coordinated through HCSO.

All City of Westfield Fire Department and Hamilton County Surveyor’s Office recommendations are included as firm commitments in the Environmental Commitments section of this CE document.

The project sponsor will notify law enforcement, emergency services, and local school districts at least two weeks prior to the road closure for planning purposes.

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?

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

Does the project require an EJ analysis?

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

If YES, then:

Are any EJ populations located within the project area?

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

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

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

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Remarks:

Under FHWA Order 6640.23A, FHWA and the City of Westfield, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require 2.06 acres of right-of-way. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town, and is called the community of comparison (COC). In this project, the COC is the City of Westfield. The community that overlaps the project limits is called the affected community (AC). In this project, the AC is Census Tract 11.04.03 and 1105.07. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the 2012-2016 American Community Survey (ACS) five-year estimates was obtained from the US Census Bureau Website <https://factfinder.census.gov/> by Cardno on September 19, 2018. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low Income Data (ACS five year estimates 2012-2016)

	COC – (Westfield)	AC-1 (Census Tract 1104.03)	AC-2 (Census Tract 1105.07)
Percent Minority	4.3%	2.7%	1.9%
125% of COC	5.4%	AC<125% COC	AC<125% COC
EJ Population of Concern		No	No
Percent Low-Income	6.6%	6.6%	2.4%
125% of COC	8.2%	AC<125% COC	AC<125% COC
EJ Population of Concern		No	No

AC-1, Census Tract 1104.03 has a percent minority of 2.7%, which is below 50% and is below the 125% COC threshold. AC-2, Census Tract 1105.07 has a percent minority of 1.9%, which is below 50% and is below the 125% COC threshold. Therefore, neither AC's contain minority populations of EJ concern.

AC-1, Census Tract 1104.03 has a percent low-income of 6.6%, which is below 50% and is below the 125% COC threshold. AC-2, Census Tract 1105.07 has a percent low-income of 2.4%, which is below 50% and is below the 125% COC threshold. Therefore, neither AC's contain low-income populations of EJ concern.

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

Relocation of People, Businesses or Farms

Will the proposed action result in the relocation of people, businesses or farms?
 Is a Business Information Survey (BIS) required?
 Is a Conceptual Stage Relocation Study (CSRS) required?
 Has utility relocation coordination been initiated for this project?

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

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

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

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

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SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)

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

Documentation

X

	No	Yes/ Date
ES Review of Investigations		X/ July 3, 2018

Include a summary of findings for each investigation.

Remarks: Based on a review of Geographic Information System (GIS) and available public records, a RFI was completed by Cardno on July 3, 2018 (Appendix E). No sites with hazardous material concerns (hazmat sites) or sites involved with regulated substances were identified within the project limits or in 0.5 mile of the project limits. Further investigation for hazardous material concerns or regulated substances is not required at this time.

If a spill occurs or contaminated soils or water are encountered during construction, appropriate PPE should be used. Contaminated materials will need to be properly handled by trained personnel and disposed in accordance with current regulations. IDEM should be notified through the spill line at (888) 233-7745 within 24 hours of discovery of a release from a UST system and within 2 (two) hours of discovery of a spill.

SECTION I – PERMITS CHECKLIST

Permits (mark all that apply)

Likely Required

Army Corps of Engineers (404/Section10 Permit)

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

IDEM

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

IDNR

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

US Coast Guard Section 9 Bridge Permit

Others (Please discuss in the remarks box below)	X
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Remarks: Section 404/401: The project will impact 0.03 acre of emergent wetland and a minor amount of stream (IDEM determined that the isolate wetland was incidental and exempt from permitting). An authorization from IDEM stating that the project meets the conditions of 401 Water Quality Certification will be required. The project meets the conditions of Section 404 RGP, notification of the USACE is not required.

The Rule 5 (IDEM): The project will disturb more than one acre of soil; therefore, compliance with Rule 5 is anticipated.

Construction in a Floodway (IDNR): A portion of the project is located within the mapped floodway of Cool Creek. Fill placed within the regulated floodway will require a Construction in a Floodway Permit. No trees within the floodway will be removed.

Construction in a Floodplain (Hamilton County): A portion of the project is located within the 100-year floodplain of Cool Creek. Fill placed within the 100-year floodplain will require a permit and mitigation under Hamilton County Ordinance 9-26-16-A.

Applicable recommendations provided by IDEM, IDNR, and Hamilton County are included in the Environmental Commitments section of this document. If a Section 404/401 or Construction in a Floodway permit is found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

It is the responsibility of the City of Westfield to obtain the necessary permits.

SECTION J- ENVIRONMENTAL COMMITMENTS

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

Remarks: **Firm:**

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) will be contacted immediately. (INDOT)
2. The project sponsor shall notify law enforcement, emergency services, and local school districts of the road closure at least two weeks prior to construction. (INDOT)
3. A pedestrian MOT with appropriate detour signs will be implemented, which will maintain ADA compliance of the Natalie Wheeler Trail. The trail will remain open for use by the public with no permanent transfer of property. (INDOT)
4. Natalie Wheeler trail is being shifted slightly to accommodate the new roundabout. The trail will be fully restored to pre-project conditions on new alignment. (INDOT)
5. Cool Creek is impaired with E. coli. Work within this creek will be minimal, however; workers who are working in or near water with E. coli should take care to wear appropriate PPE, observe proper hygiene procedures including regular hand washing, and limit personal exposure. (INDOT)
6. General AMM: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
7. Lighting AMM1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
8. Lighting AMM2: When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable. (USFWS)
9. Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
10. Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
11. Tree removal shall occur outside the restricted season for bats as determined by the USFWS. (USFWS)
12. Contractors must take care when handling dead or injured bats (regardless of species), and any other federally listed species that are found at the Project site in order to preserve biological material in the best possible condition and protect the handler from exposure to diseases, such as rabies. Project personnel are responsible for ensuring that any evidence about determining the cause of death or injury is not unnecessarily disturbed. Reporting the discovery of dead or injured listed species is required in all cases to enable the Service to determine whether the level of incidental take exempted by the BO is exceeded, and to ensure that the terms and conditions are appropriate and effective. Parties finding a dead, injured, or sick specimen of any bat (regardless of species), or other endangered or threatened species, must promptly notify the USFWS Bloomington Field Office at (812) 334-4261. (USFWS)

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13. A "Reinitiation Notice" is required if: more than 0.06 acre of trees are to be cleared; the amount or extent of incidental take of Indiana bat is exceeded; new information about listed species is encountered; new species is listed or critical habitat designated that the project may affect; the project is modified in a manner that causes an effect to the listed species; or, new information reveals that the project may affect listed species or critical habitat in a manner not considered in the BO or the project information. (USFWS)
14. The INDOT Project Manager will assure that \$954.81 of Preliminary Engineering funds will be allocated to the Rangewide In-Lieu Fee Program, administered by The Conservation Fund, to resolve formal consultation under the Rangewide Programmatic (0.06 acre x 1.5 x \$10,609 = \$954.81). Payment shall be made at Ready for Contracts (RFC) date. (INDOT-ESD, USFWS)
15. Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10 inches dbh or greater (5:1 mitigation based on the number of large trees). (IDNR-DFW)
16. Revegetate all bare and disturbed areas that will not be mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in regularly mowed areas only. (IDNR-DFW)
17. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30. (IDNR-DFW)
18. Replacement of the two identified County section corners will need to be coordinated through the HCSO Staff Surveyor. (HCSO)
19. Detention will be required for the increase in impervious areas being added by the project. (HCSO)
20. At least two weeks prior to road closures, provide the start and completion date of the project to the City of Westfield Fire Department Division Chief (317-804-3307) so the department can evaluate response times for emergencies and potential re-routing. (City of Westfield Fire Department).
21. A pedestrian MOT will be implemented for the Natalie Wheeler Trail, which will maintain ADA compliance. The trail will remain open for use by the public with no permanent transfer of property. (City of Westfield)
- For Further Consideration:**
22. Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap. (USFWS)
23. Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If rip rap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat. (USFWS)

SECTION K- EARLY COORDINATION

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

Remarks:

With the exception of the IDNR Natural Heritage Database request, which was sent on February 8, 2018 as part of the RFI, early coordination was initiated on June 27, 2018 via an early coordination letter package sent to applicable federal, state, and local agencies (Appendix C, page C-1). Comments and recommendations from those agencies that responded have been incorporated into this study, as appropriate. The resource agencies, response date, and location in appendices are listed below.

Agency	Division	Response Date	Appendix - Page Number
Indiana Department of Transportation	Public Hearings	July 2, 2018	C-15
U.S. Army Corps of Engineers	Louisville District	No Response	
Westfield City Council	District 1	No Response	
Westfield City Council	District 4	No Response	
City of Westfield	Public Works: MS-4	No Response	
City of Westfield	Mayor	No Response	
City of Westfield	Fire Department	June 29, 2018	C-18

Indiana Department of Transportation

County Hamilton Route 161st and Union Streets Des. No. 1700729

City of Westfield	Police Department	No Response	
City of Westfield	Parks and Recreation	No Response	
City of Westfield	Economic and Community Development		
Hamilton County	Surveyor's Office	July 20, 2018	C-19
U.S. Department of the Interior	National Park Service	No Response	
U.S. Fish and Wildlife Service	Bloomington Field Office	July 3, 2018	C-24
Indiana Department of Natural Resources	Division of Fish and Wildlife	July 26, 2018	C-13
U.S. Department of Housing and Urban Development	Chicago Regional Office	No Response	
Indiana Department of Environmental Management	Environmental Review	Automatic Generation May 8, 2019	C-5
Indiana Geological Survey	State Geologist	Online Assessment June 27, 2018	C-21
U.S. Department of Agriculture	Natural Resources Conservation Service	July 30, 2018	C-16

Indiana Department of Transportation

County Hamilton County Route N/A Des. No. 1700729

APPENDICES

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Appendix A

Supporting Documentation

Categorical Exclusion Level Threshold Table.....	A-1
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Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4 ¹
Section 106	Falls within guidelines of Minor Projects PA	“No Historic Properties Affected”	“No Adverse Effect”	-	“Adverse Effect” Or Historic Bridge involvement ²
Stream Impacts	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	Individual 404 Permit
Wetland Impacts	No adverse impacts to wetlands	< 0.1 acre	-	< 1 acre	≥ 1 acre
Right-of-way³	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)	“No Effect”, “Not likely to Adversely Affect” (Without AMMs ⁴ or with AMMs required for all projects ⁵)	“Not likely to Adversely Affect” (With any other AMMs)	-	“Likely to Adversely Affect”	Project does not fall under Species Specific Programmatic
Threatened/Endangered Species (Any other species)	Falls within guidelines of USFWS 2013 Interim Policy	“No Effect”, “Not likely to Adversely Affect”	-	-	“Likely to Adversely Affect”
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential ⁶
Sole Source Aquifer	Detailed Assessment Not Required	-	-	-	Detailed Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Coastal Zone Consistency	Consistent	-	-	-	Not Consistent
National Wild and Scenic River	Not Present	-	-	-	Present
New Alignment	None	-	-	-	Any
Section 4(f) Impacts	None	-	-	-	Any
Section 6(f) Impacts	None	-	-	-	Any
Added Through Lane	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Coast Guard Permit	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes ⁷
Approval Level <ul style="list-style-type: none"> • District Env. Supervisor • Env. Services Division • FHWA 	Concurrence by INDOT District Environmental or Environmental Services	Yes	Yes	Yes Yes	Yes Yes Yes

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

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

³Permanent and/or temporary right-of-way.

⁴AMMs = Avoidance and Mitigation Measures.

⁵AMMs determined by the IPAC decision key to be needed that are listed in the USFWS *User’s Guide for the Range-wide Programmatic Consultation for Indiana bat and Northern long-eared bat* as “required for all projects”.

⁶Potential for causing a disproportionately high and adverse impact.

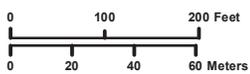
⁷Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

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

Appendix B

Graphics

Project Location and Topographic Map.....	B-1
Aerial View and Right-of-Way.....	B-2
Photographs	B-3
Stage 2 Design Plans	B-8



- Photo Station
- Existing Right-of-Way, Trail
- County Land Parcels
- Liberty Park
- Existing Right-of-Way
- Proposed Right-of-Way
- Apparent Right-of-Way

2

Township: 18N
Range: 3E & 4E
Section: 12 & 7
Project No.
J175336600

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Figure 2: Aerial View and Right-of-Way (2017 Aerial)
161st and Union Street Roundabout Environmental Documentation
City of Westfield
Hamilton County, Indiana



3901 Industrial Blvd., Indianapolis, IN 46254
 Phone (+1) 317-388-1982 Fax (+1) 317-388-1982
 www.cardno.com



PS01, Union Street, Southern Boundary, View Looking North



PS01, Union Street, Southern Boundary, View Looking South



PS02, Union Street, Southern Boundary, View Looking North



PS02, Union Street, Southern Boundary, View Looking South

<p>Project Number: J175336600</p>	<p>Site Photographs (taken 10/31/2017)</p>	<p>161st and Union Street Roundabout City of Westfield Hamilton County, Indiana</p>	
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PS03, At Intersection, View Looking North



PS03, At Intersection, View Looking East



PS03, At Intersection, View Looking South



PS03, At Intersection, View Looking West

<p>Project Number: J175336600</p>	<p>Site Photographs (taken 10/31/2017)</p>	<p>161st and Union Street Roundabout City of Westfield Hamilton County, Indiana</p>	
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PS04, Cool Creek, View Looking North



PS04, Cool Creek, View Looking South



PS05, Cool Creek, View Looking North



PS05, Cool Creek View Looking South

<p>Project Number: J175336600</p>	<p>Site Photographs (taken 10/31/2017)</p>	<p>161st and Union Street Roundabout City of Westfield Hamilton County, Indiana</p>	
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PS06, Union Street, Northern Boundary, View Looking North



PS06, Union Street, Northern Boundary, View Looking East



PS06, Union Street, Northern Boundary, View Looking South



PS06, Union Street, Northern Boundary, View Looking West

<p>Project Number: J175336600</p>	<p>Site Photographs (taken 10/31/2017)</p>	<p>161st and Union Street Roundabout City of Westfield Hamilton County, Indiana</p>	
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PS07, 161st Street, Western Boundary, View Looking East



PS07, 161st Street, Western Boundary, View Looking West

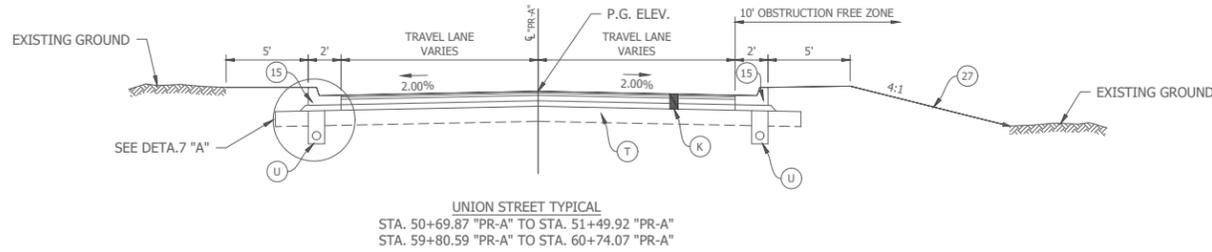
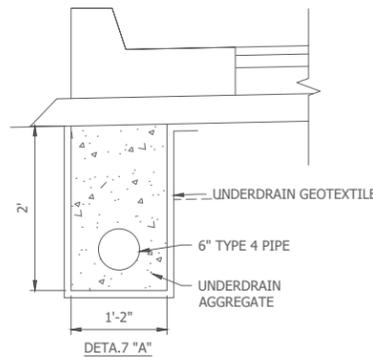


PS08, 161st Street, Western Boundary, View Looking East

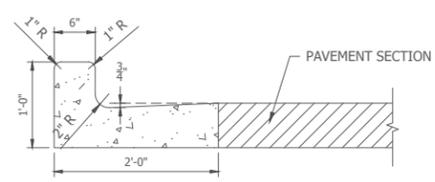
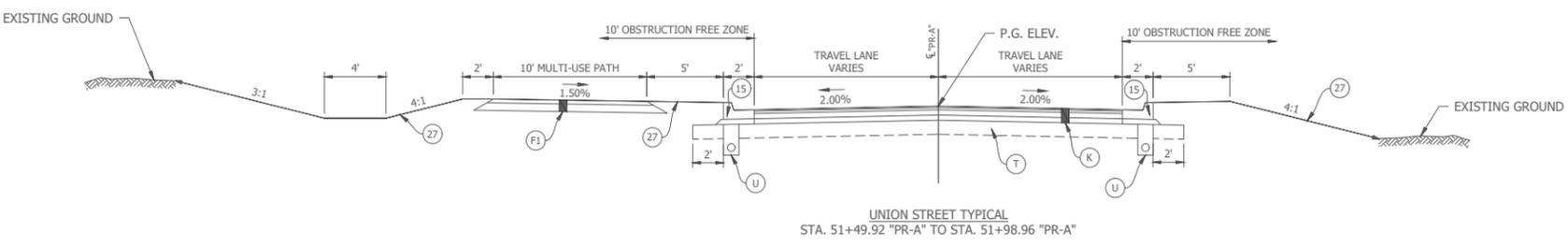


PS08, 161st Street, Western Boundary, View Looking West

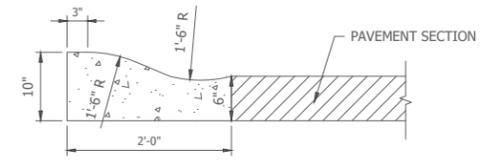
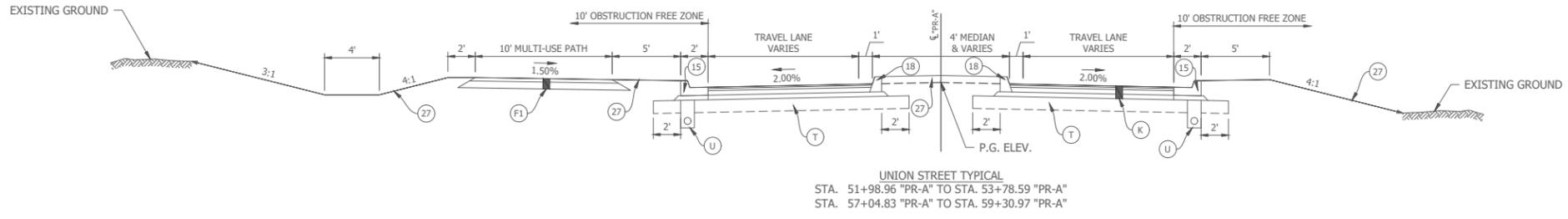
<p>Project Number: J175336600</p>	<p>Site Photographs (taken 10/31/2017)</p>	<p>161st and Union Street Roundabout City of Westfield Hamilton County, Indiana</p>	
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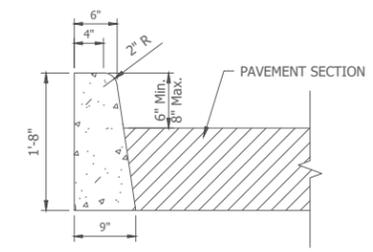
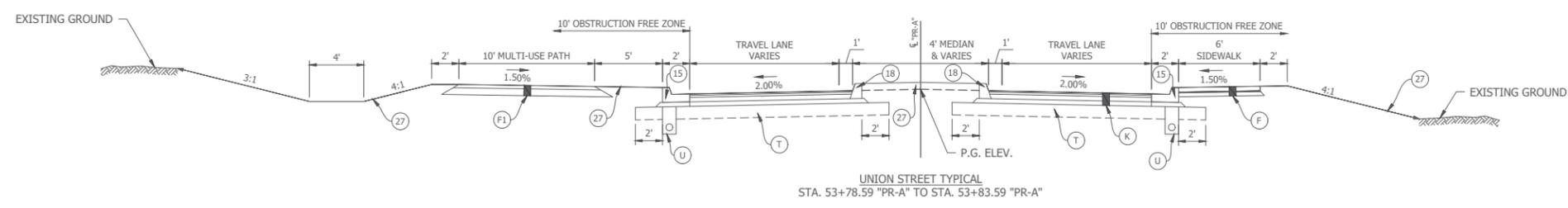
- LEGEND**
- (F) SIDEWALK, CONCRETE 4"
 - (F1) HMA FOR SIDEWALK
140 LB/YD² HMA SURFACE, TYPE B, ON
220 LB/YD² HMA INTERMEDIATE, TYPE B
 - (F2) TRUCK APRON, CONCRETE 7"
 - (K) FULL DEPTH PAVEMENT
(PAVEMENT SECTION TBD)
 - (T) SUBGRADE TREATMENT, TYPE 1B
 - (U) UNDERDRAIN
 - (15) CURB & GUTTER, CONCRETE, MODIFIED
 - (16) CURB & GUTTER, CONCRETE, ROLL
 - (18) CURB, CONCRETE, MODIFIED
 - (27) SEEDING MIXTURE, U



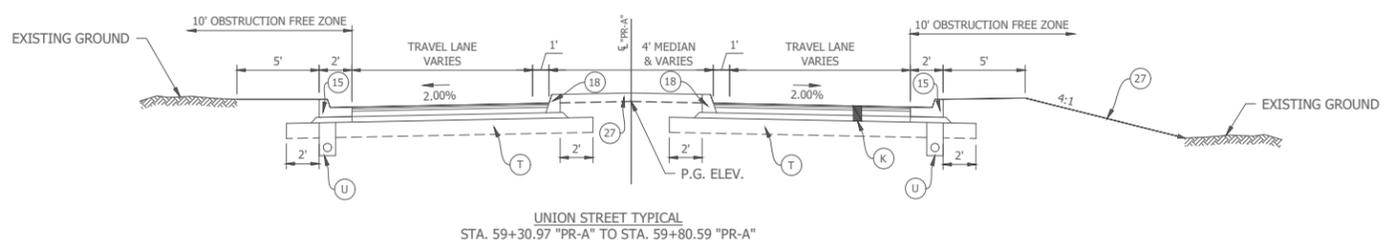
TYPE 2 CURB DETAIL
CURB AND GUTTER
CONCRETE, MODIFIED



TYPE 1 CURB DETAIL
CURB AND GUTTER
CONCRETE, ROLL



VERTICAL CONCRETE CURB
CURB, CONCRETE, MODIFIED



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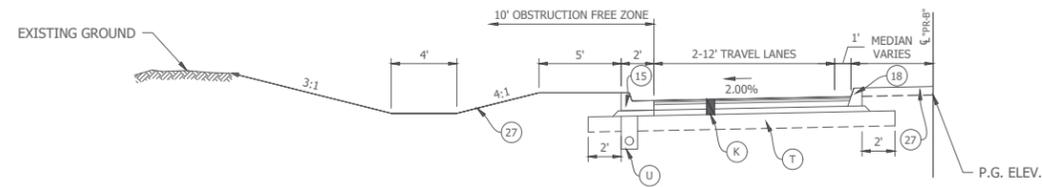


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		3/20/19
DESIGNED: JMN	3/20/19	DRAWN: LAB
		3/20/19
CHECKED: JMN	3/20/19	CHECKED: AB
		3/20/19

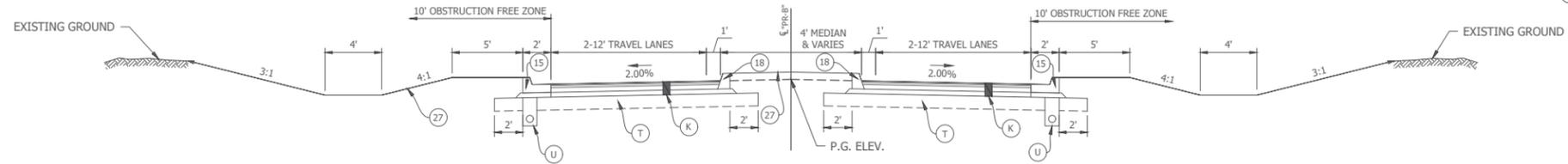
INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

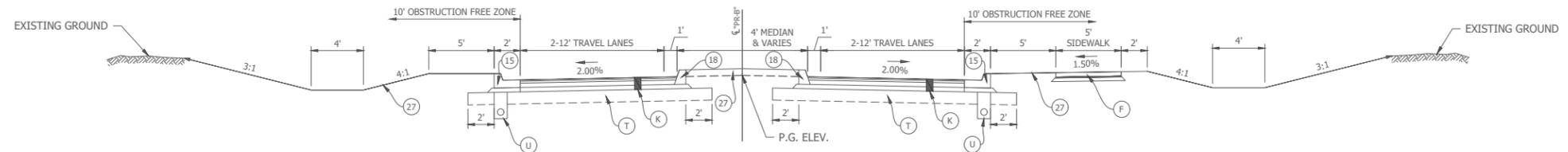
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1"=5'	N.A.
VERT. SCALE	DESIGNATION
1"=5'	1700729
SURVEY BOOK	SHEETS
N.A.	3 of 34
CONTRACT	PROJECT
N.A.	1700729



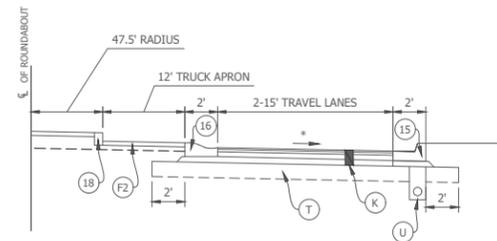
161ST STREET TYPICAL
STA. 101+33.17 "PR-B" TO STA. 102+61.05 "PR-B"



161ST STREET TYPICAL
STA. 102+61.05 "PR-B" TO STA. 103+76.11 "PR-B"



161ST STREET TYPICAL
STA. 103+76.11 "PR-B" TO STA. 106+10.34 "PR-B"



ROUNDABOUT TYPICAL
STA. 106+10.34 "PR-B" TO STA. 109+32.49 "PR-B"
STA. 53+83.59 "PR-A" TO STA. 57+04.83 "PR-A"

*SEE ROUNDABOUT SPOT ELEVATIONS

LEGEND

- (F) SIDEWALK, CONCRETE
- (F1) HMA FOR SIDEWALK
140 LB/YD² HMA SURFACE, TYPE B, ON
220 LB/YD² HMA INTERMEDIATE, TYPE B
- (F2) TRUCK APRON, CONCRETE
- (K) FULL DEPTH PAVEMENT
(PAVEMENT SECTION TBD)
- (T) SUBGRADE TREATMENT, TYPE 1B
- (U) UNDERDRAIN
- (15) CURB & GUTTER, CONCRETE, MODIFIED
- (16) CURB & GUTTER, CONCRETE, ROLL
- (18) CURB, CONCRETE, MODIFIED
- (27) SEEDING MIXTURE, U

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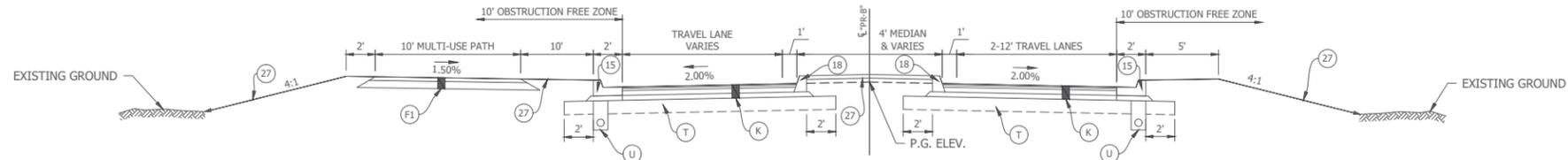


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: JMN	3/20/19	DRAWN: LAB
CHECKED: JMN	3/20/19	CHECKED: AB

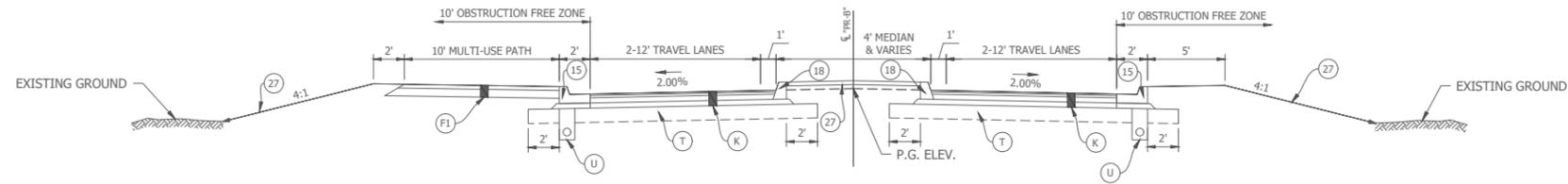
INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

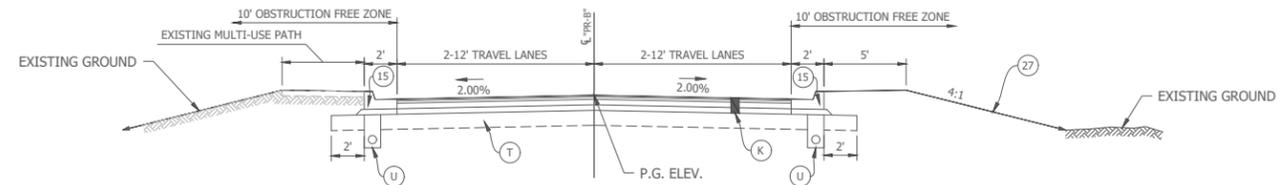
SCALE	BRIDGE FILE
1"=5'	N.A.
VERT. SCALE	DESIGNATION
1"=5'	1700729
SURVEY BOOK	SHEETS
N.A.	4 of 34
CONTRACT	PROJECT
N.A.	1700729



161ST STREET TYPICAL
STA. 109+32.49 "PR-B" TO STA. 110+13.68 "PR-B"



161ST STREET TYPICAL
STA. 110+13.68 "PR-B" TO STA. 111+16.36 "PR-B"



161ST STREET TYPICAL
STA. 111+16.36 "PR-B" TO STA. 112+13.53 "PR-B"

LEGEND

- (F) SIDEWALK, CONCRETE
- (F1) HMA FOR SIDEWALK
140 LB/YD² HMA SURFACE, TYPE B, ON
220 LB/YD² HMA INTERMEDIATE, TYPE B
- (F2) TRUCK APRON, CONCRETE
- (K) FULL DEPTH PAVEMENT
(PAVEMENT SECTION TBD)
- (T) SUBGRADE TREATMENT, TYPE 1B
- (U) UNDERDRAIN
- (15) CURB & GUTTER, CONCRETE, MODIFIED
- (16) CURB & GUTTER, CONCRETE, ROLL
- (18) CURB, CONCRETE, MODIFIED
- (27) SEEDING MIXTURE, U

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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		3/20/19
DESIGNED: JMN	3/20/19	DRAWN: LAB
		3/20/19
CHECKED: JMN	3/20/19	CHECKED: AB
		3/20/19

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SCALE	BRIDGE FILE
1"=5'	N.A.
VERT. SCALE	DESIGNATION
1"=5'	1700729
SURVEY BOOK	SHEETS
N.A.	5 of 34
CONTRACT	PROJECT
N.A.	1700729



DETAIL "A"

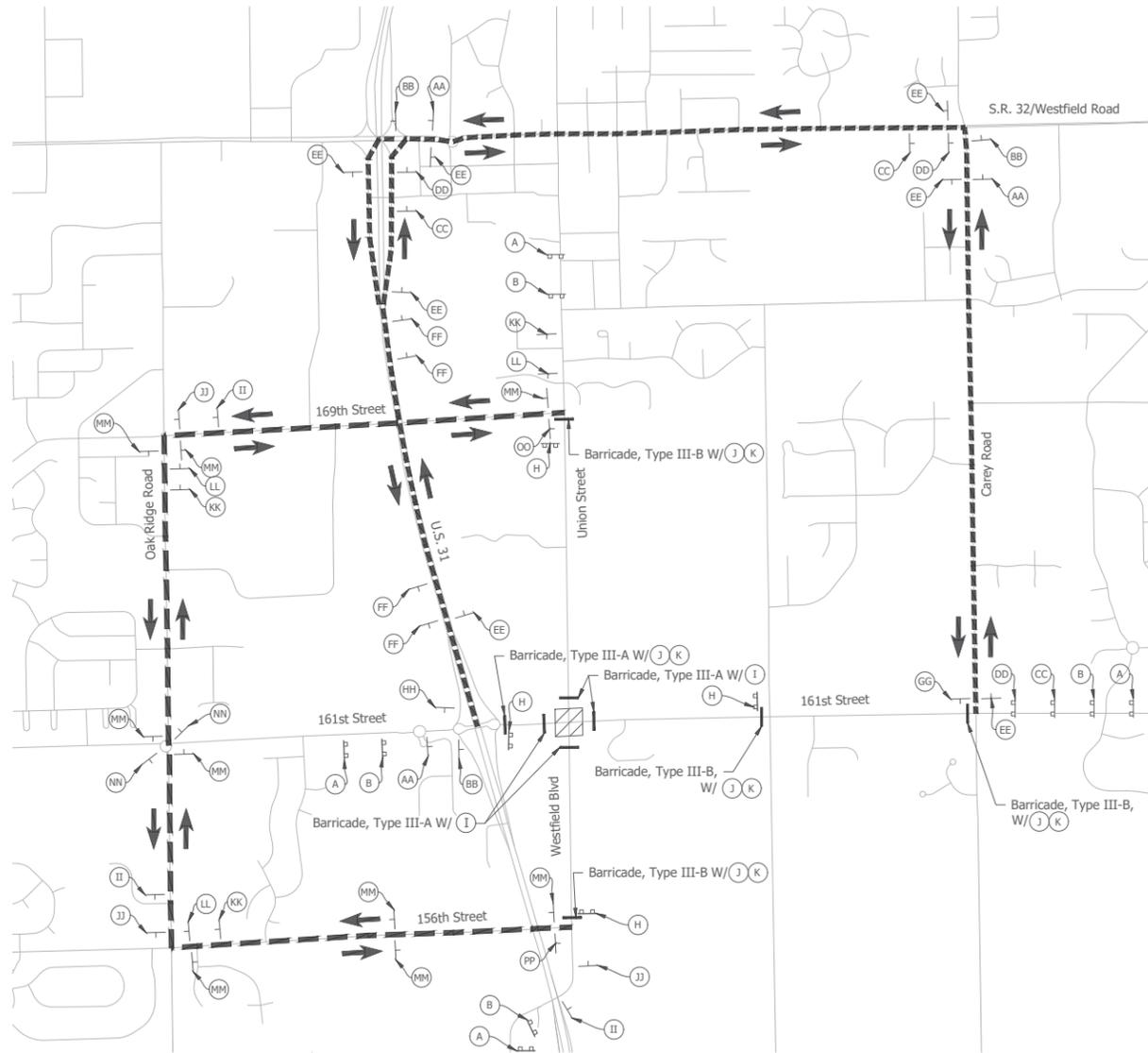


DETAIL "B"

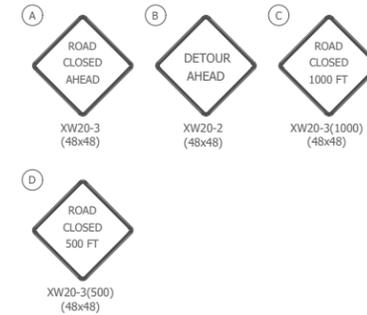
SUMMARY OF QUANTITIES		
ITEM	UNIT	QUANTITY
DETOUR ROUTE ASSEMBLY	EA	-
ROAD CLOSURE SIGN ASSEMBLY	EA	-
CONSTRUCTION SIGN TYPE "A"	EA	-
CONSTRUCTION SIGN TYPE "C"	EA	-
BARRICADE TYPE III-A	LFT	-
BARRICADE TYPE III-B	LFT	-

LEGEND

- Construction Sign, Type A
- Construction Warning Light, Type A
- Detour Route Marker Assembly
- Barricade, (Type Specified in Detail)
- Construction Area
- Detour Route - 161st Street
- Detour Route - Union Street
- Direction of Traffic Flow



OFFICIAL DETOUR

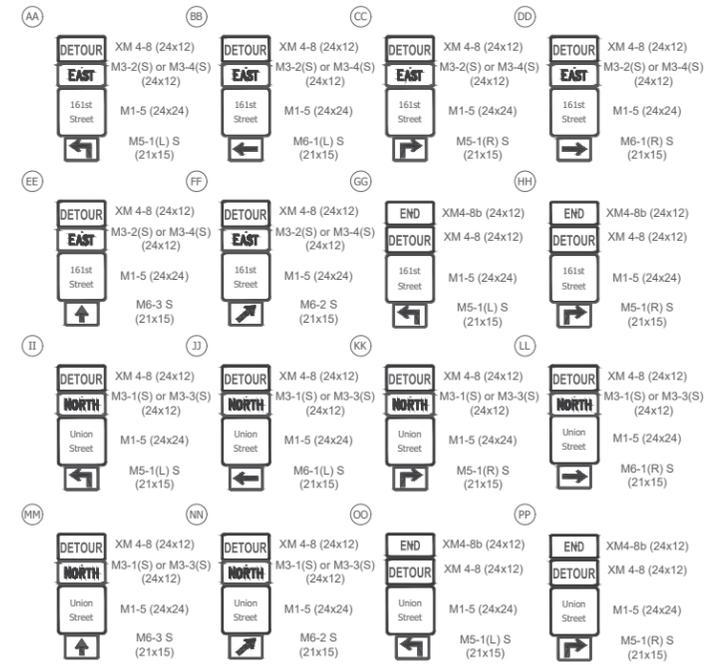


CONSTRUCTION SIGNS TYPE "A"



CONSTRUCTION SIGN TYPE "C"

ROAD CLOSURE SIGN ASSEMBLIES



DETOUR ROUTE MARKER ASSEMBLIES

Note: Construction sign location and spacing shall be performed in accordance with current INDOT specifications and drawings and the current Indiana Manual on Uniform Traffic Control Devices.



STAGE 2 SUBMITTAL
NOT FOR CONSTRUCTION

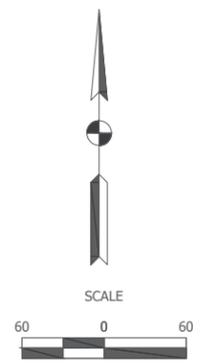
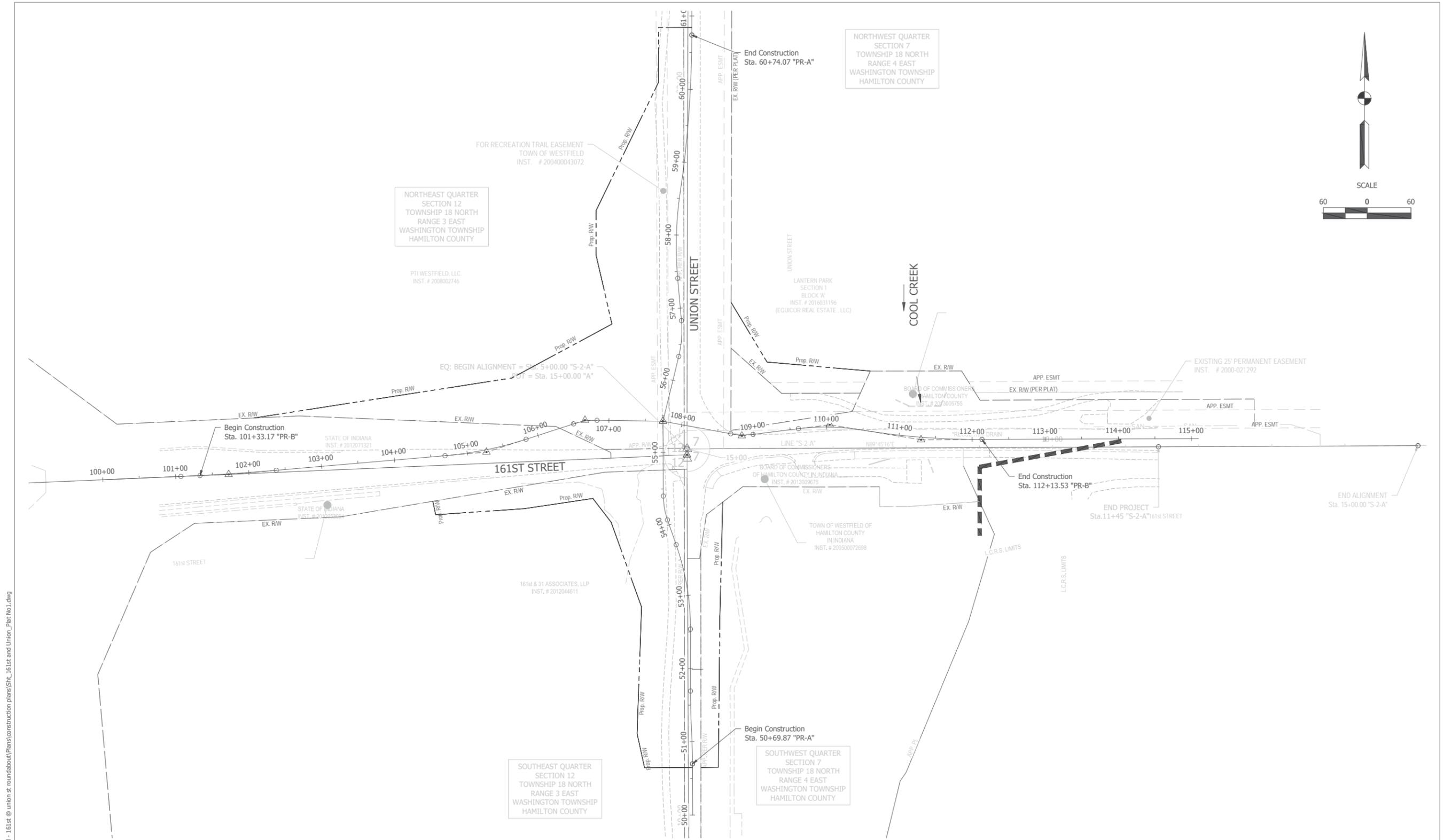
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: JMN	DRAWN: LAB	
CHECKED: JMN	CHECKED: AB	

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC

SCALE	BRIDGE FILE
1" = 1000'	N.A.
VERT. SCALE	DESIGNATION
N.A.	1700729
SURVEY BOOK	SHEETS
N.A.	6 of 34
CONTRACT	PROJECT
N.A.	1700729

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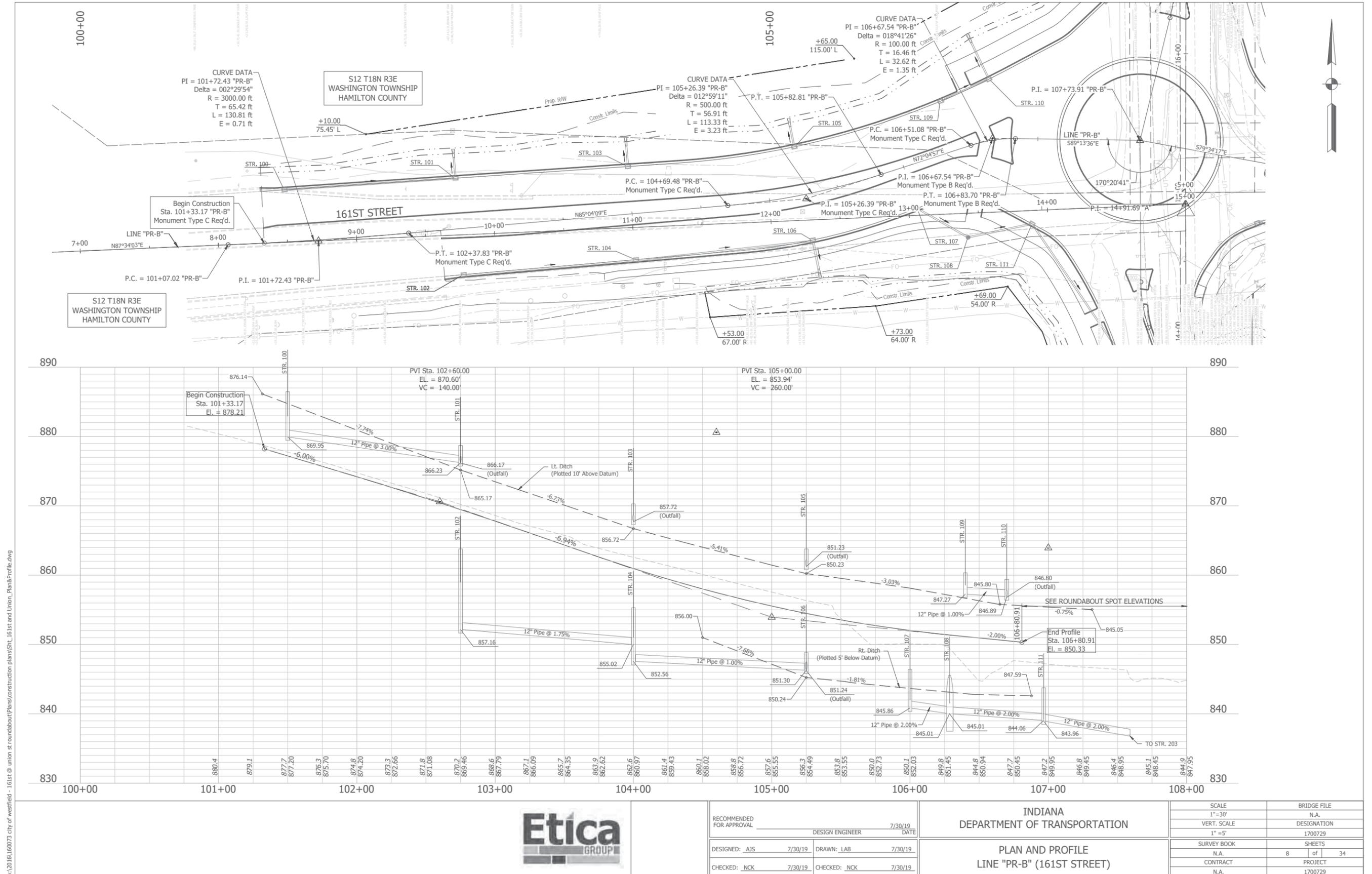


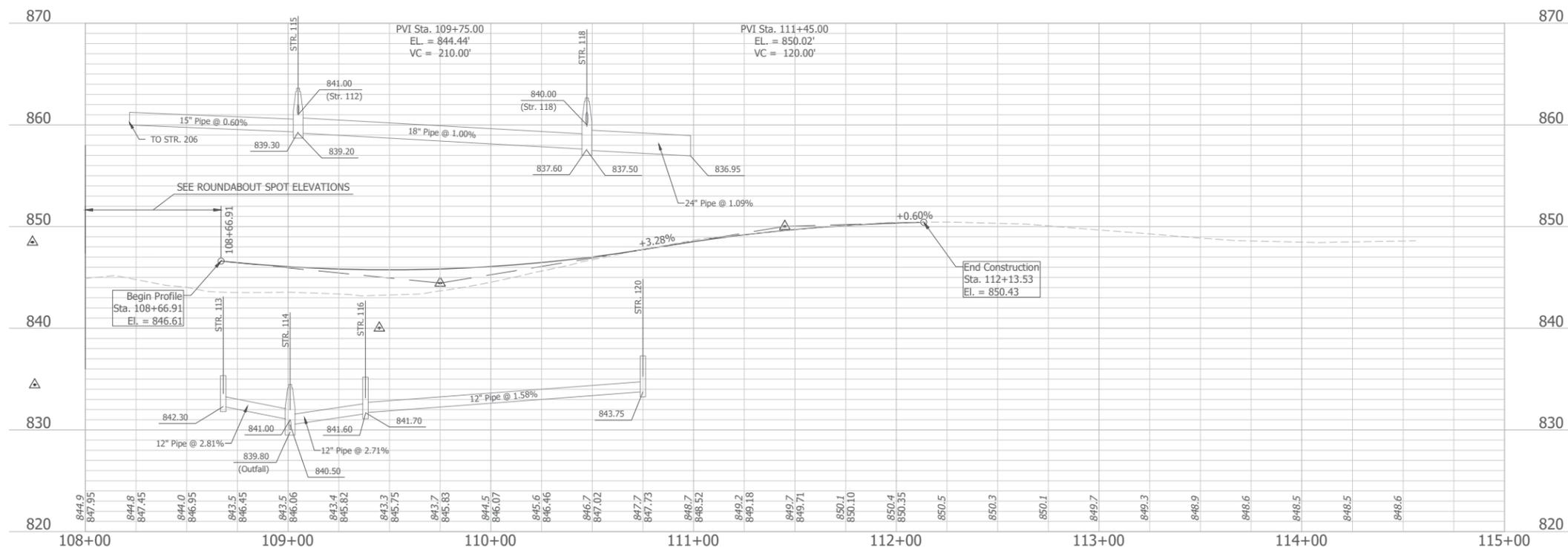
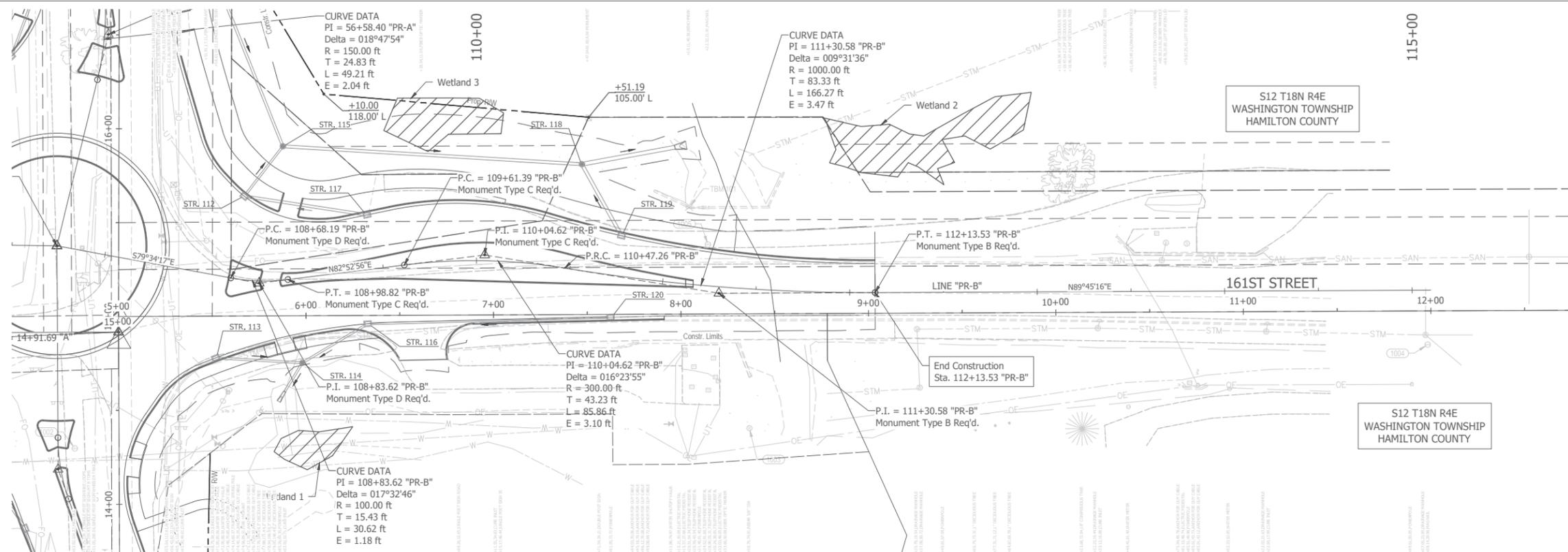
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
	JMN	3/19/19
DESIGNED:	JMN	3/19/19
DRAWN:	LAB	3/19/19
CHECKED:	JMN	3/19/19
	AB	3/19/19

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAT NO 1

SCALE	BRIDGE FILE
1"=60'	N.A.
VERT. SCALE	DESIGNATION
N.A.	1700729
SURVEY BOOK	SHEETS
N.A.	7 of 34
CONTRACT	PROJECT
N.A.	1700729





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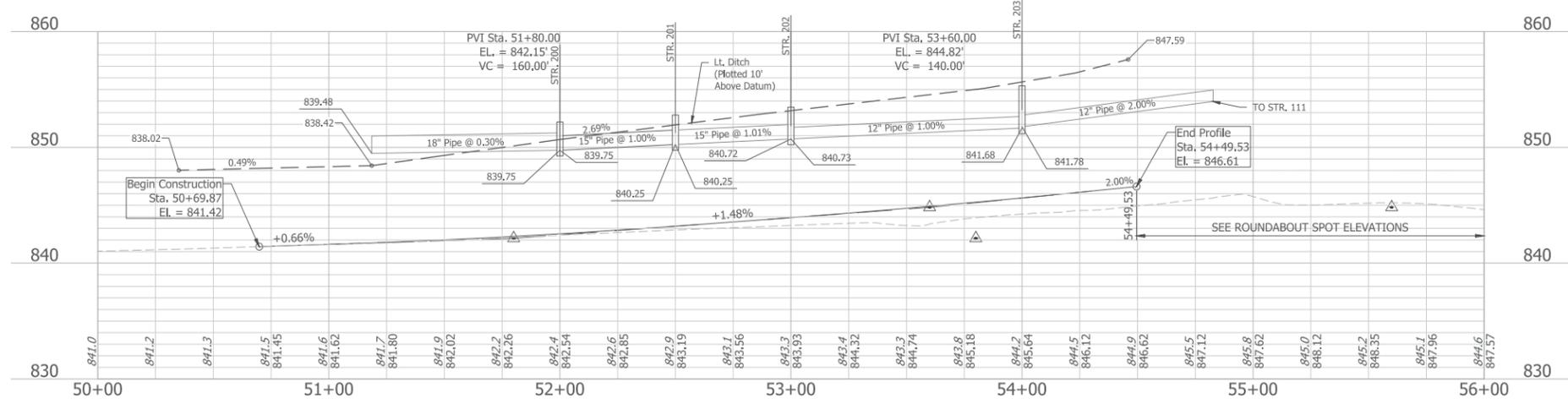
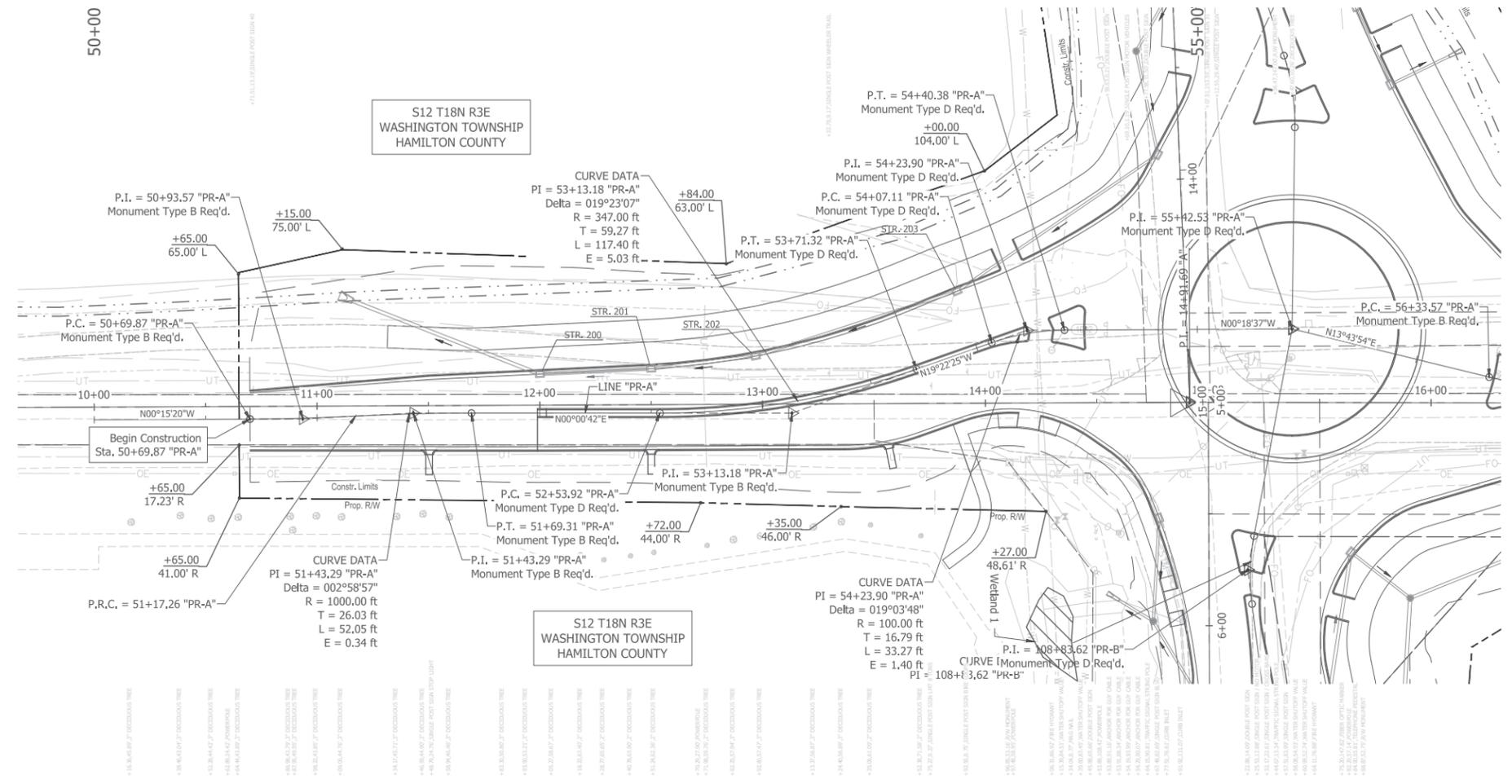
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	7/30/19	DATE
DESIGNED: AJS	7/30/19	DRAWN: LAB	7/30/19
CHECKED: NCK	7/30/19	CHECKED: NCK	7/30/19

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
LINE "PR-B" (161ST STREET)

SCALE	BRIDGE FILE
1"=30'	N.A.
VERT. SCALE	DESIGNATION
1"=5'	1700729
SURVEY BOOK	SHEETS
N.A.	9 of 34
CONTRACT	PROJECT
N.A.	1700729

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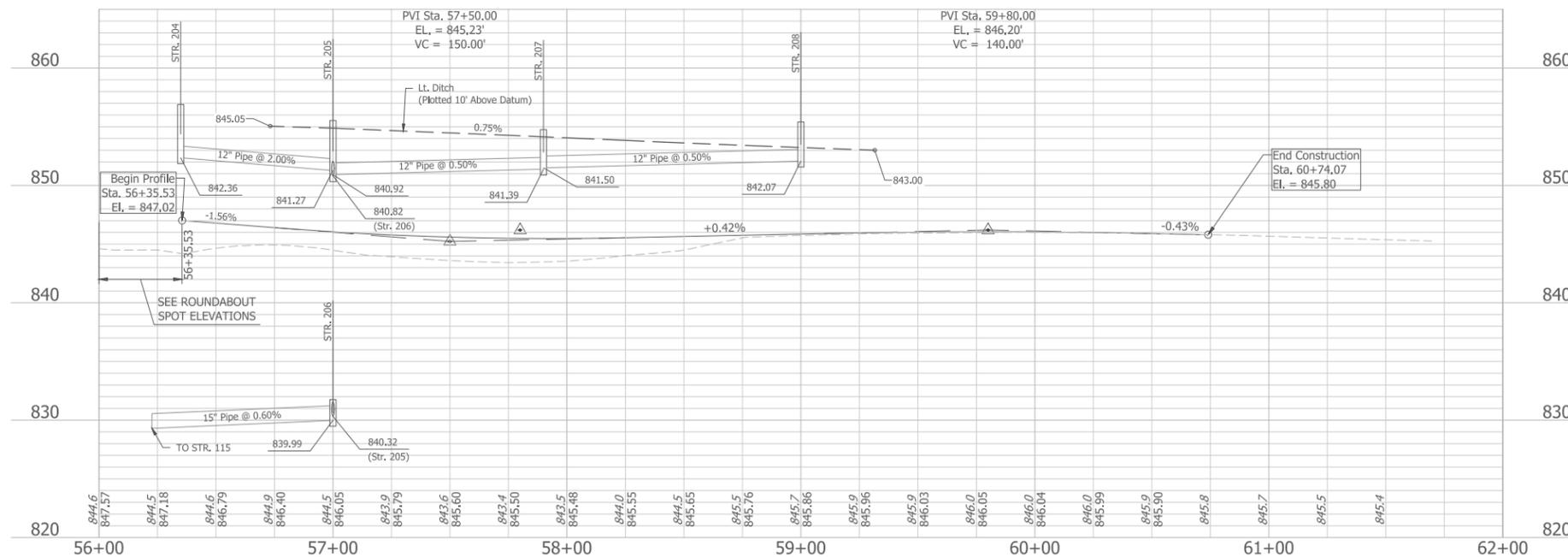
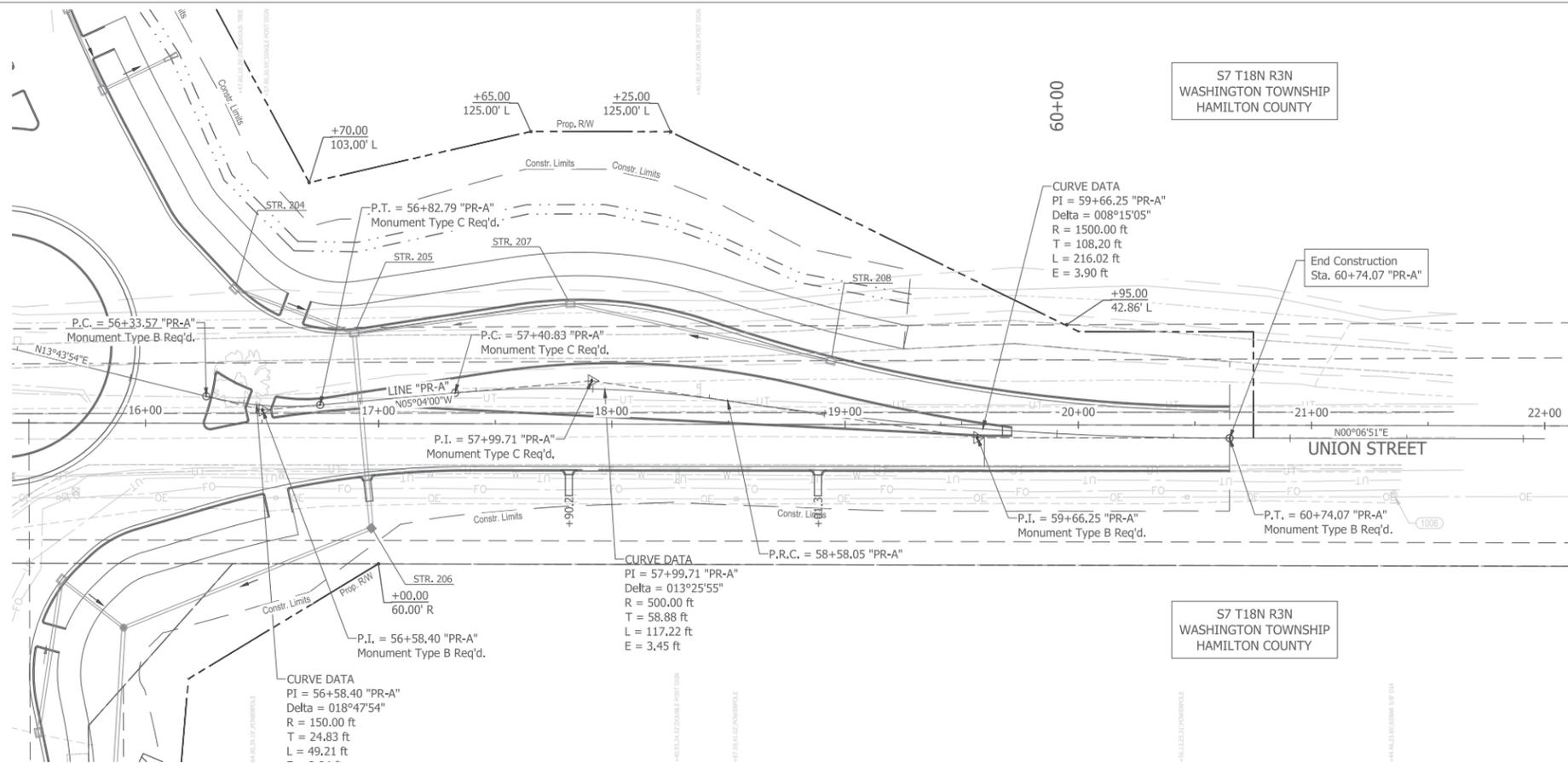


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	7/30/19	DATE
DESIGNED: <u>AJS</u>	7/30/19	DRAWN: <u>LAB</u>	7/30/19
CHECKED: <u>NCK</u>	7/30/19	CHECKED: <u>NCK</u>	7/30/19

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
LINE "PR-A" (UNION STREET)

SCALE	BRIDGE FILE
1"=30'	N.A.
VERT. SCALE	DESIGNATION
1" = 5'	1700729
SURVEY BOOK	SHEETS
N.A.	10 of 34
CONTRACT	PROJECT
N.A.	1700729



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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	7/30/19	DATE
DESIGNED: <u>AJS</u>	7/30/19	DRAWN: <u>LAB</u>	7/30/19
CHECKED: <u>NCK</u>	7/30/19	CHECKED: <u>NCK</u>	7/30/19

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
LINE "PR-A" (UNION STREET)

SCALE	BRIDGE FILE
1" = 30'	N.A.
VERT. SCALE	DESIGNATION
1" = 5'	1700729
SURVEY BOOK	SHEETS
N.A.	11 of 34
CONTRACT	PROJECT
N.A.	1700729