WAR US 42 16.56 – Part 1
PID 124588

Programmatic Scope Narrative

Project Description:

Improve safety by constructing a roundabout at US-42/Old 122/Middletown Rd.

Note: This project is Part 1 of a combined project. Part 2 is PID 124820, which will be designed by ODOT District 8 and will construct a left turn lane at US42 & Township Line Rd.

Upcoming work planned near this project includes:

1. There are no other planned ODOT projects within the 6-year capital workplan at this location at this time.

For more information on planned projects in the area, please visit TIMS or District 8's MYWP site at http://www.dot.state.oh.us/districts/D08/Pages/District-8-Multi-Year-Work-Plan.aspx.

Stakeholders:
Stakeholders identified at the time of project initiation are as follows:

- ODOT District 8 and Central Office (plan review, detour coordination)
- Warren County Engineer's Office (plan review, detour coordination)
- Clearcreek Township (plan review, detour coordination)
- Wayne Township (plan review, detour coordination)
- Utilities within the project limits (plan review)
- Schools (detour notification)
- Emergency responders (detour notification)
- FHWA
- Environmental resource agencies (USACE, EPA, SHPO, USFW)
- Residents & business owners along the corridor (detour notification)

Discipline specific scope items have been identified below.

Roadway:

- Follow ODOT's L&D Manuals for geometrics.
- The Intersection Design Vehicle for this project shall be a WB-67. The Intersection Check Vehicle shall be a WisDOT WB-92 traveling through the intersection on US 42 with no turns to or from Old 122/Middletown Rd.

- The roundabout central truck apron and outside truck aprons shall be designed to accommodate the Design Check Vehicle.
    - To accommodate lowboy trailers, the profile grade of the circulatory profile shall be within the range of 0.75% - 1.00%, and cross slopes of truck aprons shall be 1%.
- The design shall accommodate agricultural equipment.
    - Provide a minimum 2' graded shoulder beyond the back of Type 3 curb on US 42 and Old 122/Middletown Rd to accommodate large agricultural equipment navigating around vertical elements. Expand graded shoulder as needed based on truck and agricultural vehicle turning templates. Provide a 2' graded shoulder beyond the back of curb on outside truck aprons.
    - Large tractors and combines will need to offtrack past the curb lines, thus curbs shall be easily mountable and not cause rubbing on tire sidewalls.
        - Use Type 3 curb rolled curb on the approaches to the roundabout.
        - Use Type 9 curb on the truck aprons.
        - Use a Type 9 style curb on splitter islands. A gutter does not need to be provided unless necessary for drainage.
    - Offset the spacing of all vertical elements including utility poles, signs, light poles, etc. to avoid pinch points for wide agricultural equipment and oversized loads. A minimum 4' offset to vertical elements is to be used. Wider offsets can be used if it is not critical to Right of Way impacts or causes additional relocations.
- A conceptual/pre-stage 1 geometric submission was developed **by others** to determine the potential roundabout locations & design parameters. See attached 'Pre Stage 1 Concepts-010826'. This will assist in beginning the Right of Way process early on. District plans to further study the concepts internally. The selected consultant will need to verify the conceptual/pre-stage 1 information is accurate with survey data, as the initial submittal was completed with LiDAR data. This is to include the following:
    - Figure 403-2 Roundabout Design Parameters.
    - Entry Angle.
    - Fastest Path Analysis.
    - Roundabout Geometric Layout.
    - Roundabout Sight Distance.
    - Identify any parcels that are likely to be impacted, and/or any "total takes" or relocations.
    - Turning Templates showing all movements of the Design and Check Vehicles.
- Curb ramps and crosswalks are to be included on all four corners of the intersection. Sidewalk should connect the curb ramps to each other, but does not need to extend beyond the footprint of the circulatory roadway at this time.

Aesthetics

- The ODOT District 8 Roundabout Aesthetic Design Elements guide shall be used to identify baseline treatments for the roundabout intersection.
- The ODOT Project Manager shall coordinate with Warren County Engineer's Office and Wayne Township to confirm they support proceeding with the District 8 roundabout

baseline aesthetics. If the local public agencies choose to construct upgraded central island aesthetics via permit after the project is constructed, then the central island shall be seeded in lieu of the District 8 baseline treatment.
- Detailed information and an example location has been uploaded to the FTP site.

Traffic Control:
- Replace existing pavement markings. Use Item 644 - Thermoplastic on asphalt surfaces and Item 646 - Epoxy on concrete surfaces.
- Install RPMs on US 42. Coordinate with Warren County Engineer's Office regarding RPM's on local routes.
- Replace the intersection ahead warning signs with the appropriate intersection warning signs for a roundabout, with advisory speed, per the OMUTCD and ODOT's TEM.
- Install all new signs per the OMUTCD and ODOT's TEM.
- Remove the existing overhead flasher at the Old 122 intersection, including the cabinet, any associated wiring, and any associated conduit.
- Intersection lighting for the new roundabout will be required per ODOT standards. All light poles shall be offset a minimum of 4' from the back of curb on roadway approaches to allow space for trucks and agricultural equipment. Expand offset as needed based on turning templates.
- Signs shall be located a minimum of 4' from the back of curb on roadway approaches to allow space for trucks and agricultural equipment. Expand offset as needed based on turning templates.

Traffic Analysis:
Not applicable. Traffic analysis was previously completed by ODOT & Arcadis in a previous safety study.

Railroads:
Not applicable. There are no railroads within the project limits.

Geotechnical:
- Follow ODOT's Specifications for Geotechnical Explorations (SGE) Manual.
- Geotechnical borings will be required for design of this project.
- Draft geotechnical report and soil profile sheets are to be submitted at Stage 1

Design Designations:

The design designations were developed by utilizing ODOT's Traffic Forecast Management System.

LOCATION	US-42 SLM 15.60-16.19	US-42 SLM 16.19-Old 122	US-42 north of Old 122	Old 122 west of US-42
Functional Classification	04 Minor Arterial (Rural)	04 Minor Arterial (Rural)	04 Minor Arterial (Rural)	05 Major Collector (Rural)
OPENING YEAR AADT (2029)	9,500	9,500	9,500	8,100
DESIGN YEAR AADT (2049)	10,500	10,500	10,500	9,400
DESIGN HOURLY VOLUME (2049)	1,400	1,400	1,400	1,200
DIRECTIONAL DISTRIBUTION	0.58	0.58	0.58	0.55
TRUCKS (24 HOUR B&C)	3%	3%	3%	4%
TRUCKS (DESIGN HOUR)	2%	2%	2%	3%
NHS PROJECT	No	No	Intermodal Connector	Intermodal Connector
Posted Speed (mph)	55	45	45*	45
Design Speed (mph)	60	45	45*	45

Note: 45mph revision is from SLM 16.19-16.69. If work limits extend farther north than this, the increased design speed shall be taken into account.

Survey:

- **ODOT** will complete all initial aerial and ground survey for the project and provide it to the consultant upon authorization to proceed. If any additional survey is required, this is to be done by the consultant (if authorized task).

Maintenance of Traffic:

- A full closure of all intersecting roadways is anticipated.
  - The detour route for US 42 shall use SR48 to SR73.
  - Coordinate with WCEO and Wayne Township to develop a detour route for Old 122 and Middletown Rd.
  - Consultant to develop MOT notes and provide a detour map for each road being closed.
  - Include a window contract to require the closure during the Schools summer break. The closure duration shall not exceed 75 days.

Drainage:

- There are drainage pipes under each leg of the intersection.
  - The CPP under the North Leg is fine. It has a lateral kink in the pipe.
  - The CMP under the East Leg must be replaced
  - The CPP under the South Leg is fine except the west end deflects upwards. Approximately 10' would need replaced or reset if it is to remain.
  - The CPP under the West Leg is in good condition
  - All pipes may need to be replaced to work with the proposed design.

- The design should ensure that the existing drainage patterns are maintained. It is assumed that catch basins will be needed prior to the roundabout. Attempt to locate storm sewer pipes outside of the roundabout so only a leg would need closed for future replacement.
- Inlet Spacing calculations are required for all proposed runs of curb.
- Storm Sewer Calculations are required for all proposed storm sewer.
- The Part 1 and Part 2 project locations are considered non-contiguous, so each intersection would look at the Project EDA separately from the other project. If either project earth disturbed area exceeds 1 acre, then post construction BMPs will be required for the intersection with the Project EDA over 1 acre. Design for BMPs early as they can impact the project right of way needs.
    - At the roundabout, it may be possible to use the 10' graded shoulder plus 5' of a 3:1 or flatter ditch foreslope as Vegetated Filter Strip

Structures:
There are no existing structures that will be impacted by the proposed project.

Environmental:
The environmental document for this project is to be completed by the consultant team.

- This project is anticipated to be a D2 Level CE document due to 3+ possible homeowner relocations. Every effort to be made to minimize the relocations, if possible. CE document could be downgraded to a C2 (if no relocations) or D1 (if 1 or 2 relocations) in the future if needed.
- ODOT will complete the Section 106-Cultural Resources scoping request form.
- See RMR, PI and all other Environmental requirements below.

	Not required	Required	Responsibility
Tentative CE Level 2		X	Consultant
Purpose and Need Statement	X		
Section 106 Scoping Request Form		X	ODOT
Cultural Resource Phase 1	X		
Cultural Resource Phase II	X		
Mitigation	X		
Cultural Resource Section 4(f)	X		
Data Recovery Plan-Documentation for Consultation	X		
Section 4(f)/6(f)-Park/Recreation		X	Consultant
Ecological Survey Level 1		X	Consultant
Ecological Survey Level 2	X		
Wetland Survey	X		
Section 9/Section 10 Stream	X		
404 NWP-Army Corps of Engineers	IA		Consultant
404 PCN-Army Corps of Engineers	X		
404 Individual Permit-Army Corps of Engineers	X		
401 OEPA Certification Application	X		
Coast Guard Coordination	X		
ODNR Coastal Zone	X		
Scenic River	X		
Farmland Screening or FCIR		(Mapping)	
Public Involvement		(See Attached)	
Public Meeting/Hearing	X		
Regulated Material Review Screening		X	Consultant
RMR Investigation / Assessment	X		
Drinking Water Resources		X	Consultant
Flood Plain/Flood Way		X	Consultant
Underserved Populations		(Mapping)	Consultant
Noise Study		(Flowcharts)	Consultant
Air Quality		(Flowcharts)	Consultant

Pavements:

Use the following pavement composition:

1.5”	Item 442 – Asphalt Concrete Surface Course, 12.5mm Type A (446)
	Item 407 – Non Tracking Tack Coat
1.75”	Item 442 – Asphalt Concrete Intermediate Course, 12.5mm, Type A (446)
	Item 407 – Non Tracking Tack Coat
6”	Item 301 – Asphalt Concrete Base PG64-22 (449)
6”	Item 304 – Aggregate Base
12”	Subgrade Treatment – Undercut

For the Concrete aprons

9”	Item 452 – Non-Reinforced Concrete Pavement, Class QC1P
6”	Item 304 – Aggregate Base
12”	Subgrade Treatment – Undercut

Public Involvement:

- The consultant team will be required to send property owner notification letters. ODOT will send project information letters to adjacent property owners and project stakeholders.
    - Right of entry notification letters shall be sent by the consultant team prior to beginning survey work for the project. These letters should be sent to only adjacent property owners.
    - Project information letters shall be sent by ODOT after the stage 1 plan review is complete. These letters should include basic project information, road closure information, detour information, and a link/QR code to the Public Input website. These letters should be sent to adjacent property owners and project stakeholders (local public agencies, schools, police, EMS, and fire per NEPA and ODOT guidelines).
- Coordinate draft PI materials with ODOT District 8 staff.
- A virtual, static PI website will be needed.
    a. The consultant team will develop a static, virtual open house meeting on a Public Input website to inform the public about the project. The website should focus on the project history, purpose and need, crash history, impacts, and general roundabout and left turn lane information. There will not be a formal public involvement meeting, so a newspaper advertisement will not be needed. The Public Input website should be active after the stage 1 plan review is complete.
    b. The consultant team shall develop a 1-page plan view graphic to represent the project for use on the website. This graphic shall be an aerial image with the roundabout and left turn lane designs shaded in, approximate construction

limits, proposed R/W limits, street names, addresses of homes, north arrow, scale, etc.

Real Estate:

- The consultant will develop right of way plan sheets.
- At this time, it is expected that 6-8 parcels could be impacted.
- Design should minimize the Right of Way impacts to the extent possible, especially any parcels that could be "total takes." Every effort should be made to minimize relocations, while still providing a geometrically compliant roundabout.
- Consider Right of Way requirements for any needed utility relocation(s).

Utilities:

- There are multiple overhead utilities within the project limits which may be impacted by the project.
- The layout of the roundabout shall be placed to limit impacts to the overhead utility lines on US 42.
- Given the MOT closure duration and window contract restrictions, it will be imperative to have all utilities relocated prior to the beginning of the closure to ensure the roundabout can be constructed on schedule.
- All utility poles on approaches shall be offset a minimum of 4' behind curb to allow space for trucks and agricultural equipment to pass through the intersection. Expand offset as needed based on turning templates.

Consultant to try to avoid utility conflicts throughout design while holding to the scope of work. If utility conflicts cannot be avoided, they should be minimized. Consultant to provide a copy of the OUPS ticket information to ODOT PM (if applicable). Up to date utility contacts shall be used at each plan submission. Utility contact information can be requested by consultant from ODOT PM. If OUPS and OGPUPS ticket are more than two (2) years old, a design non-marking ticket shall be requested to obtain most up to date Utility Members List. The ticket does not need to be submitted to obtain the Utility Members List.

Consultant to provide a utility set of plans with the utility lines shown in color using the most recent version of ODOTcadd_UTPen.tbl at each plan submission. This file is found in the standard ODOTcadd executable file that can be downloaded from the CADD services webpage.

Consultant to prepare a summary of potential utility conflicts at each plan submission. Summary to be provided to Utility Companies at each plan submission. Summary to include, but not limited to station and offset of conflict, type of conflict (direct, decreased cover, proximity, etc.), utility owner (if known) and utility type.

Consultant to compile Utility Company responses and forward to the ODOT PM. Final compilation of utility correspondence is due 35 days after plan submission to utilities. A "no response" from a utility on a plan submission review cannot be considered as "no comment",

“no conflicts” and/or “a confirmation of the consultant’s findings” from the utility. A written response (email is sufficient) must be received from the utility verifying that they have no comments, no conflicts and/or they agree with the conflicts identified by the consultant.

Consultant to review the Utility Company responses and evaluate. The evaluation of the responses shall include validating that a conflict does exist or that a utility may remain in place. If a conflict does exist, consultant should provide an evaluation of the feasibility of potential resolutions. A disposition of utility status (i.e. utility to stay in place, utility facility relocation plan in writing or plan format) is required at the Stage 3 submission. This disposition shall be included to the utilities with the Stage 3 plan submission. This disposition shall be formulated based on utility responses from previous plan submissions.

Project Management:
The project will require submissions for preliminary R/W plans, compliance R/W plans, pre-stage 1 geometric check, stage 1 plans, stage 2 plans, stage 3 plans, and final tracings. All submittals listed will require a 30-45 day review timeframe.

Note: This project is Part 1 of a combined project. Part 2 is PID 124820, which will be designed by ODOT District 8 and will construct a left turn lane at US42 & Township Line Rd.

Funding:
This project will utilize 100% federal safety funds (4HJ7).
There are 2 plan splits for this project: 01/SAE (Part 1), and 02/SAE (Part 2).