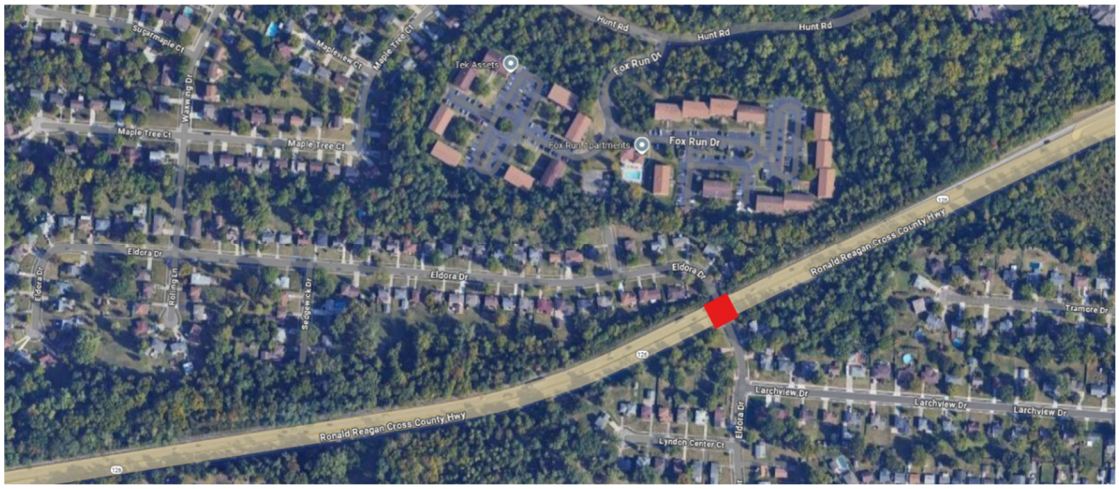
# C-R-S: HAM SR 126 17.53
## PID 119083
## DRAFT Scope Narrative

**PDP Phase Included in this Agreement:**

- Agreement is for the Preliminary Engineering (PE) and Detail Design.
- Agreement between Consultant and Ohio Department of Transportation.
- This is a one-part agreement to prepare plans through final design.

**Study Location:** Bridge HAM-126-1753 (SFN 3105067) which carries SR 126 over Eldora Drive in Sycamore Township (between Ridge Ave and Plainfield Rd).

**Map of existing bridge:** The existing bridge is highlighted in red on the map below.




**Study Description:** Replace the superstructure and rehabilitate the substructure of the bridge that carries SR 126 over Eldora Drive.

**Purpose & Need:**

Bridge HAM-126-1754 (SFN 3105067) which carries SR 126 over Eldora Drive is deteriorated and in need of repair.

The primary deficiencies include:

1. Superstructure is deficient due to concrete spalling, delamination, cracking, and exposed reinforcement.
2. The wearing surface has potholes and large delaminated areas.
3. Abutment step deterioration.

Secondary issues that require consideration are as follows:

1. Insufficient vertical clearance.
2. Narrower bridge width than the approach roadway.

**Prequalification:**

- Non-Complex Roadway Design
- Level 2 Bridge Design
- Limited Right of Way Plan Development
- Environmental Document Preparation – CE
- Ecological Surveys
- Regulated Materials Review
- Public Involvement – C1 and C2 Level CE

**Project Scope:** Discipline specific scope items have been identified below.

**Structures:**

Rehabilitate the HAM-126-1754 (SFN 3105067) which carries SR 126 over Eldora Drive:

1. Replace the existing superstructures per Standard Drawing CS-1-24. The new structure shall carry two 12’ lanes, 8’ outside shoulder (widened to match approach shoulder width), 3’-5½” +/- inside shoulder (to match existing) with single slope concrete bridge railing per Standard Drawing SBR-1-20 for a total bridge width of 38’-7½”. Provide a 1” gap between the westbound and eastbound slabs and single slope bridge railing. The slab will not extend 2” past the median single slope bridge railing.
2. Provide the following gaps between the eastbound and westbound bridges
   a. 2” gap between pier caps (like existing)
   b. 1” gap between deck/barrier

   Provide a 1.5” wide by 2.5” deep sawed joint at the top of the barrier for a 2” compression seal. Include a note that the gap between the barriers is to be left open and that forms, foam, or PEFJ left in place are NOT allowed.
3. Raise the superstructure as necessary to achieve a vertical clearance of 14’-6”. The minimum existing vertical clearance is 14’-0” +/-. Consultant to field verify.
4. Replace the existing abutment stem and wingwall using Standard Drawing CPA-1-08 for capped pile abutments. Widen as needed for the new superstructure.
5. Provide Type A installation approach slab.
6. Replace the existing pier cap using Standard Drawing CPP-1-08 for capped pile pier. Cantilever the widened cap as needed for the bridge width provided above.
7. Patch portions of the substructure that are to remain with 519 patching. The consultant shall sound the existing concrete that is to remain.
8. Replace existing damaged section of concrete slope protection. Remaining existing concrete slope protection to remain.
9. Seal the new and existing exposed concrete surfaces with an Epoxy Urethane sealer per the typical limits shown in the bridge design manual. The color shall be Federal Color 17778 (light neutral). Provide a quantity for removal or the existing sealer.
10. See Roadway section for guardrail replacement limits.
11. Load Rate the structure per section 900 of the BDM.

Materials for all alternatives:

1. Concrete: Include macro-fibers and corrosion inhibitor in concrete mix. Concrete additive for internal cure will be allowed (note in plans will be needed). District to provide notes during design development.
2. Reinforcing steel: Use continuously galvanized reinforcing steel for all new reinforcing steel.

**Roadway:**

1. To obtain the final profile given profile adjustment for the bridge vertical clearance, new pavement on SR 126 shall be asphalt concrete. The existing pavement can be milled and filled with a variable depth asphalt where new pavement transitions into the existing pavement. Use provided pavement composition.
2. Completely replace the approximate 180 feet of guardrail along Eastbound SR 126, west of the bridge.
3. The remaining existing guardrail on SR 126 connected to the outside parapet of both bridges shall be replaced enough to correct for the shoulder widening and profile adjustment, then transition the height to match the existing guardrail.
4. SR 126 curb to be replaced where exposed height would be reduced due to profile adjustment.
5. Roadway median barrier to be replaced where raised pavement due to profile adjustment extends above the New Jersey barrier's resurfacing toe height (3" vertical face at the base). Replaced median barrier to be single slope with a transition section back to NJ barrier provided.
6. SR 126 shoulder width design exception to be obtained for both median and outside shoulders.
7. Profile design including tie in points to meet 60 mph design speed.

**Pavement:**

For full depth areas to transition to the newly raised bridge, use the following 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 |
| 10" | Item 301 – Asphalt Concrete Base, PG64-22 (449) |
| 6" | Item 304 – Aggregate Base |
| | Subgrade treatment per Geotechnical recommendations |

For resurfacing use the same surface course:

| | |
|---|---|
| 1.5" | Item 442 – Asphalt Concrete Surface Course, 12.5mm, Type A (446) |
| | Item 407 – Non-Tracking Tack Coat |
| 1.5" | Item 254 – Pavement Planing, Asphalt Concrete |

**Traffic Analysis:**

Not required.

**Geotechnical:**

1. Historical plans can be used. No new borings required.
2. Widen existing abutments with H-piles driven to rock as necessary.

## Drainage:

1. Scupper calculations are required per L&D Volume 2, Section 1103.8.1.
2. Pavement spread calculations are required in the areas of proposed curb.
3. There are two separate storm sewer systems near the bridge that ODOT will inspect. The catch basins may need raised to grade with the project.
4. The project may not qualify for Routine Maintenance since there will be impervious area added outside of the existing edge of the paved roadway. Assume that BMP will be required if the project EDA is greater than 1 acre.

## Maintenance:

None required

## Maintenance of Traffic:

*Misc. MOT Items*

1. MOT Scheme
    a. Close SR 126 in both directions concurrently and detour traffic using SR 562.
        i. Close the westbound entrance ramp from Kenwood/Blue Ash Road.
        ii. Close the westbound entrance ramp from Hunt Road.
    b. Close Eldora Drive under SR 126 including both sidewalks.
2. Environmental/Public Involvement: In addition to standard environmental practices, door or mailbox flyers are to be posted at every residence on Eldora Drive (north of SR 126), Rolling Lane, and Sedgewick Drive. These flyers are to be posted during project advertisement (completed before project sale) and again 30 days before Eldora Drive closes during construction.
    a. The designer shall develop 2 flyers that are 1 page in length (front and back if needed, with emphasis on the Eldora Drive closure). Submit the flyers with the Stage 3 submittal for ODOT review.
    b. The flyer during project advertisement will be mailed by the designer during the project advertisement to residents and stakeholders. This flyer is to contain general project descriptions including notice of road closure and detour. Include PIO contact information.
        i. Note to ODOT PM: Follow up with established contacts (City of Reading, Sycamore Township, and associated services)
    c. The flyer 30 days before road closure is to contain additional information such as confirmation services will be maintained by detour, construction dates, ODOT and Contractor contact information. The designer is to include a plan note requiring the contractor to place flyers in each door/mailbox at least 30 days before the road closure; indicate in the plan note that the flyer will be provided by ODOT.
3. Gantt Chart: The designer is to create a Gantt chart for this project to be submitted with Stage 2 design, updated/submitted with the Stage 3 submittal, and updated/submitted with the final tracings. This schedule will be used to coordinate with other adjacent projects.
    a. Note to ODOT reviewers - Adjacent projects tentatively include:
        i. I-75 Railroads; 24-3006/PID 77889 and PID 88129
        ii. Brent Spence Bridge; 23-3000/PID 116649
        iii. I-75/SR-562 Reconstruction; PID 121447
        iv. HAM-275 Smart Lane; PID 115417
        v. I-75 Reunification; PID 117167

*TransModeler Analysis – To be submitted at Stage 1*

1. Develop 3 traffic models using TransModeler that may include both local streets and freeway/expressway. The Office of Roadway Engineering TransModeler Ohio Database file can be used to clip the networks. Include 3 scenarios for comparison - No Build, Build (Full-Closure), and Build (Full-Closure) with Improvements.
    a. Model 1 – IR-71/SR-126 interchange, SR-126/Blue Ash Road interchange (only the WB intersection), SR-126/Hunt Road intersection, Hunt Road/Plainfield Road intersection, Waxwing Drive/Hunt Road intersection, Fuhrman Road/Hunt Road intersection, and all freeway segments adjacent to/between interchanges
    b. Model 2 – IR-75 NB to SR-126 diverge, IR-75 NB exit to SR-126 WB diverge, SR-126 EB/IR-75 exit ramp merge, SR-126 EB/Reading Road intersection, SR-126/Ridge Ave interchange (both intersections), Ridge Avenue/E Galbraith Road intersection, all freeway segments adjacent to/between interchanges
    c. Model 3 – Intersections of Glendale Milford Road/Reading Road, Glendale Milford Road/Kingsport Drive, Glendale Milford Road/Sharondale Road, and Glendale Milford Road/Plainfield Road
2. The designer will use planning level traffic (low-risk) inputs using existing volumes and traffic counts. Existing counters from MS2 or TIMS can be used for the interstate and SR 126; do not use counts from 2024 (due to the SR 562 closure). The designer may need to obtain traffic counts at the intersections and ramps. The AM/PM peak hours will be analyzed.
3. ODOT will provide diversion volume changes based on a simulation ran by the Replica – Road Closure Scenario application.
4. The designer will provide recommendations for road network improvements. Improvements may include signal timing, temporary signals, or other temporary measures.
5. The designer will take traffic counts one week following the closure and again one month following the closure. The designer will compare the one week counts and provide modified signal timing plans if warranted. The designer will provide the one month counts to the District for Replica comparison.
    a. 1-week counts include the intersections
    b. 1-month counts include the I-71/SR-126 interchange ramps, I-71/SR-562 interchange ramps, I-75/SR-126 EB interchange ramps,I-75/SR-562 interchange ramps, SR-126 WB to Blue Ash Road ramp, SR-126 WB to Plainfield Road ramp, SR-126 EB to Reading Road ramp, and SR-126 EB to Ridge Ave ramp
    c. Note to ODOT PM/DWZTE: MS2 continuous counters will be used to grab count data for I-71, I-75, and I-275.
6. Include 3 virtual coordination meetings to discuss the model runs and potential improvements.

*Detailed Design –Stage 2 and beyond*

1. Provide a detour map for SR 126 using SR 562 between I-71 and I-75. Include level 1 advance guide signing on SR 126, I-71 and I-75 in both directions before the detour. The guide signing will be ground mounted in advance of SR 126 exit guide signs to convey closure information. The detour for westbound SR 126 entrance ramps shall used eastbound SR 126 to the mainline posted detour.
2. Provide a detour map for Eldora Drive using Waxwing Drive to Cooper Road to Plainfield Road.
3. Innovative contracting methods:
    a. Include a Lane Value Contract Table for short-term lane closures per the PLCS for pre- and post-closure work.

   b. Include an A+B contract table combined with a Window Contract Table to define the closure window, closure duration, and incentive/disincentive. Designer to calculate the incentive/disincentive based on the road user cost to detour; submit the calculation at stage 2.
4. Include Work Zone Queue Detection Warning Systems and determine location based on TransModeler and/or Replica analysis.
5. Include TEM note 642-32.


**Pavement Markings (SR 126):**

1. For long lines and auxiliary markings on asphalt use 644
2. For long lines and auxiliary markings on concrete use 646
3. Reinstall RMPs on SR 126 per SCD
4. Note: ODOT will not require R-W/R on this spot location

**Signing:**

Some ground mounted beam signs could be impacted. These will likely require new supports. The signs are fairly new, so those may be re-erected.

**Lighting:**

There is an existing lighting circuit to the east of the bridge. If these are impacted by profile adjustments, they need to be maintained.

**ITS:**

There is an ITS power service along Westbound SR 126, west of Eldora Drive. The existing ITS shall be maintained during construction. Adjust to final grades as necessary.

**Stakeholders:**

This project has a number of stakeholders. ODOT has discussed the project with The City of Reading and Sycamore Township.

**Environmental:**

The consultant shall coordinate the environmental work. See the task list in SAFe for anticipated coordination.

**Survey:**

Consultant to survey.

**Right-of-Way:**

Consultant to provide if found to be necessary.

**Utility Coordination Requirements:**

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 Ohio 811 (OUPS) 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. Additionally, 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 use District 8's 'standardized' letter for sending submissions and plans to Utility Companies for review and comment. Consultant to provide the ODOT PM a copy of all Utility Correspondence. 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.

A draft utility note shall be submitted after evaluation of the Stage 3 utility coordination in word format. The note should include discussion about the existing utilities for each utility, if they are staying in

place and in service or if they are being relocated. If a utility is relocating, information about the location of their relocation should be included. Additionally, the relocation time frames should be included in the utility note as discussed with the utility companies. Example utility notes can be provided by the District utility coordinator upon request.

**Feasibility Study:**

A formal feasibility study is not required. Critical items may be reviewed with the project manager during Stage 1 development if necessary.

**Project Management:**

The project will be designed in 1 part and shall include all efforts through the completion of Final Tracings. The fee preparation should include a narrative that includes assumptions made during the preparation of the fee. Any scope revisions/additions necessary to complete the project that were not initially scoped may be modified as the project progresses when justified.

**Funding:**

This project will likely be financed by the following funds:

- District Preservation Bridge (Percentage of State and Federal)
- Plan splits will be required per the funding in Ellis at the time of Stage 3 Plans.

**Design Designations:**

| HAM-126-17.53 | |
|---|---|
| Opening Year AADT (2030) | 52,000 |
| Design Year AADT (2050) | 62,000 |
| Design Hourly Volume | 6,200 |
| Directional Distribution | 0.60 |
| T24 | 5% |
| Td | 2% |
| Functional Class | 02-Other Freeway (Urban) |
| Legal Speed | 55 mph |
| Design Speed | 60 mph |

**Existing Plans:** See the FTP site for existing plans.

| | Arch No | Name | Year | PID | Description |
|---|---|---|---|---|---|
| 1 | 08C1959 | HAM-SR126-17.53 | 1962 | | Grade Separation at Eldora Drive |
| 2 | 08C1960 | HAM-SR126-14.4 | 1963 | | |
| 3 | 08C1083 | HAM-SR126-23.174 | 1999 | 7977 | Rehab |

**Bridge Inspection Photos:** See the FTP site for existing inspection photos.

**Schedule:**
The Official schedule will be maintained in Ellis.