

To: WDNR Reviewer

From AECOM

Date: February 26, 2024

## **West Road – Joint (Wetland – Stream Restoration – Waterway Crossing Individual Permits) Narrative**

### **1. Project Information**

On behalf of the client (City of Verona) and the owner (Epic Systems Corporation, hereby known as Epic), AECOM Technical Services, Inc. (AECOM) has prepared this individual permit application. This individual permit application is part of a conjoint submittal of an Individual Waterway – Stream Realignment permit and an Individual Waterway – Bridge Crossing permit. The purpose of this project is to address traffic growth, safety, and emerging and forecasted operational deficiencies on both US 18/151, between the W. Verona Avenue/Epic Lane and the County Trunk Highway (CTH) G/Dairy Ridge Road interchanges, and along CTH PD in the City and Town of Verona. Traffic has increased primarily due to the growth of Epic, a key employer in Dane County with a campus located in the City of Verona, and, to a lesser extent, single and multi-family residential growth in the City of Verona. Verona is one of Wisconsin's fastest growing communities (per US Census data, the population grew by over 30% between 2010 and 2020).

There are four criteria that are required to meet the purpose and need of the project:

1. Meets operational and safety requirements to handle near-term and long-term forecasted traffic (e.g., secondary access points)
2. Minimizes net environmental impacts (wetland, floodplain, Military Ridge State Trail (MRST)) while providing better Sugar River access to the public (bike, pedestrians, kayak, trout fishing, etc.)
3. Meets near and long-term growth plans in the region
  - a. Based on Epic's growth history, one important criterion to the City of Verona and Epic is that a solution be publicly owned and be located on the outside boundary of campus. Northern Lights Road was moved two times between 2005 and 2017, with additional expansion work occurring every couple of years, which causes disruption to City residents and Epic employees and is costly.
4. Minimize relocation of existing infrastructure (buildings, underground utilities, geothermal, solar fields, etc.)

The project consists of a proposed roadway and bridge crossing over the Sugar River and MRST connecting US 18/151 to Epic Campuses from the southwest. The wetlands that are proposed to be impacted are within the floodplain of the Sugar River. A multi-use path is proposed to be added from Dairy Ridge Road to Epic Campuses while also providing a new access point to the MRST. A stream access parking lot is proposed to be provided for access to the Sugar River. Steel case piping for future water main and sanitary sewer is proposed to be installed as part of this project for potential future growth to the west side of the Sugar River, rather than future disturbances separate from the proposed road and stream restoration aspects of the project. Approximately one mile of stream relocation and restoration is proposed to be done as part of this project to bring the Sugar River back to the natural meandering.

A pre-application meeting with the Wisconsin Department of Natural Resources (WDNR) and United States Army Corps of Engineers (USACE) was held on July 12<sup>th</sup>, 2023. For more information and details regarding purpose and need please see the Practicable Alternative Analysis (PAA) document.

## **2. Methods and Materials**

Construction methods, materials, and equipment are proposed to be consistent with normal construction methods. Typical construction equipment such as bulldozers, skid loaders, scrapers, backhoes, and haul trucks will be used to complete the construction at the site. Specific machinery (along with means and methods) will be the responsibility of the Contractor. All equipment for the project shall be de-contaminated for invasive and exotic viruses and species prior to use and after use. In all cases, low-pressure tired or track driven machinery should be used along with bog mats to limit vegetation and soil impacts.

The temporary waterway crossing shall consist of timber mats, poles, small logs, pipes, or similar structure used to temporarily cross the Sugar River floodplain/wetland area. Timber mats, poles, small logs, pipes, or similar structures are to be placed side by side and are to be cabled, chained, or banded together to the extent practicable prior to installation to facilitate complete removal. The materials cannot be placed in a manner that results in creating a dam or an impoundment upstream. To the extent practicable, the temporary waterway crossing shall be placed and removed during frozen or low flow conditions. The contractor will be required to perform any required maintenance during the crossing installation. The Sugar River will be monitored during the crossing installation and make any necessary adjustment to crossing to prevent damming, damage to upstream elements, and to maintain the crossing.

Phasing of the stream restoration should begin with off-line construction of the newly relocated channel, then move to stabilization. Existing cuts of native vegetation “sod mats” will be harvested before excavation of the channel to be re-used as partial strategy for bank stabilization in low energy locations. More rigid bioengineering strategies will be used for stabilization and fish habitat in higher energy locations of the channel. It is recommended that vegetation establishment continue until stabilization via complete cover is established, likely toward the end of the first growing season. Following this period, flows from the channelized stream should be routed to the reconstructed channel from the existing channelized reach of the Sugar River. Clay plugs reinforced with toe wood (root balls) with overlaid sod mats should be installed on the downstream side of each crossing of the reconstructed channel and channelized areas in the floodplain. Spoil from the channel excavation work can then be backfilled and stabilized in the abandoned ditch scars located west of the proposed new channel location between the start and finish points of the project limits. Remaining spoil can be placed into the channelized portion of the existing Sugar River east of the proposed new channel location once flows have been effectively re-routed to the new channel.

Material excavated from the site will become the responsibility of the Contractor. Material excavated from the site will be used as fill material on-site provided it meets the requirements for the fill material. The excavated material is planned to be used for filling the abandoned ditch scars and the existing river channel. Material taken off-site will be the responsibility of the Contractor. The Contractor will be required to dispose of the material properly and obtain any required permits for the disposal site(s). The landowner may request that the material be saved and stored on their land for potential future use.

All topsoil from within delineated wetland areas shall be salvaged and restored in proper locations. Restored wetland topsoil shall not be compacted, and excavated material shall not be stored within wetland and/or floodplain boundaries.

The bridge crossing will require riprap placement adjacent to the piers and abutments where there are permanent wetland impacts already due to the placement of the structure. The amount and specific placement of riprap is currently following the Bureau of Structures (BOS) Standard 15.01 and will be further analyzed as the project continues.

### 3. Construction Schedule

It is anticipated that construction for the proposed bridge crossing and the stream restoration will begin in April 2025 and will finish in March 2027. A sample construction sequence with an approximate schedule is listed below. It is possible that some tasks may be constructed simultaneously. The Contractor is responsible for providing their own construction sequence and schedule.

The Sugar River is a navigable waterway and a trout stream, therefore work within the stream is prohibited between September 15<sup>th</sup> and May 15<sup>th</sup> based on the WDNR's prohibitions for timing of stream work.

The permits are requested to extend the duration of the schedule as listed below for all parts of the project.

1. Obtain required permits and plan approvals.
2. Finalize construction design documents.
3. Install track out control practices at construction entrances.
4. Install silt fence, ditch checks, and other erosion control measures prior to any land disturbing activities.
5. Install temporary waterway crossing.
6. Keep wetland and non-wetland topsoil in separate stockpiles. See erosion control plan of approximate stockpile locations.
7. Harvest "sod mats" within the proposed constructed channel footprint before excavation occurs. Mats will be rolled and temporarily stored along the excavated channel, watered and to be used as a side slope stabilization/revegetation strategy.
8. Cut in new channel but keep it off-line from the Sugar River.
9. Install bank treatments. Backfill ditch scars on the west side of the new channel and store excess cut material in stockpiles. Seed, plant, and stabilize new channel.
10. After new channel bank treatments have settled and vegetated cover exceeds 80% cover or more, then the new channel will connect to the Sugar River. The use of clay ditch plugs on existing channel will be performed. Backfill existing channel with excess cut material in stockpiles.
11. Remove temporary waterway crossing.
12. Removal of access roads and restoration of access road areas.
13. Restore any remaining disturbed areas as soon as construction activities are completed. Only topsoil salvaged from wetland areas shall be replaced in delineated wetland areas after construction.
14. Remove temporary erosion control measures (silt fence, ditch checks, etc.) after final stabilization. Final stabilization is defined as having dense vegetative cover (70 percent or greater) in all seeded areas.

The proposed bridge crossing schedule is summarized below:

- February 2025: Construction documents completed
- April 2025: Install temporary erosion control measures
- April – June 2025: Sheet piling for the bridge
- June – July 2025: Excavation
- June – August 2025: Installation of private utilities
- July – October 2025: Bridge piling and grade beams
- October – November 2025: Installation of abutments
- October – December 2025: Set precast structure
- April – May 2026: Installation of road bed and pavement
- June – July 2026: Paving, striping, and signage

- July 31, 2026: Final seeding and restoration

The proposed stream restoration schedule is summarized below:

**Phase 1:**

- February 2025: Construction documents completed
- October 2025: Install temporary erosion control measures
- October 2025 – February 2026: Cut in new channel, but keep off-line from the river
- November 2025 – February 2026: Install bank treatments
- November 2025 – February 2026: Backfill the ditch scars, stockpile extra cut material
- February – March 2026: Seed, plant, and stabilize new channel

**Phase 2:**

- September 2026: Divert flows from existing channel to new channel
- September 2026: Install final clay ditch plugs
- October 2026 – February 2027: Backfill existing channel with stockpile material
- February – March 2027: Final seeding and restoration

**4. Erosion and Sediment Control**

Erosion control measures are to be installed and maintained as shown on the construction plans, described in the specifications, and described in this report. All erosion control elements shall meet the requirements of applicable WDNR Technical Standards listed at:

[https://dnr.wisconsin.gov/topic/Stormwater/standards/const\\_standards.html](https://dnr.wisconsin.gov/topic/Stormwater/standards/const_standards.html).

All erosion control elements shall also meet the requirements of the latest version of the WisDOT Product Acceptability List (PAL) which can be found at:

<https://wisconsindot.gov/pages/doing-bus/eng-consultants/cnsit-rsrces/tools/pal/default.aspx>

**4.1 Temporary Erosion Control**

Temporary erosion control measures are to be installed before the soils within the project limits are disturbed. All temporary erosion control measures will conform to WDNR Technical Standards. Measures that are proposed for this site are as follows:

- A. Site shall be seeded and mulched immediately after construction activities are complete.
- B. Stone tracking pads and tire washing procedures shall be implemented at all construction entrances to the project prior to land disturbance. Aggregate shall be 3-inch clear or washed stone placed at least 12 inches thick underlain with a geotextile fabric. Stone tracking pads must be at least 50 feet long and be in accordance with WDNR Technical Standard 1057. Locations will vary throughout project staging, but a stone tracking pad must be located at each construction entrance. Any sediment that is tracked onto nearby streets shall be removed immediately.
- C. Silt fence shall be installed at locations shown on the plans prior and at any other locations where overland flow leaves the construction site. Silt fence shall be entrenched and staked in conformance with WDNR Technical Standard 1056.
- D. All inlet protection shall be Type D-RF and comply with WDNR Technical Standard 1060.
- E. Ditch checks and culvert checks shall comply with WDNR Technical Standard 1062.

- F. Soil stockpiles shall have silt fence or erosion logs placed along all downstream sides of stockpiles and well drillings. Stockpiles in place for longer than 14 days shall be either temporarily seeded or a polymer soil stabilizer will be applied to the stockpiled soil.
- G. Temporary seed and mulch shall be installed on any disturbed area where construction will not continue for seven days or more. Seeding and mulching shall conform to the guidelines of WDNR Technical Standards 1059 and 1058, respectively.
- H. Dust, which may be generated from the disturbed area, is not anticipated to be a major problem. Should excessive dust be generated, it shall be controlled by sprinkling with water, applying tackifiers, or applying soil stabilizers. Dust control, as needed, shall comply with WDNR Technical Standard 1068.
- I. For areas outside of the wetland and floodplain, class I, Type B Urban erosion mat shall be placed on all disturbed areas after permanent seeding to support revegetation. Erosion mat shall extend upslope one foot from land disturbance and remain in firm and continuous contact with soil surface. Erosion mat shall be secured with 1-2 wide, U-shaped staple made of No. 11 (3.05mm) or larger diameter steel wire. Staples shall be not less than 6 inches long for firm soils and 12 inches long for loose soils. Erosion mat shall be installed per manufactures recommendations and in accordance with WDNR Technical Standard 1052.
- J. Dewatering may be needed for construction of the bridge crossing. Any dewatering permits and fees shall be the responsibility of the Contractor to obtain. All dewatering activities shall conform to the requirements of the WDNR Technical Standard 1061.

#### 4.2 Permanent Erosion Control

Permanent riprap shall be placed around the piers and abutments following the BOS Standard 15.01. Exact locations and amount of riprap will be further analyzed as the project continues but is planned to all be within the permanent wetland impacts due to the placement of the structure.

#### 4.3 Location of any disposal area for dredged or excavated materials

The cut material from the stream restoration shall be stockpiled to locations shown on the plans and proper WDNR erosion control will be implemented while the stockpile is sitting unused. Material that is excavated as part of the bridge crossing shall be hauled offsite to be used as fill for the road section outside of the wetlands and floodplain.

#### 4.4 Inspection and Maintenance

The Contractor shall, at a minimum, conduct one erosion control inspection every seven days. Inspections shall also occur after any rainfall event exceeding 0.5 inches within a 24-hour period. If erosion control deficiencies are found, maintenance, changes, and/or corrections shall be made as soon as possible and within 24 hours.

Maintenance of the erosion control and sediment control practices are as follows:

- A. All erosion and sediment control measures shall be inspected for stability and effectiveness of operation at least once every seven (7) days and within twenty-four (24) hours of a rainfall event of one-half (0.5) inches or greater. Any necessary repairs shall be made immediately to maintain the practices as designed. Any inspection form can be found at: <https://dnr.wi.gov/files/PDF/forms/3400/3400-187.pdf>
- B. Sediment shall be removed from behind silt fences when it reaches one half (1/2) the height of the fence. Sediment shall be deposited in a suitable area and stabilized. The fences shall be repaired as necessary to maintain an effective erosion and sediment control practice.
- C. Sediment shall be removed from storm drain inlet protection when it reaches a height of one third (1/3) of the design depth for the device. Sediment shall be deposited in a suitable area and

stabilized. Care shall be taken to ensure that sediment does not fall into inlets during the removal process. Should sediment fall into an inlet, it shall be removed immediately.

- D. Clumps of dirt and tracked soil reaching the existing roadways shall be removed daily.
- E. Fine particles of sediment reaching the existing roadways shall be swept up and deposited in a suitable area and stabilized. Sweeping shall occur on a weekly basis and at the end of each workday when rain is forecast for the coming night.
- F. All seeded areas shall be monitored and maintained to develop and sustain a vigorous dense vegetative cover.

## 5. Impacted Wetlands

A wetland delineation of the bridge crossing was done by AECOM in August 2023. A follow up wetland delineation of the stream restoration areas and adjacent areas was done by Heartland Ecological Group, Inc. in October 2023. Both wetland delineation reports are attached to this permit application. The different wetland plant community types were identified during the delineation: wet meadow, sedge meadow, shallow marsh, farmed wet meadow, shrub-carr, wet prairie, and hardwood swamp. The different wetland plant community types are broken up by ruderal and non-ruderal and the different quantification of impacts are discussed more in the PAA and exhibits. The impacts are broken down by the bridge/roadway crossing, stream restoration, and utility crossings. The PAA goes over in detail the different alternatives that were looked at to help avoid, minimize, and mitigate wetland impacts to the maximum extent possible while staying within the project purpose and need.

The stream restoration is considered an ecological functional lift of the Sugar River related to hydraulics, geomorphology, physiochemistry, and biology. The stream restoration will also have positive impacts on social values of the valley related to ecosystem restoration: natural, healthy open spaces for foot and bike traffic along the MRST, enhanced kayaking/canoeing, wildlife viewing and fishing. The quality of the floodplain wetlands in the Sugar River Valley will also be increased as part of the project while meeting current regulatory requirements of the bridge/roadway crossing project.

Sincerely,



Kyle Neeve, PE