

memorandum

Date: May 14, 2021

To: Paul Davis, P.E.

cc: Jeff Obrien, P.E. (RCOC)
Andrew Peters (RCOC)

From: David Conn, P.E.

Re: Rochester Hills - Application for Flood Plain Use
RCOC – East Avon Road at Dequindre Road Roundabout & Bridge over the Clinton River Project
GLWA – Early Works Project (water main and road improvements)

Paul – The following responds to the information requested as a part of the Rochester Hills Floodplain Permit for the subject project:

1. Private or community need for the proposed facility or use
 - Improve traffic flow, relieve congestion, and enhance traffic safety by constructing two modern roundabouts.
 - Replacement of existing Avon Rd bridge over the Clinton river that is currently in poor condition.
 - Improve pedestrian connectivity in the region by constructing a pathway connecting Yates Park, Bloomer Park, Gene Shepherd Park, and the Iron Belle Trail tying together an elaborate trail network.
 - Stabilize and protect Dequindre Rd from the progressive erosion occurring along the western edge of the Clinton River via combination of sheet pile and rip rap.
 - GLWA Early Works Package – Installation of an 8-foot dia water supply line, intersection, roadway, roundabout at 23 Mile and Dequindre, and pathway improvements to better serve the community.
2. Importance of a proposed waterfront location
 - N/A
3. Alternative locations not subject to flooding
 - The proposed floodplain fill associated with this project is for improving an existing transportation network to better serve the community. Relocating the roadway to an alternative location would be detrimental to adjacent recreational and historic properties. For this reason, the RCOC purchased the entire property in the southwest corner of Avon Road and Dequindre Road to mitigate the floodplain fill within the project area.
4. Compatibility with existing and proposed floodplain development and use
 - The proposed bridge configuration will slightly lower the existing 100-year floodplain elevation for the area surrounding the bridge. The proposed floodplain fill associated with the projects will be mitigated via compensation cut.
5. Relationship to comprehensive plans and the floodplain management program



- See attached EGLE JPA permit for proposed floodplain management associated with the RCOC project. The GLWA portion of the project will be mitigated within the compensation basin in the southwest quadrant of the intersection of Avon Rd and Dequindre Rd.
6. Environmental compatibility
 - The proposed RCOC – East Avon Road at Dequindre Road Roundabout & Bridge over the Clinton River Project meets the requirements of the National Environmental Policy Act and has an approved EGLE permit. The proposed GLWA – Early Works Project will meet required environmental requirements as determined by the GLWA and RCOC, the project anticipates an approved EGLE permit soon
 7. Danger to life and property due to increased flood heights or velocities caused by encroachments
 - The proposed improvements lower flood heights and velocities by increasing the bridge span width and improving the alignment of the Clinton River at the Avon Road crossing.
 8. Danger from materials swept downstream
 - The proposed projects will utilize best practice Soil Erosion and Sedimentation Control (SESC) measures to protect surrounding areas during construction. There are no known increased risk of materials being swept downstream in the permanent condition.
 9. Ability of public utilities to function during floods and the prevention of disease and contamination
 - Public utilities have been included in the project planning and design process and are not adversely impacted by the proposed floodplain impacts.
 10. The susceptibility of the proposed facility and its contents to flood damage
 - The project facilities (road, pathway, bridge, and adjacent properties) are considered less susceptible to flood damage in the proposed condition.
 11. Potential flood heights, velocities, duration, rate of rise, and sediment transport
 - The project includes a compensation cut basin in the southwest quadrant of Avon Road and Dequindre Road intersection to mitigate fill within the 100-Year floodplain. Flood heights and velocities are expected to decrease as a result of the project. Sediment transport will be mitigated via SESC control measures. The project is not anticipated to have a direct impact to the duration or the rate of rise to the floodplain. A large portion of the roadway storm sewer network will be routed to the compensation cut basin and released to the Clinton river at a reduced rate.
 12. Accessibility to ordinary and emergency vehicles
 - The project will increase accessibility to both ordinary and emergency vehicles.
 13. Such other factors as may be relevant to the proposed use and the purpose of this article.
 - The Road Commission for Oakland County and their design team has made an active effort to include all stakeholders in this project, including but not limited to, the City of Rochester Hills, the City of Rochester, the Rochester Hills Historic District Commission, surrounding property owners, the GLWA, OCWRC, and other private utility owners.