IMPROVING COMMUNITIES TOGETHER

MEMORANDUM

Date: February 13, 2025 Job No.: 23099.01

To: Diane M. Williamson, AICP, CFM, Director of Community Development

Cc:

From: Nicole Iannuzzi, P.E>

Subject: Preliminary Peer Review Comment Responses

This memo includes BETA's review of the responses provided by the Design Team as part of the peer review process for the Preliminary Plan Submission.

Culverts within Project Area

COMMENT:

Original school was built in 1965. What is the age and condition of the current culverts? Are they structurally sound? Have they been inspected by a structural engineer? Has the design team considered replacing these culverts as part of the project?

RESPONSE:

Culverts are depicted on the enclosed Mt. Hope High School record plans dated 1964 and 1993. The project's structural engineer has not reviewed the culverts. Replacement of the culverts is anticipated to require a Significant Alteration Permit from RIDEM and require enhanced study of Silver Creek.

The Contract Documents require the Contractor to engage a structural engineer to inspect culverts and provide a report. For the existing culverts located beneath the new access drive, the Contractor's structural engineer shall design improvements to support the crossing without damaging culverts. Contractor's structural engineer shall provide stamped design drawings and calculations depicting the proposed roadway crossing for the Owner's review prior to installation.

Response: Per 250-RICR-150-15-3, Section 3.6, Subsection 3, culverts may be replaced as an exempt activity.

COMMENT:

It appears that at DP 1.1, the proposed design is intended to replicate the FEMA base flood elevation and allow Silver Creek to behave as it does under existing conditions. The assumption would be that the school breezeway above the culvert does not hold back flow, because the base flood elevation is approximately 59.7 ft at this point and the proposed overflow elevation above the 48-inch pipes is set to that same 59.7 elevation. If the design assumes the FEMA base flood water surface elevation at DP 1.1 (under existing and proposed conditions) and there is no increase in flow to this point from the project, then why propose the installation of two 48-inch pipes at this location with inverts below the base flood elevation? The design is providing twice the hydraulic opening at the uppermost restriction. The design also indicates that there is no increase in flow to Silver Creek at DP 1.3, yet an additional two 48-inch pipes are proposed at this location. This may be necessary for the proposed design, but there are no calculations or basis to support this.

The design does not indicate that there is any increase in flow to Silver Creek as a result of the project. The design is also based on the FEMA base flood elevations (at point DP 1.1) which would mean that Silver Creek does not overflow its banks within the project area for a 100-year storm. Yet, the design proposes four 48-inch pipes which appear to be for overflow. Is the design inadvertently increasing flow to DP 1.4 by installing the 48-inch pipes.

It appears that the 48-inch pipes would protect the site from flooding by bypassing the site and discharging flow just upstream of Chestnut Street. The concern would be that the proposed design would shift the location of the flooding/impoundment from the site to the low point on Chestnut Street adjacent to the cemetery.

RESPONSE:

The existing conditions plan indicates that the building over the upstream culvert is set at elevation 60.3 and grades west of the existing Gym Building are 59.4. Based upon this information, Silver Creek may flow around the west side of the Gym Building, through the parking area, and into the Pond during large storm events. Silver Creek will no longer be able to use this route in the proposed condition due to the elevation of the existing building and parking area.

The reinforced concrete culvert pipes are proposed upstream of the second and third culverts along Silver Creek to allow water to pass through Silver Creek and reduce the potential for flooding over the new access drive and the walk proposed over the existing culverts. The walk is also over the existing 15" sewer main and new utilities serving the building. The culverts are intended to replicate the flow of water west of the gym in the existing condition and reduce frequency of overtopping the second and third culverts. The culvert pipes discharge to the pond downstream as the overland flow route west of the gym does in the existing condition.

Finish grade above the upstream culvert is set at elevation 59.7 to reduce impacts both upstream and downstream. The existing culverts and finish grade over the culverts are anticipated to limit the runoff discharged into Silver Creek from the northeast wetland as the existing building and existing grade west of the Gym Building limit runoff in the existing condition.

The inlet invert of these pipes is set four feet above the invert of the existing 48" culverts (same elevation as the crown of existing 48" culverts). The proposed pipes are not designed to alter or impact flow through Silver Creek under normal conditions. During large storm events, where flow within Silver Creek may exceed the capacity of the existing culverts, the proposed piping will provide a route for water to reach the Pond and reduce potential for on-site flooding.

The hydrologic calculations are based upon the watershed areas depicted on XBT-2 and indicate a decrease in flow to DP 1.4 from the project site. The hydrologic calculations do not include the off-site contributing watershed to Silver Creek.

Detailed calculations modeling Silver Creek have not been prepared. The pipes are not proposed to increase or decrease flow through Silver Creek to DP 1.4.

Response: There is no basis for design for the proposed 48-inch bypass pipes, without design calculations there is no way to quantify the impacts at the existing pond (DP 1.4) or Chestnut Street.

Sheet 6.2/Stormwater Report

COMMENT:

Riprap apron sizing is not provided for the discharge point of the four (4) 48"

bypass pipes.

RESPONSE:

Riprap apron sizing for the 48" bypass pipes will be reviewed by RIDEM. Once the bypass culverts are coordinated, reviewed and approved by RIDEM, revised information will be provided to the Town of Bristol for review prior to Final Plan approval.

Response: No sizing was provided for the rip rap apron at the discharge point of the (4) bypass pipes.

Sewer Service Review

Sheet 7.2

7) COMMENT:

Ideally new force main discharges in the same location as the existing force main

discharge. Identify existing location and review.

RESPONSE:

Pare requested meeting with BWPC to coordinate force main layout and discharge

location. Comment conflicts with Comment 13.

13) COMMENT:

Consider extending FM to Gravity Sewer at intersection with Sherry Ave.

RESPONSE: Pare requested meeting with BWPC to coordinate force main layout and discharge

location. Comment conflicts with Comment 7.

Response: Comment 7 takes precedence.