Memorandum

To: Dennis Dievert Jr. – Wright-Pierce, Don Nolte – Town of Cheshire, Scott Hallier – Town of Cheshire

From: Thom Knowlton, PE

Date: March 23, 2021

Subject: Final Design/Award of Capacity Approval
Stone Bridge Crossing
SLR #141.16731.00001.001x

We are in receipt of a memorandum from Dennis Dievert Jr. of Wright-Pierce to the Water Pollution Control Authority dated March 19, 2021, regarding the above project and offer the following responses to the comments contained therein:

C1. Submit a draft developer's agreement to accompany the application for review and discussion.

R1. Agreed

C2. Provide a construction cost estimate for the project.

R2. Agreed

C3. The phasing plan is unclear. This application only shows Phase I. Provide additional details on all phases.

R3. The wastewater system is anticipated to be constructed in three phases although Phase 3 could be constructed as part of Phase 2 if development is accelerated on Lot 5.

- **Phase 1 will be everything west of the Tenmile River including the pump station, the gravity sewer from SAN MH #7 to the pump station, the sewer force main, and connection to the existing sewer on Dickerman Road to allow for development of Lot #7.**

Phase 1- Gravity sewer from Station 17+25 (SAN MH #7) to Station 31+ 00 shown on Sheet RP-3

Gravity sewer from Station 31+00 to Station 35+11 (pump station wet well) shown on Sheet RP-4

Force main from Station 80+00 (pump station valve vault) to Station 94+69 shown on Sheet RP-6

- **Phase 2 will extend the gravity sewer from SAN MH #7 across the Tenmile River to SAN MH #15.1 for the development of Lots #1, 2, 3, 4a, 4b, and 6 on the east side.**

Phase 2 - Gravity sewer from Station 53+85 (SAN MH #15.1) to Station 59+42 (SAN MH #14) shown on Sheet RP-1

Gravity sewer from Station 01+00 (SAN MH #14) to Station 15+50 shown on Sheet RP-2

Gravity sewer from Station 15+50 to Station 17+25 (SAN MH #7) shown on Sheet RP-3

- **Phase 3 will extend the gravity sewer from SAN MH #15 to the north for the development of Lots #5, 5a, and 5b. The gravity sewer will also be extended into the Route 10 right-of-way for future offsite sewer connections. The easement for sewer to Route 10 will be granted to the Town of Cheshire in Phase 2 and is shown on Sheet 1 of 2.**

C4. Consider installing cross culverts beneath the 10 to 12 foot deep fill sections at STA 8+00 and 9+00.

R4. This is a temporary condition that would be eliminated with the planned development in the future, so the cross culverts would serve no long-term purpose. While these low points have limited watershed area that would likely infiltrate for most storm events, we proposed that the existing low points at these station locations be filled on the high side and graded to allow sheet flow across the sewer easement. The grading will be updated on the final plans to represent this.

C5. The force main pipe changes material type four times over its short run. It goes from ductile, to HDPE, to insulated ductile, then back to HDPE. Suggest going ductile all the way to the bridge and transition from ductile to insulated ductile over the bridge. Upon further review, there also does not appear to be a need for the downhill section of force main unless it can be justified. This section should be changed to gravity with sewer manholes every 300-feet± and 8" SDR-35 PVC pipe. This will also eliminate the need for the air/vacuum release valve and manhole which are historically problematic.

R5. The sewer force main will be changed to DIP from the pump station to the south side of the I-691 bridge where it will transition to gravity sewer consisting of 8-inch SDR-35 PVC pipe with manholes spaced every 300± feet.

C6. The force main in the town ROW will be subject to the requirements of a street excavation permit.

R6. Acknowledged

C7. It is unclear how the town will access the sewer easement in the future. Suggest installing a second gate in the back of the pump station for access. This location will also need to be designed to avoid conflict with the proposed swale which may prohibit access to the sewer main.

R7. A 14' wide opening with a chain link slide gate will be added to the back side (east side) of the pump station perimeter fence to allow vehicles to pass straight through the pump station site to access the gravity sewer corridor right-of-way. The swale has been designed for vehicles to drive across.

C8. Provide details on the sewer easement and how it will be constructed. At a minimum, install 4" of topsoil and plant grass seed over the sewer main within the easement areas. Easements also need to be flat and have the ability for town truck access to maintain, clean and inspect the sewer main.

R8. The gravity sewer corridor will be graded to allow vehicular access to maintain, clean, and inspect the sewer main. Four inches of topsoil and grass seed will be provided for a width of 15 feet, centered on the gravity sewer as requested. A vehicle turnaround space will be provided.

C9. Note clearing to be conducted at the driveway entrance to the pump station off Dickerman Road to maximize line of sight.

R9. Agreed

C10. Eliminate the crushed stone mow strip around the pump station site pave to at least 1-foot beyond the outside of the fence line.

R10. Agreed

C11. The town and towns engineer shall review all sewer and pump station component submittals during construction.

R11. Agreed

C12. The sanitary sewer must extend into Route 10.

R12. The gravity sewer will extend into the Route 10 right-of-way in Phase 3.

C13. An exterior generator and electrical enclosure are not acceptable. Please design for a building to house the generator and electrical controls similar to all other town owned pump stations.

R13. The exterior generator is designed with a weatherproof sound enclosure, which is similar to numerous other town-owned facilities. The electrical/telemetry will be installed inside

weatherproof enclosures adjacent to the wet well for ease of operation. A building is not required for the proper function of this pump station.

C14. The integral valve vault and wetwell is not acceptable. Provide separate wetwell and separate valve vault structures.

R14. The integral wet well and valve vault provide the same function, valving, bypass connection, and metering as two vaults but in a more efficient single structure. The integral valve vault is completely isolated from the wet well with internal concrete partition walls to avoid contact with sewer gasses, which provides additional operator safety. The wet well and valve vault have separate access hatches.

C15. See attached comments to the pump station site plan layout to allow for ample vehicle turn around, snow plowing, easement access, etc.

R15. The pump station site has been laid out for ample vehicular turnaround space and snow plowing. A 14' wide opening with a 6' tall chain link slide gate will be added to the back side (east side) of the pump station perimeter fence to allow vehicles to pass straight through the pump station site to access the gravity sewer corridor right-of-way.

The access driveway entrance into the pump station site will have a paved radius installed at the gate as requested.

A separate diesel fuel tank is not necessary since the belly tank will be sized for proper fuel storage.

C16. What is the structure shown on the force main outside the pump station?

R16. The "structure" to the west of the pump station wet well and valve vault is a buried gate valve, which is labeled "GV" on the drawings and shows a valve symbol although the text and symbol representing the valve are erroneously large for some reason.

C17. Add valve outside station on force main for isolation and ability to work on/change out the flowmeter.

R17. There is a buried gate valve shown on the plan view of the pump station to the west of the pump station wet well/valve vault (see response to comment #16).

C18. Verify that 460V, 3-phase power is or will be available for the pump station site from Dickerman Road.

R18. Primary power will be brought in by Eversource from the north along Dickerman Road and stepped down to 480-volt, 3-phase power at a transformer outside the pump station.

We are available to discuss these responses further if needed.

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