



## MEMO

**To:** John Whitney, Town of Grand Island Supervisor  
**CC:** Robert Westfall, PE Town of Grand Island Engineer  
**From:** Wendel  
**Date:** December 6, 2022  
**RE:** Long Road Distribution Facility  
Water Distribution System Review

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Wendel has completed our first review of the Long Road Distribution Facility site plans and Engineering Report dated August 2022 completed by Passero Associates Engineering Architecture. Based upon our review, we offer the following comments:

### General

1. At completion of the Town's review process, the design engineer must submit the design plans to the Erie County Health Department to obtain approvals for the waterlines added to the project. Please forward these approvals to the Town of Grand Island Engineering once received.
2. The design engineer must add a note to the plans that states "Select backfill is required for all utilities (gas, water, storm, sanitary) that cross through any pavement area." The limits of the select backfill must be shown on the utility plan.
3. All hydrants, valves, fittings must be properly labeled and labeled with a station and offset.

### Water System Design Plans

1. Some stationing labels are hard to read due to being covered. Stationing on the plans should be legible.
2. There are several areas where the waterline bends (deflects) along the road where the bend is not called out. Please add bend(s) to the waterline as necessary.
3. The design engineer must call out the degree of bend proposed for waterline fittings along with the station and offset.
4. All sample points must be shown on the design plans.
5. Between station 44+00 and 44+50 there are eight (8) 45 degree bends proposed due to storm water crossing. Consider deflecting under both storm lines versus going around them.
6. The design engineer needs to ensure all details on plans are Town of Grand Island Water Department standard water details. Our office can provide these details to the design engineer.
7. Page C170 and the engineering report states a 4-inch waterline will feed the 400,000-gallon water tank and 8-inch fire line is fed by the tank. The tank will fill at 500 GPM per the engineering report. The



velocities in the 4-inch line at 500 GPM exceed the 10 state standards maximum allowed velocities. The design engineer should review the velocities in the waterline and revise the plans accordingly.

8. Page C170 calls out the water tank is not to scale and to see the detail for the water tank. When referring to details, the design engineer should list page numbers that the details are located on.
9. Trench detail on page C240 states 12-inch diameter waterline. The only 12-inch diameter waterline proposed is a connection to an existing line. This detail label should be modified to depict proposed waterline installation sizes.
10. The waterline and sanitary sewer line show as being laid on top of each other on page C168. Please clarify these will either have an 18" vertical separation or a 10' horizontal separation on the profile.
11. The design engineer must add a note to the plans that states "The Town of Grand Island Water Department is to be notified a minimum of 48-hours prior to starting the connection for the new watermain."
12. The design engineer must ensure all notes on the plans reference the "Town of Grand Island Water Department."

### **Water System Engineering Report**

1. The Hazen Williams C Factor for all pipe is 150. Best practice for calculations would be using a maximum of 120 for C values to represent the future condition of the watermain.
2. The value of 100 GPM is used for the domestic demand in the system. Please provide how a breakdown of how this demand was calculated? Is this the peak hour flowrate or average day?
3. Please provide a WaterCAD map that shows the node labels.
4. The total fire demand is found to be 3,000 GPM but hydrant demand (20,000 GPM) and sprinkler demand (1,000 GPM) are greater than the 3,000 GPM. In addition, in appendix M the highlighted fire flow requirements are 1,500 GPM and 6,000 GPM. Please clarify how the 3,000 GPM was calculated. The information within Table 5 of the engineering report is very confusing.
5. Is the 38 psi incoming pressure to the proposed building sufficient for the domestic demand for the facilities within the building?
6. Table #5 within the report lists "1" sprinkler, please confirm the site will have adequate sprinklers per code. Are you assuming that only 1 sprinkler zone will be activated at 1 time?
7. Please remove the reference to the ECWA on Page 16 of the Engineering Report.
8. Our office has discussed the configuration of the water meter and hot box with the Town of Grand Island.
  - a. A hot box, RPZ, and fire and domestic water meter compatible with the Town of Grand Island meter reading software must be provided at the entrance at both Bedell Road and Long Road. The Town requires all water to be metered as soon as it enters the project site.
  - b. The waterlines along the access road will remain the ownership of applicant.
  - c. Prior to placing the waterline in service a lease-managed agreement between the Warehouse owner and the Town of Grand Island will need to be executed.
  - d. Information on the water meter and RPZ must be described and provided in the engineering report in the form of cutsheets.
  - e. A separate backflow prevention application (5 copies), associated engineering report and DOH-0347 must be provided to the Town of Grand Island Engineering Department for review and



approval. Upon completion, the Town will submit the forms to the Erie County Health Department for approval.

- f. All design calculations completed in the engineering report must account for the headloss through the meter and RPZ located back at the connection point to the Town's distribution system.
9. Please provide the date of the 2 fireflow tests in the engineering report used for the watermodel analysis.
  10. In the GPV WaterCad Table, the 3" RPZ is called out as a 4" valve. Please revise the WaterCad input accordingly.
  11. Velocities within the water model system drop below the require 2 GPM and at the tank connection rises higher than the 10 GPM. Please confirm velocities within the system will be between 2 GPM and 10 GPM per 10 State Standards.
  12. The fireflow data used in the engineering report was provided by the Erie County Water Authority. Please confirm what date this fire flow testing was performed.
  13. The design engineer must ensure all references in the engineering report reference the "Town of Grand Island Water Department."

If you have any questions, please do not hesitate to contact our office.