



8/2/2023

Responses to comments from HydroEnvironmental Solutions, Inc. dated May 18, 2023

Background/ Water Demand - The Well Test Narrative & Procedures state a typical cubic yard of concrete will require 32 +/- gallons of water and ultimately, in the future, the facility will be capable of manufacturing 360 cubic yards per day which equates to 11,520 GPD. When aggregate moisture content, wash out water and concrete admixtures are accounted for, the daily demand for concrete manufacturing reduces to 8,000 GPD. We understand you have requested in your comments for the applicant to confirm this demand, approximately 22 +/- gallons of water per cubic yard of concrete (8,000 GPD/360 cubic yards per day) is consistent with Salomone's other plants. Additionally, the average daily demand calculation should include any anticipated domestic uses.

Response: The projected water demand for the Proposed Project is confirmed.

We recommend conducting a water budget for the subject property to ensure that water demand does not exceed available recharge to the site. The water budget should be based on an average annual rainfall of 47 inches.

Response: This analysis can be provided with the well reports. At this time, the applicant is just requesting the ability to run the well testing.

Background/Recycled Water – The Well Testing Narrative & Procedures states that the concrete plant will have two (2) 20,000 gallon holding tanks, one for clean water and one for recycled water and concrete batching processes will draw water from the holding tanks. We presume wash-out water from the previous deliveries (which is proposed to reduce daily demand) will be recycled (applicant to confirm). Applicant should also verify domestic/potable water will be supplied from the clean water tank and the plant will include provisions to ensure clean water tank is protected from potential contamination from recycled water tank. For the purpose of understanding the proposed water system, perhaps a line diagram should be submitted showing water supply, treatment and storage.

Response: Confirmed, washout water will be recycled and treated at the end of each day.

Background/Holding Tank Volume – The Well Test Narrative & Procedures states that the daily demand of 8,000 GPD (see comment above regarding demand) will be replenished using the onsite well with a pumping rate of 5 GPM for a pumping period of 26.67 hours. Since the daily demand exceeds the well pump capacity, storage tanks are proposed to balance demand and supply. The sizing of the tanks and the tank level at which the well pump is activated is important to ensure an adequate volume of water is available for the plant's needs and for long-term well operation. The applicant should provide a calculation confirming the sizing of the holding tanks. Since the time for the well pump to replenish the daily demand exceeds one day the applicant should provide an estimate of anticipated pumping run time over a longer operational period (one week minimum).

Response: The size of holding tanks has been clarified in the protocol narrative.

Proposed Well Testing Protocol/Test Period – The Well Test Narrative & Procedures states that a test period of 24-hours at 10 GPM (twice the required 5 GPM rate) is proposed. In order for our office to confirm this is satisfactory, information on the existing well geology should be provided (the map included showed the existing well in a sand and gravel formation). A driller's log should be provided to confirm that the well is a sand and gravel well. Additionally, the applicant should address whether or not there is any provision to increase the pump testing period should stabilization not be obtained, as is common practice.

Response: A driller's log will be provided after testing to confirm well material, depth and other conditions encountered during the well test. Language has been added to the testing protocol to confirm the test will be extended in the event stabilization does not occur.

Proposed Well Testing Protocol/Test Period – The Well Test Narrative & Procedures states that wells within a 500-foot radius of the pumping well will be monitored. The plan included with The Well Test Narrative & Procedures shows six properties within the 500-foot radius, but it is unclear if the wells for these six properties are within 500 feet. Similar to other applicants, we recommend the applicant solicit the neighboring properties, verify those wells may be accessed and submit for our review and confirmation a well monitoring plan with a radius map showing the wells that granted approval for monitoring. Also, the applicant should confirm that any monitoring wells are within the same aquifer as the pumping well, that is, the overburden sand and gravel aquifer.

Response: A certified letter was sent to the 5 properties including the following Tax Lots: 12-1-103 (ALLGAS), 12-1-104 (HV Welding), 12-1-105.1 (Value Fragrance), 12-1-44 (Church) and 12-2-42 (North Jersey Trailer & Truck). Three of these authorizations have been returned signed by the property owner (see map attached to protocol).

Proposed Well Testing Protocol/External Influences – The applicant should indicate whether any external influences will be measured before and during testing including precipitation, barometric pressure, surface waters. Although this test is not subject to the Town's Water Testing Protocol, we recommend performing the test when the prior 30 days precipitation is less than 3.7 inches at the Middletown climate station for consistency with other pump tests.

We also recommend that a minimum of three days of monitoring of the on-site well and off-site wells be conducted prior to and after completion of the pumping test.

Response: The well test protocol has been revised to confirm that the driller's log will confirm weather, including recent precipitation, barometric pressure and any surface water in the proximity of the well. This application is not subject to the restriction related to amount of precipitation in a 30-day period as the zoning code specifically states this is for residential development only.

Proposed Well Testing Protocol/Pumping Rate – The applicant should confirm how the pumping rate (10 GPM) will be verified in the field (meter and manual measurement recommended).

Response: Pump rate confirmed by manual measurement.

Proposed Well Testing Protocol/Water Quality – The applicant should confirm that at least one water quality sample will be collected near the end of the pumping period to test for possible contaminants.

Response: Confirmed. This language has been added to the protocol.

The applicant should provide the specifications for the dataloggers that will be used to monitor water levels in all wells for the duration of the pumping test.

Response: Specifications were submitted with the applicant's May 4, 2023 submission.