SEA

SEA Consultants Inc.
Engineers/Architects

December 12,1990

Mr. Maurice Beaudoin
U.S. Army Corps of Engineers
P.O. Box 1730
Sandwich, Massachusetts 02563

Re: R.I. Dept of Health Comments
Western Sand and Gravel Water Supply
Burrillville, R.I.
Ref. No. 89252.1V

Dear Mr. Beaudoin:

We have reviewed the Department of Health(DOH) letter dated October 26, 1990 which addressed their concerns noted during their inspection of the facilities. We also discussed the DOH's concerns with Mr. Frederick S. Kurdziel and Ms. Donna Pytell of the DOH.

In general, we learned that the DOH meant for these comments to be suggestions, not requirements. We understand that some of the comments have been or are in the process of being addressed. The attachment details our response to each comment in the order which they appear in the letter.

Very truly yours,

S E A CONSULTANTS INC.

Douglas F. Reed, P.E.

Enclosure

DFR/rdb:RIBURRIL\TOFWA005.LTR

cc: Anthony J. Zuena, S E A
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RESPONSE TO OCTOBER 30, 1990 DOH LETTER
DECEMBER 11, 1990

Source and Pump Station:

1. R.H. White notified to provide a bituminous concrete curb at the pump station driveway entrance to curtail roadway runoff.

2. R.H. White notified to provide a locking mechanism on the observation well.

3. Daily recording of groundwater levels utilizing the existing observation well will be addressed in the O&M manual.

4. R.H.W. notified to provide sampling spigots.

5. Containment walls are provided to prevent harmful chemicals from entering the groundwater table, to facilitate clean-up and to keep chemicals from harming equipment that may be installed on the floor. For each chemical, a dilute sodium hypochlorite solution and 25% or less sodium hydroxide solution, we do not believe a hazard to the groundwater quality exists. Also, the building is small and will act to contain a spill and the equipment in the pump station is mounted on concrete pads, off the floor. The floor drain could be raised off the floor to prevent a spill from entering the groundwater. However, this would make cleanup and hose-down of the floor more difficult.

   The maximum volume of a spill would be 55 gallons.Identification markings on piping and tank are to be provided per specifications.

6. Protective apparel was specified to be provided and the potential dangers of each chemical will be addressed during training.

7. The changing of the sample taps from hose bibs to smooth-nosed spigots will result in the only hose bib being the one located downstream of the reduced pressure backflow protector, located near the emergency shower.

8. This is addressed in the O&M manual.

9. Two pump operation would only occur during extreme storage tank drawdown conditions which would only occur in the case of an extended firefighting situation. Single pump operation would normally see a flow variation of 65 to 80 gallons per minute depending on the storage tank level. This variation in flow rate would require a proportionally small variation in chemical feed rates. We do not feel that this warrants the added cost and maintenance complexity of variable feed rate controls. For example, at a dosage rate of 2 ppm of chlorine at a flow rate of 70 gpm, the chlorine required amounts to approximately 1.7 lbs per day.

If the flow were at 65 gpm, the resultant dosage rate would be 2.1 ppm, while at 80 gpm, the dosage rate would be 1.7 ppm.

10. Continual residual monitoring is not required due to infrequent chemical addition. A chlorine residual test kit was provided to monitor chlorine residuals should disinfection be practiced for a short duration.

11. This is addressed in the O&M manual.

12. A fence was not added to minimize construction impact on the environment. A wetlands permit was obtained for the proejct. The wells will be locked and are relatively low profile. A fence may serve to draw added attention to them.

13. Warning signs at the propane tanks and exterior of the pump station door should be provided as a safety measure. However, gas leak detection and explosion proof equipment are not typically required for either gas heating or power generation facilities.

STORAGE TANK AND DISTRIBUTION SYSTEM

1. To be corrected by R.H. White

2. Preclusion of motorcycles will not prevent pedestrian traffic to occur. It is the people, not vehicles, which cause the vandalism. The tank itself is surrounded by a chainlink fence. However, boulders may be placed on either side of the chain gate to halt the entrance of motorcycles.

3. In many installations, the telemetry equipment is located in locked boxes on the tank exterior where they are more susceptible to vandalism. If the transmitter were damaged, a low tank level alarm would be activated back at the pump station, initiating an immediate call for attention. Intrusion alarms are not normally provided unless specifically requested during design. The existing telemetry system is currently protected behind both a locked fence, and locked tank column access hatch.

4. All hatches are padlocked, and inspection will be noted in the O&M.

5. Inspection of the flapper valve will be noted in the O&M manual.

6. Protective screening around the access hatch light will protect it from stone damage, but not bullets, pellet guns, or slingshots. The wire mesh would need to be significantly strong to withstand the pounding of several stones which would be thrown at it over the course of a few minutes in an attempt to damage the light. The potential for inviting the continued throwing of stones would only cause more damage to the exterior tank coating.

7. Grounds upkeep is referenced in the O&M manual.