HYDRAULIC CONNECTION TEST

Here follows a brief summary of the background and discussion at the 10/4/2018

MCRC meeting. Baron/Portnoy/Riehl attended for the MCRC. Neal Price (Horsley-Witten) and Dave Bennett (representing HVCC) participated in the technical discussions.

\*\*\*\*\*\*\*\*\*

Harborside Village (HVCC) has a public water supply (PWS) capable of 10,000 gpd using a 4” well with 3 feet of screen at a depth of approximately 60 feet below ground surface (bgs). This serves about 65 residences. The HVCC property abuts the Mayo Creek marsh.

Restoration of the Mayo Creek marsh creates potential salt contamination risk to the PWS. This risk has been qualitatively assessed by professional hydrologists. The risk is deemed to be small for several reasons:

> the nearest salt water would horizontally be about 250 feet away from the PWS and vertically.

> the salt water would be at the surface above the low permeability marsh deposits and well above the 60 feet bgs screen depth of the HVCC PWS. ;

> there is a regional flow of ground water to the south east originating from Taylor Hill, passing the HVCC PWS well and towards the marsh.

Discussion was held regarding the question if a direct experiment could help to further evaluate the potential risk to the HVCC from salt water under a restored marsh condition. A “pump test” has been suggested to better evaluate the potential of a hydraulic condition between the marsh and the HVCC well under existing conditions in order to better understand the potential risk to the well under propsed restoration conditions.

Several pumping options were considered:

> direct use of the HVCC production well. This was rejected due to interference with

public uses and liability risks.

> use of 2” well located nearby the production well. This is also rejected as the flow rates would be too small.

> drilling a new 4” well. Rejected because of cost, potential interference with the

production well and need to find an adequate water disposal site.

The plan agreed to is:

> create a line of sampling wells between the HVCC PWS production well and the nearest projected estuary restoration point;

> Approximately 3-4 monitoring well locations would be established (number and locations to be determined) with each monitoring point having a pair of wells screenedshallow (water table) and deep (approximately 60 feet bgs in the same strata as the HVCC PWS well screen);

> monitoring of ground water levels would take place using automated data loggers from March through September, covering the period a minimum and maximum use of the HVCC production

well;

> the underground stratigraphy at each well site to be determined by split spoon sampling during the well drilling;

Marsh surface water levels to also be monitored simultaneously, and the use of other existing HVCC monitoring wells to also be discussed.

> data analysis details to be discussed but generally to include graphing of the shallow and deep groundwater and surface water elevations at various times under various climatic and pumping conditions. .

MCRC agreed to start the process to seek funding for this testing and other project needs.

October 4 2018