

**FIELD DATA COLLECTION IN SUPPORT OF
THE DESIGN OF SILT CURTAIN
MASSENA, NY**

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Abstract for Presentation

Massena, NY is the first American port on the St. Lawrence Seaway. The stretch of the St. Lawrence River below the Snell Lock is heavily industrialized. This region has undergone and is still undergoing sediment remediation projects. Woods Hole Group was hired by Anchor Environmental to collect field data within the river to support their design of a silt curtain. Hydrodynamic observations were collected in the St. Lawrence River from September 14 to October 5, 2006. Depth varying current velocities, water surface elevation, and wave height and direction were measured at two locations within the remediation area. In addition, water surface elevation observations were made directly downstream of Snell Lock.

Data observations made during the deployment period indicated that waves do not significantly influence the current regime or flow dynamics during normal conditions. An annual, maximum wind-generated wave was also developed based on regional wind data, and it was recommended that this value be used for design purposes.

Operations at Snell Lock created a water surface elevation increase (long wave) of approximately 0.3 meters that should be considered in potential development of containment alternatives.

Finally, the current velocities at the site are significant and create some unique circulation patterns. Current velocities were approximately 40 cm/s, directed to the west, at the western end of the remediation area, and approximately 20 cm/s, directed to the east at the eastern end of the area.

The presentation will highlight the results of the field data collection effort.

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