**Lake Champlain Basin Program**

**Quarterly Report**

**January 10, 2017**

**Organization Name:** Stone Environmental, Inc.

**Project Name:** Assessment of Tile Drainage System Impacts to Lake Champlain and Phosphorus Loads in Tile Drainage in the Jewett Brook Watershed of St Albans Bay

**NEI Job Code:** 0100-310-002

**Project Code:** L-2016-060

**Final Report Due Date (per your workplan):** September 2018

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**Summary of Activities:**

***Task 1: Literature Review Examining Tile Drainage Systems***

Completed

***Task 2: Assessment of Tile Drainage Systems in the Jewett Brook Watershed***

Permissions were obtained from six cooperating farmers in the Jewett Brook watershed for installation of monitoring stations at the 12 selected tile drain outlets. Monitoring systems were designed and the infrastructure to house the instruments was constructed. This includes an instrument shelter and a monitoring manhole at each location. The monitoring manholes will enable deployment and servicing of electromagnetic flowmeters. At one location, the large (12-inch) diameter of the tile drain precluded installation of the specified flowmeter within a manhole. Therefore, an alternate design was used consisting of a large wooden box containing a weir. Two ultrasonic flowmeters will be installed in this weir box.

Installing a monitoring manhole to access a tile drain

***Task 3: Phosphorus Load Estimation of Tile Drainage Systems in the Jewett Brook Watershed***

No activity.

**Challenges Encountered:**

None.

**Work Anticipated Next Quarter:**

We will complete tile drain system characterization efforts during the next quarter. The monitoring program will commence after monitoring instruments are installed in March 2017.

**Project Status:** Excavation and installation of the monitoring manholes and shelters were completed in December, when the ground surface was frozen, to reduce impacts from vehicles and machinery on the fields. Due to delays in approval of the revised QAPP for primary data collection activities under Task 2 and longer than expected lead times on the flowmeter order (the factory in Europe shut down and moved), commencement of the monitoring program has been postponed until March 2017.

**Quality Assurance Progress** (for projects with approved QAPPs only):

Stone prepared a secondary data QAPP that is being used to guide the literature review and submitted it to NEIWPCC for review on June 1, 2016. A fully executed version of the QAPP was returned to Stone on June 17, 2016. The QAPP was revised to include primary data collection activities under Task 2 and resubmitted to NEIWPCC on September 16, 2016. A fully executed version of this revised QAPP was returned to Stone on January 10, 2017.