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Honeywell

NINEMILE CREEK OM&M 2015 SURFACE WATER, SOIL, AND BIOTA SAMPLING WORK PLAN SEPTEMBER 2015

1.0 PURPOSE AND OBJECTIVE

Sampling proposed in the Draft Ninemile Creek Operating, Maintenance, and Monitoring (OM&M) Plan (Parsons 2013a) will be conducted to assess remedy effectiveness in achieving Preliminary Remediation Goals (PRG) as stated in the OU-1 and OU-2 Records of Decision (RODs) (NYSDEC and USEPA 2009a, 2009b).

2.0 HEALTH AND SAFETY

Parsons' Project Safety Plan (PSHEP) (Parsons, 2015a) prepared for previous OM&M activities was updated in 2015 and will be used for this investigation. If tasks are identified that fall outside the scope currently defined in the PSP, a new job safety analysis (JSA) will be completed before the task begins. Site subcontractors will also be required to submit a subcontractor safety plan (SSP) for approval prior to the start of field activities. Copies of the PSP, JSAs, and SSPs will be maintained at each work area.

3.0 FIELD ACTIVITIES

3.1 Ninemile Creek Sampling

A. Surface Water Sampling

Surface water samples will be collected at five stations that are consistent with the baseline monitoring locations in Ninemile Creek (Figure 1). Two rounds of surface water sampling will be conducted at each station; one during high flow conditions and one during low flow conditions. High flow conditions will have a targeted flow >200 cfs., based on the 70th percentile flow for USGS Station 04240300, Ninemile Creek Lakeland, NY 2010-2014. Low flow conditions will have a targeted flow of <68 cubic feet per second (cfs), based on the 30th percentile flow for USGS Station 04240300, Ninemile Creek Lakeland, NY 2010-2014. This will result in a total of ten samples. At each location, field water quality measurements (pH, temperature, DO and conductivity) will be recorded. Samples will be analyzed for total mercury, total dissolved mercury, and methylmercury, as these are the primary CPOIs. During baseline sampling, PCBs and most PCDD/PCDF congeners were not detected (Parsons et al. 2011). Low levels of four congeners of PCDD/PCDFs were detected at the site. However, these congeners were detected at similar concentrations at both the upstream location (i.e., above Amboy Dam) and downstream locations within the site (i.e., at State Fair Blvd). In addition, during baseline monitoring VOCs, SVOCs, and metals including barium, lead, manganese, antimony, cadmium, chromium, and thallium were either not detected or below Surface Water Quality Standards

(Parsons et al. 2013b). Therefore, surface water sampling in 2015 will not include organics or metals other than mercury.

B. Fish Tissue Sampling

Preyfish will be targeted for collection at four sampling locations in Ninemile Creek in late summer or early fall, with up to five samples to be collected at each location, resulting in up to 20 samples total (Figure 2). Samples will be composited and analyzed for mercury, methylmercury, and percent moisture. A subset of two individuals at the upstream location and eight individuals (up to 10 total) at the downstream location will be collected from a single species for PCBs, lipid, and PCDD/PCDF analysis.

Sportfish will be collected from two sampling locations (Figure 2). Up to eight individuals will be collected from three species at the downstream location (up to 24 total), and up to six individuals from one species at the upstream location (up to six total). Samples will be analyzed for mercury, methylmercury, and percent moisture. A subset of two individuals at the upstream location and eight individuals (up to 10 total) at the downstream locations will be collected from a single species for PCB, lipid, and PCDD/PCDF analysis. Brown Trout and Channel Catfish will be targeted, consistent with the baseline monitoring program. As there is no legal size for the aforementioned species, individuals of comparable size (minimum size of 6 inches) will be targeted. A third species will be collected based upon availability, with a preference for Smallmouth Bass (>12 inches), Pumpkinseed/Bluegill Sunfish (>4 inches), or Bullhead (>7 inches). If a species is not caught in sufficient quantities, then another sportfish may be substituted after consultation with NYSDEC. The species collected at the upstream location will be based upon availability, with the goal of collecting a species that was also collected at the downstream location.

3.2 SYW-10 Sampling

A. Soil/Sediment Sampling (SYW-10)

Soil/sediment samples will be collected from 10 stations in SYW-10 that are consistent with baseline locations and analyzed for total mercury and methylmercury (Figure 3). Composite samples will be co-located with earthworm sampling locations and will consist of five grab samples per composite from the top 6 inches of sediment, consistent with the protocols outlined in the Draft LCP (OU-1), Geddes Brook, and Ninemile Creek Quality Assurance Project Plan (Parsons 2015b).

B. Small Mammal and Earthworm Tissue Sampling (SYW-10)

Small mammals (e.g., shrew, mouse, vole), and earthworms will be sampled in SYW-10. Small mammal sampling will be concentrated on the large contiguous areas of the remediated and unremediated zones of SYW-10 (Figure 3), with up to five samples per station (up to 10 total). Small mammals will be analyzed for total mercury.

Earthworms will be collected from 10 sampling stations, with one sample per station, resulting in a total of up to 10 samples per event (Figure 3). Earthworms will be analyzed for both total mercury and methylmercury.

3.3 Other 2015 Monitoring

The habitat monitoring program began in 2014 in Reach CD, upland portions of Reach BC, and SYW-10 (i.e., areas where remedial construction/restoration had been completed prior to 2014). Habitat monitoring will continue for these areas in 2015. The 2015 monitoring will also include portions of the site where remedial construction/restoration was completed in 2014. These areas include Reach AB and portions of Reach BC. Monitoring will be conducted in accordance with the Draft NMC OM&M Plan and will include vegetation, hydrology, invasive species, and wildlife usage monitoring.

Channel bed and bank monitoring was conducted in 2014 in Reaches CD and BC. This monitoring included visual inspections of the bank areas and surveying of channel bed elevations at locations detailed in the Draft NMC OM&M Plan. One location in Reach AB was not surveyed in 2014 due to ongoing remedial construction activities. The channel bed elevations at this location will be surveyed in 2015. Visual inspections of the banks in all three Reaches will also be conducted in 2015.

4.0 DATA VALIDATION AND REPORTING

Samples will be analyzed by a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP) certified laboratory. Analyses will be performed in accordance with the NY State ASP Category B. A matrix spike, matrix spike duplicate, field duplicate (surface water and sediment only), and field blank sample (surface water and soil/sediment only) will be collected and analyzed for each sample delivery group of up to 20 samples.

The analytical program will use data quality objectives and quality assurance objectives that are described in the Draft LCP (OU-1), Geddes Brook, and Ninemile Creek Quality Assurance Project Plan (Parsons 2015b). USEPA Level IV data validation will be conducted on 10 percent of the samples (i.e., full data validation) and a USEPA Level III data validation will be conducted by a third party not associated with the laboratory that performed the analyses.

A summary report will be prepared following the laboratory and data validation work. The report will present sample locations, field observations, and a data usability summary report (DUSR).

5.0 CITED REFERENCES

NYSDEC and USEPA 2009a. *Record of Decision – Operable Unit 1 of the Geddes Brook/Ninemile Creek Operable Unit of the Onondaga Lake Bottom Subsite Onondaga Lake Superfund.* April 2009.

NYSDEC and USEPA 2009b. *Record of Decision – Operable Unit 2 of the Geddes Brook/Ninemile Creek Operable Unit of the Onondaga Lake Bottom Subsite Onondaga Lake Superfund.* October 2009.

Parsons et al. 2011. *Onondaga Lake Baseline Monitoring Report for 2009*. Prepared by Parsons, Exponent, and Anchor QEA for Honeywell. October 2011.

Parsons 2013a. *Draft Operation, Maintenance and Monitoring Plan: Appendix H.* January 2013.

Parsons et al. 2013b. *GB/NMC Baseline Monitoring Data Summary Report*. Prepared by Parsons, Terrestrial Environmental Specialists, Anchor QEA, and Exponent for Honeywell. March 2013.

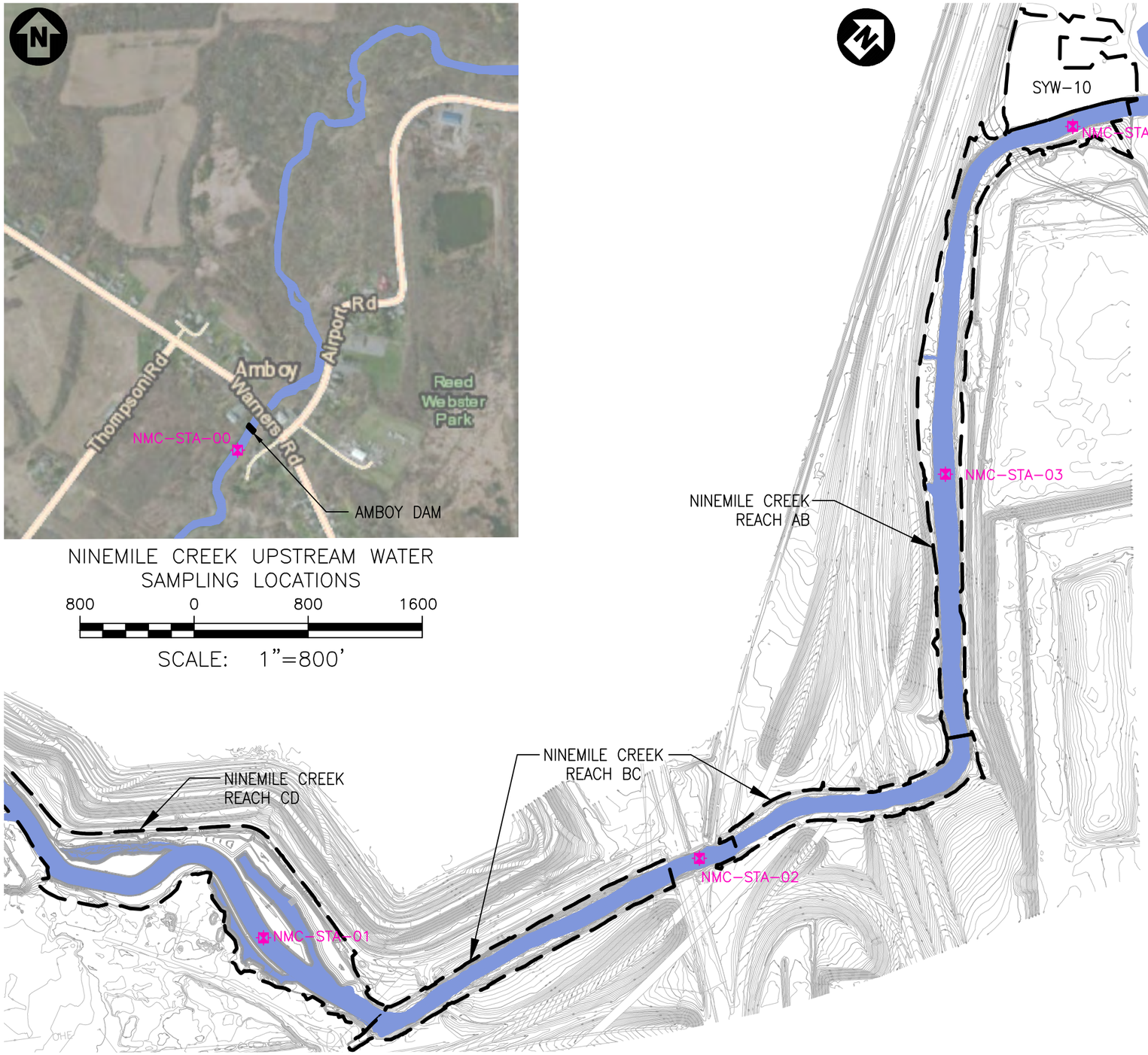
Parsons 2015a. *2015 Honeywell- Syracuse Operation, Maintenance, and Monitoring Plan: Project Safety, Health, and Environmental Plan.* Prepared for Honeywell, Morristown, New Jersey. Syracuse, New York.

Parsons 2015b. *Draft Quality Assurance Project Plan for Performance Evaluation Media Monitoring at LCP (OU-1), Geddes Brook, and Ninemile Creek (Groundwater, Surface Water, Sediment, and Biota)*. July 2015.

NINEMILE CREEK UPSTREAM WATER SAMPLING LOCATIONS

800 0 800 1600

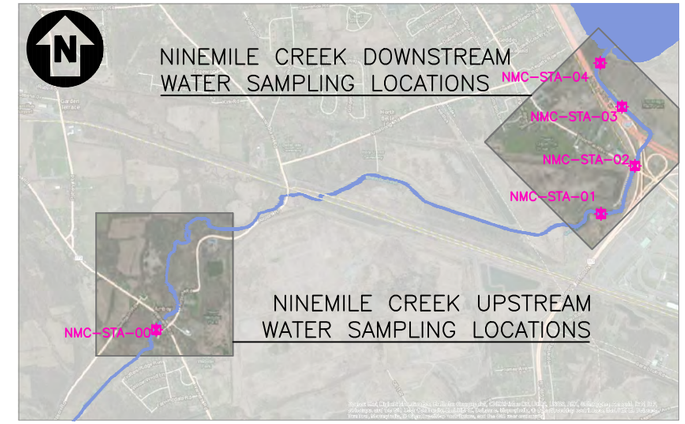
SCALE: 1"=800'



NINEMILE CREEK DOWNSTREAM WATER SAMPLING LOCATIONS

400 0 200 400

SCALE: 1"=400'



NINEMILE CREEK KEY PLAN
(NOT TO SCALE)

LEGEND:

- RESTORATION AREA
- STREAM BED
- NMC-STA-XX — NINEMILE CREEK SURFACE WATER SAMPLING LOCATION

NOTES:

1. SURFACE WATER SAMPLING WILL BE CARRIED OUT AT 5 SAMPLING LOCATIONS. ONE SAMPLING EVENT WILL TAKE PLACE DURING HIGH FLOW CONDITIONS (TARGETED FLOW >200cfs., USGS STATION 04240300 NINEMILE CREEK LAKELAND, 70th PERCENTILE FLOW 2010–2014) AND ANOTHER DURING LOW FLOW CONDITIONS (TARGETED FLOW <68cfs., USGS STATION 04240300 NINEMILE CREEK LAKELAND, 30TH PERCENTILE FLOW 2010–2014). THIS WILL RESULT IN AN ANNUAL TOTAL OF 10 SAMPLES.
2. SURFACE WATER SAMPLING LOCATIONS ARE CONSISTENT WITH BASELINE SURFACE WATER SAMPLING LOCATIONS (GEDDES BROOK/NINEMILE CREEK BASELINE MONITORING DATA SUMMARY REPORT, MARCH 2013).
3. SURFACE WATER SAMPLING WILL INCLUDE RECORDING THE FOLLOWING FIELD PARAMETERS: DO, pH, TEMPERATURE AND CONDUCTIVITY.

FIGURE 1

Honeywell — NINEMILE CREEK OM&M

NINEMILE CREEK SURFACE WATER SAMPLING LOCATIONS

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