

BASIN 001 ROOF RUNOFF SAMPLING WORK PLAN

BUREAU OF WATER PERMITS
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**UNITED TECHNOLOGIES/CARRIER
THOMPSON ROAD FACILITY
SYRACUSE, NEW YORK**

**EnSafe Project Number
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1.0 POTENTIAL SOURCE AREA: DRAINAGE BASIN 001 ROOF RUNOFF

1.1 Summary of Past Investigations

In May 2008, a Pollutant Minimization Program (PMP) was developed for the Carrier Corporation facility in Syracuse, New York, as required by the Special Conditions listed in their State Pollutant Discharge Elimination System (SPDES) Permit (No.: NY 000 1163). The PMP was submitted to the New York Department of Environmental Conservation (NYSDEC) in May 2008 and approval of the PMP was received from Ms. Sandy Lizlovs with the Division of Water, Region 7, by letter dated October 9, 2008.

Data obtained to-date as part of the PMP indicates storm water discharges at Outfall 001 periodically contain polychlorinated biphenyls (PCBs) at concentrations greater than 0.065 micrograms per liter ($\mu\text{g/L}$). **Tables 1-1 and 1-2** summarize the quarterly sampling result obtained as part of this program.

Table 1-1 Outfall 001 — PMP Quarterly Monitoring Data Summary 2009 (all results in $\mu\text{g/L}$) Carrier Corporation, Syracuse, New York												
Sample Period:	February 2009			April/May 2009			July 2009			November 2009		
	1 st Quarter			2 nd Quarter			3 rd Quarter			4 th Quarter		
Method:	Green Bay Method	USEPA 608A		Green Bay Method	USEPA 608A		Green Bay Method	USEPA 608A		Green Bay Method	USEPA 608A	
Aroclor:	NA	1254	1260	NA	1254	1260	NA	1254	1260	NA	1254	1260
Outfall 001	0.0626	<0.065	<0.065	0.113	<0.065	<0.065	0.191	0.077	0.128	0.0543	<0.065	<0.065

Table 1-2 Outfall 001 — PMP Quarterly Monitoring Data Summary 2010 (all results in $\mu\text{g/L}$) Carrier Corporation, Syracuse, New York												
Sample Period:	March 2010			June 2010			September 2010			December 2010		
	1 st Quarter			2 nd Quarter			3 rd Quarter			4 th Quarter		
Method:	Green Bay Method	USEPA 608A		Green Bay Method	USEPA 608A		Green Bay Method	USEPA 608A		Green Bay Method	USEPA 608A	
Aroclor:	NA	1254	1260	NA	1254	1260	NA	1254	1260	NA	1254	1260
Outfall 001	0.111	0.0903	<0.065	0.202	<0.065	0.0868						

Notes:

Current Permit — Outfall 01A — 0.3 $\mu\text{g/L}$, no permit limits at 001 and 002

Proposed Permit — Outfall 01A, 001, 002 — 0.2 $\mu\text{g/L}$

1.2 Proposed Roof Runoff Sampling Activities

Because storm water discharges from Outfall 001 periodically contain PCBs above the MDL, runoff from eight of 11 building roofs in the 001 drainage basin will be sampled and tested for PCBs to determine if they represent a continuing source of PCBs to storm water. These buildings include portions of TR-4 and TR-5, TR-6A, TR-19, TR-21, TR-21A, the treatment building, and one gate-house security building. These eight buildings range in size from 210 square-feet to approximately 8 acres. **Table 1-3** summarizes several building characteristics.

Table 1-3 Drainage Basin 001 Buildings Proposed for Runoff Sampling				
	Building ID	Approximate Roof Area (ft²)	No. of Samples (Est.)	Other Comments
1.	TR-4	195,800	2 - 4 per section Total = 12	- Divided into six sections. - Sections 2 and 4 were recently re-roofed in 2010. Core samples of roofing material were analyzed for PCBs. All samples were non-detect (ND). Runoff samples will not be collected from these sections due to the recent roof replacement. - Sections 1 and 3 were re-roofed in 1995 and 2008, respectively. - Sections 5 and 6 are planned for replacement in 2011 and 2012, respectively.
2.	TR-5	154,400	2 - 4 per section Total = 8	- Divided into seven sections. - Section 1 was recently replaced in 2010. Core samples of roofing material were analyzed for PCBs. All samples were ND. Runoff samples will not be collected from these sections due to the recent roof replacement. - Sections 2, 3 and 4 were replaced in 1995, 2007, and 1992, respectively. Sections 5, 6 and 7 are planned for replacement in 2013. - Sections 5, 6 and 7 were replaced in 2010. No runoff sampling planned for these sections.
3.	TR-5A	3,900	Total = 0	Last re-roofed in 2010
4.	TR-6A	6,000	Total = 2	Last re-roofed in 1996
5.	TR-19	330,000	Total = 8	- Divided into four sections - Section 1 was re-roofed in 1992 - Section 2 was re-roofed in 1999 - Section 3 was re-roofed in 1995 - Section 4 was re-roofed in 1998
6.	TR-21	30,000	Total = 2	Last re-roofed in 1977
7.	TR-21A	1,200	Total = 1	Last re-roofed in 1977
8.	Gate House #5	150	Total = 0	Plastic roof construction
9.	Gate House #6	210	Total = 1	- Rubber roof construction - Last reroofed in 1994
10.	Gate House #8	220	Total = 0	Plastic roof construction
11.	Treatment Building	11,000	Total = 1	Unknown

Runoff samples will be collected during one rain event. The number of samples may be increased if field observations indicated varying roofing materials were used on a single building. Samples will be submitted to TestAmerica Laboratories, Inc., (TestAmerica) Shelton, Connecticut (New York Certification 10602), for Total PCB analysis using U.S. Environmental Protection Agency Method 608.

Rainfall runoff samples (not snow melt runoff) will be taken at the inlet to a roof leader that ultimately carries runoff to the site-wide storm lines. If a roof leader is not part of the runoff collection configuration, a sample will be obtained at a suitable location prior to mixing with storm water runoff from other areas onsite (i.e., a sample may be obtained from the inlet pipe to a storm line manhole). **Figure 1-1 — Drainage Basin 001, Proposed Roof Runoff Sampling Locations** shows the building roof configurations and proposed sampling points. The number and location may be changed in the field based on the runoff collection configuration and other factors.

1.3 Health and Safety Plan

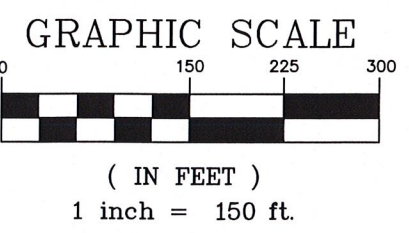
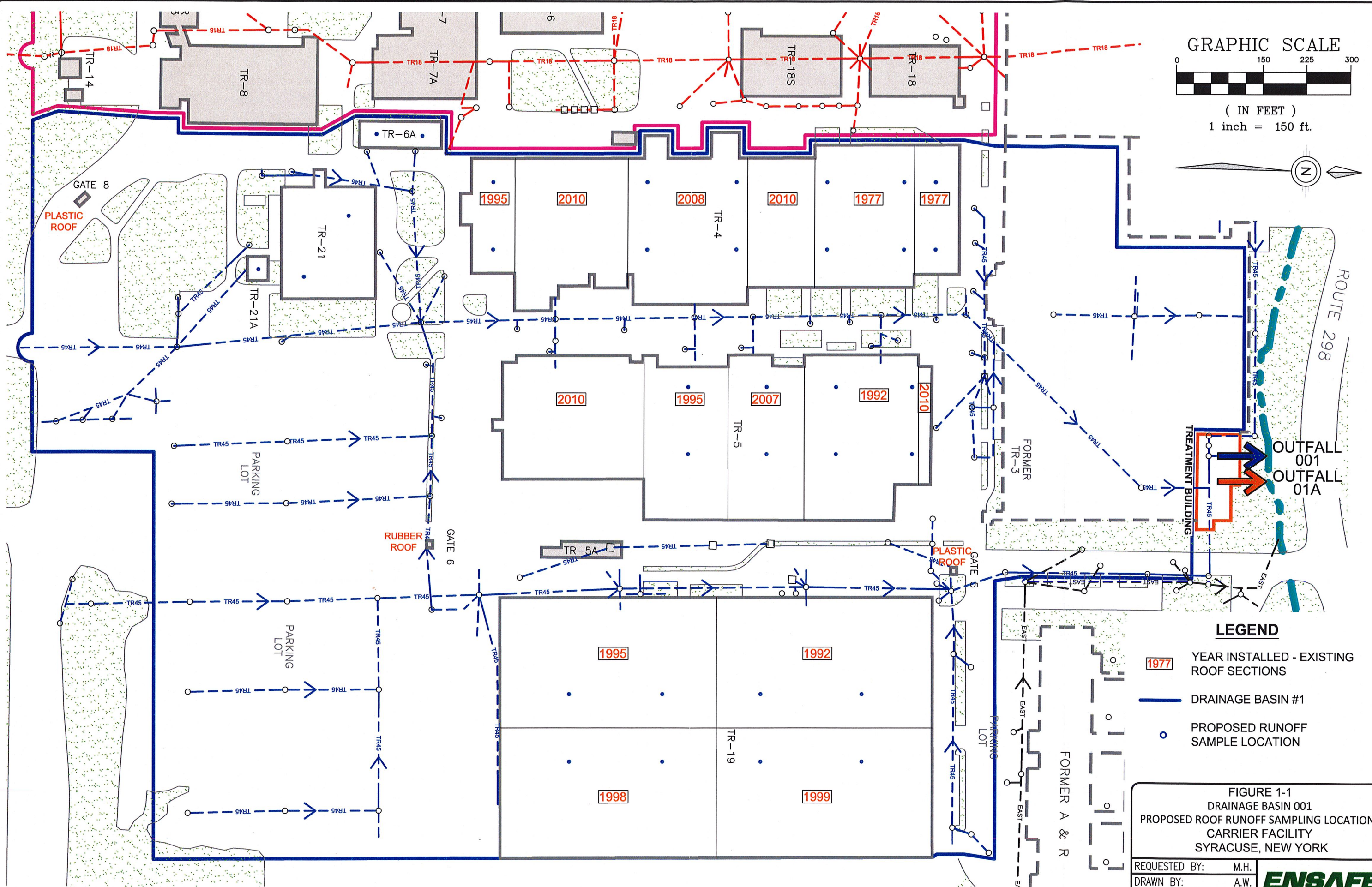
All field activities will be conducted in compliance with the site-specific health and safety plan, to be prepared prior to conducting activities outlined in this work plan. The health and safety plan will be prepared by EnSafe specifically for the activities described herein for the facility.

1.4 Implementation Schedule

The schedule for the roof runoff sampling activities outlined in this work plan is as follows:

Proposed Schedule	
Submit Work Plan to NYSDEC	→ September 23, 2010
NYSDEC Review and Approval	→ October 5, 2010 (approx. 2 weeks after submittal)
Preparation and Mobilization for Field Activities	→ Following NYSDEC approval of work plan
Completion of Field Activities	→ November 2, 2010 (approx. 30 days after NYSDEC approval. Rainfall event dependent)
Report generated for submittal to NYSDEC	→ December 17, 2010 (approx. 45 days after completion of field work, assuming no delays in completing field activities)

Note: Dates are conditional based upon approval date of Work Plan, weather conditions, site conditions, and other factors.



- LEGEND**
- 1977 YEAR INSTALLED - EXISTING ROOF SECTIONS
 - DRAINAGE BASIN #1
 - PROPOSED RUNOFF SAMPLE LOCATION

FIGURE 1-1
DRAINAGE BASIN 001
PROPOSED ROOF RUNOFF SAMPLING LOCATIONS
CARRIER FACILITY
SYRACUSE, NEW YORK

REQUESTED BY: M.H.
DRAWN BY: A.W.
DWG DATE: 09/21/2010
DWG: 9186 F1-1 9-21-10

