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Mary Vanderlaan  
Supervisor, Lansing District  
Michigan Department of Environmental Quality  
Water Resources Division  
P. O. Box 30242  
Lansing, MI 48909

ENVIRONMENT

Subject:  
NPDES Permit No. MI0001597  
2014 Annual Pollution Minimization Program Report for Polychlorinated Biphenyls  
RACER Trust Buick City – Flint, Michigan

Date:  
May 14, 2015

Dear Ms. Vanderlaan:

Contact:  
Christopher S. Peters

This 2014 Annual Pollutant Minimization Program (PMP) Report for polychlorinated biphenyls (PCBs) is submitted by ARCADIS on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust for the Buick City Site (the Site), which is located at 902 East Leith Street in Flint, Michigan, to comply with Part 1, Section A(6) of the National Pollutant Discharge Elimination System (NPDES) permit for the Site (No. MI0001597). The goal of the PMP is to maintain the effluent concentration of total PCBs at or below 0.026 nanograms per liter (ng/L) at Monitoring Point 003A. As required per the above referenced NPDES permit, the permittee shall submit on or before May 15 of each year a status report to the Michigan Department of Environmental Quality (MDEQ) that includes 1) the monitoring results for the previous year, 2) an updated list of potential sources, and 3) a summary of all actions taken to reduce or eliminate identified sources of PCBs.

Phone:  
517.324.5052

Email:  
[Chris.Peters@arcadis-us.com](mailto:Chris.Peters@arcadis-us.com)

Our ref:  
B0064410.2015

### **List of Potential PCB Sources**

The sources of PCBs at the Site are the Light Non-Aqueous Phase Liquid (LNAPL) plumes. Previously known potential sources of PCBs are present at eight discrete areas of the Site, as follows:

- former Factory 10/Scrapyard Area (Area of Interest (AOI) 10-1 and AOI 10-4),
- former Factory 81 Area (AOI 81-2),

Imagine the result

- former Factory 05 Area (AOI 05-1 and AOI 05-5),
- former Building 86/Leith Street Overpass Area (AOI 86-1),
- former Factory 83/84 Area (AOI 83/84-2),
- former Building 12 Area (AOI 12-A, AOI 12-B and AOI 12-C),
- former Factory 40 Tunnel Area (AOI 40-D), and
- former Building 30 Area (Area of Interest 03-1).

PCBs were previously identified in LNAPL in the former Factory 81 AOI 81-2 area during Site investigation activities completed in 2013. However, during investigation activities in 2014 PCBs were also identified in surface soils (0 to 2 feet below ground surface) at concentrations ranging from 0.35 to 15 parts per million.

A Site location map showing these areas is included as **Figure 1**.

### **Oil Releases to the Flint River**

There were no observed oil releases to the Flint River from Site outfalls in 2014.

### **Actions Taken to Reduce or Eliminate PCB Sources and to Maintain PCB Effluent Concentrations below NPDES Criterion**

#### **Oil Absorbent Booms**

RACER maintains oil absorbent booms and oil containment booms at Outfalls 002, 003, 004 and 005 in order to contain periodic oil sheens at the Flint River, refer to **Figure 2** for outfall protection systems. The booms at each outfall consist of an initial line of oil absorbent booms to contain and absorb oil during normal outfall flow and an oil containment boom set farther out into the river to contain any discharge during high flow events. A secondary oil containment boom line is set up on an as needed basis to provide an additional level of protection. All booms are installed in such a manner that allows them to adjust to the fluctuating river level. The outfall containment areas are currently inspected at a minimum of once per week for oil/debris accumulation, absorbent boom saturation, and that the containment booms

are in good condition and functioning properly. Based on visual observations, the booms are changed on an as-needed basis to ensure proper working order. In addition, accumulated oil and debris in the outfall containment areas are cleaned via vacuum extraction and oil absorbent slabs on an as-needed basis to prevent potential environmental releases.

#### Outfalls 003 and 004

Construction of the Outfall 003/004 Stormwater Diversion and Treatment System (Outfall 003/004 System) was completed in January 2011 and it continues to remove oils and sediment from the Outfall 003 and 004 storm sewers prior to reaching the Flint River (refer to **Figure 2** for Outfall 003/004 System). During dry weather flow conditions, water, oil and debris from both storm sewers 003 and 004 are diverted into a common manhole at the BaySeparator™, from which oil and water are discharged to an oil/water separator, and subsequently water is discharged back into storm sewer 003 for discharge to the Flint River. Therefore, at dry weather flow conditions the only flow discharging to Outfall 004 is whatever infiltrates the storm sewer between the diversion structure and the outfall. The Outfall 003/004 System is design to capture dry weather and first flush stormwater flow. During stormwater conditions, water in the sewers is diverted around the Outfall 003/004 System and discharges directly to both outfalls.

The Outfall 003/004 System is maintained at least once per week. Water levels and oil levels are actively being monitored in vaults, the BaySeparator™ manholes, and the oil-water separator. Storm water downstream of the Outfall 003/004 System is also being monitored in manholes as well as the Flint River outfalls to check for accumulating oils. Routine maintenance events were scheduled based on field observations and include the following tasks: removal of debris and trash racks from the diversion structures, jetting of HDPE piping to clear blockage, and an annual cleaning event of the BaySeparator™ system. The BaySeparator™ cleaning event was performed in December 2014 and included removal of 22,739 gallons of an oil and water mixture (non-Toxic Substances Control Act (TSCA) regulated).

In addition to the Outfall 003/004 System, Oil Interceptor #2 (**Figure 2**), which is located upstream of the Outfall 003/004 System, continues to function as an in-line oil water separator along one of the Outfall 003 storm sewer mains to prevent oil and debris from reaching the Flint River. RACER maintains Oil Interceptor #2 by utilizing two rows of oil absorbent booms spanned perpendicular to the direction of flow. The booms are inspected on a weekly basis for oil/debris accumulation, absorbent boom

saturation, and that the absorbent booms are in good condition and functioning properly. Based on visual observations, the booms are changed and debris removed on an as-needed basis to ensure proper working order. In 2014 two maintenance events were performed on Oil Interceptor #2, resulting in the collection and disposal of 8 drums (an estimated 586 kilograms) of TSCA PCB waste.

### Outfall 005

P-traps previously installed in the Leith Street Overpass under drain system continue to be monitored quarterly to verify their continued operation and check for the presence of LNAPL. The purpose of the P-traps is to eliminate the migration of LNAPL through the foundation drain and into the Outfall 005 storm sewer system.

In 2012 boom studies were performed along the Outfall 005 storm sewer at select locations to determine oil infiltration locations and identify potential bulkheading locations. Bulkheading of Outfall 005 near the south end of former Factory 83/84 was completed in May 2013, which eliminated the Site's contribution to the Outfall, only leaving the drainage from Leith Street and the adjacent property owner as contributors to this storm sewer. Bulkhead locations are indicated on **Figure 2**.

### Monitoring Results

Monitoring results for the previous year are provided in attachments to this document and include:

- **Attachment 1** – Presents the quarterly progress reports submitted to the Environmental Protection Agency (EPA) concerning work completed as part of the RCRA Corrective Action program. The four reports (Quarterly Progress Report No. 11, 12, 13 and 14) submitted in accordance with Section VI (18b) of the RACER Trust's Administrative Order on Consent, Docket Number RCRA-05-2011-0024, cover the timeframe from January 1, 2014 through December 31, 2014.
- **Attachment 2** – Presents the analytical results from the Monitoring Point 003A weekly dry weather and yearly wet weather samples submitted for PCB analysis. PCBs were not detected.
- **Attachment 3** – Presents the inspection notes from the Outfall 003/004 BaySaver separation system.



Ms. Mary Vanderlaan  
May 14, 2015

Please contact me at 517.324.5052 at your convenience if you have any questions or require further information regarding this submittal.

Sincerely,

ARCADIS US, Inc.

A handwritten signature in black ink, appearing to read "Chris S. Peters".

Christopher S. Peters, P.G.  
Vice President

Copies:

Chris Black, USEPA Region 5  
Grant Trigger, RACER Trust  
Dave Favero, RACER Trust

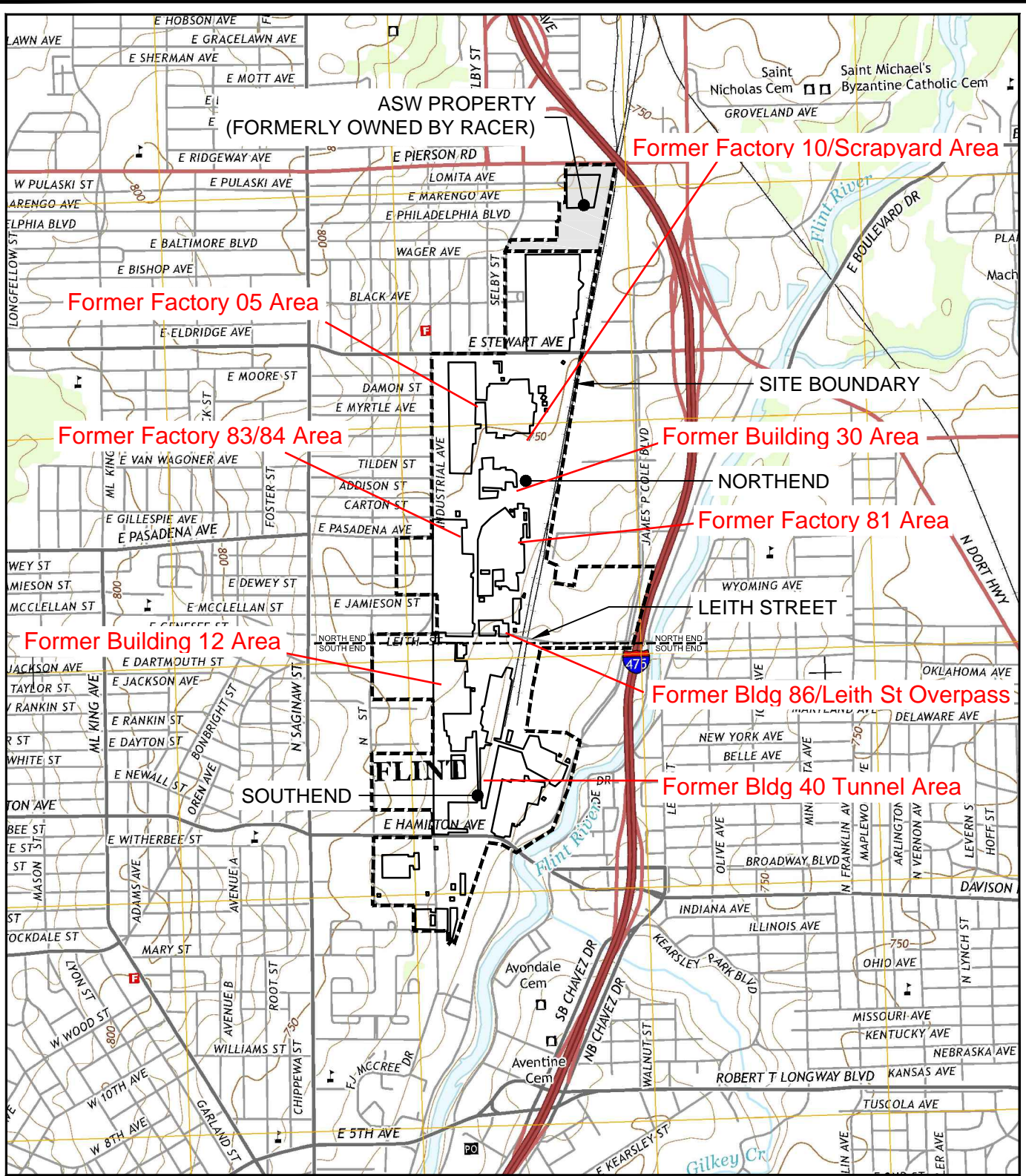
Attachments:

Figure 1 Site Location Map  
Figure 2 PCB Minimization Controls  
Attachment 1 RCRA Corrective Action Program - Quarterly Progress Reports  
Attachment 2 2014 Outfall 003 Dry and Wet Weather Storm Water Sampling Results  
Attachment 3 2014 Field Inspection Notes – Outfall 003/004 BaySaver Separation System



**Figures**

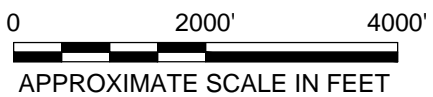
CITY:SYRACUSE,NY DIV/GRUPEPV DBA.SANCHEZ LD.GMS/ALS PIC.C.S.PETERS PMC.KIKER T.M.C.KIKER LYR(O)N\*-OFF\*-REF  
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SOURCE: USGS 7.5 MIN., FLINT NORTH QUADRANGLE, FLINT NORTH 2014

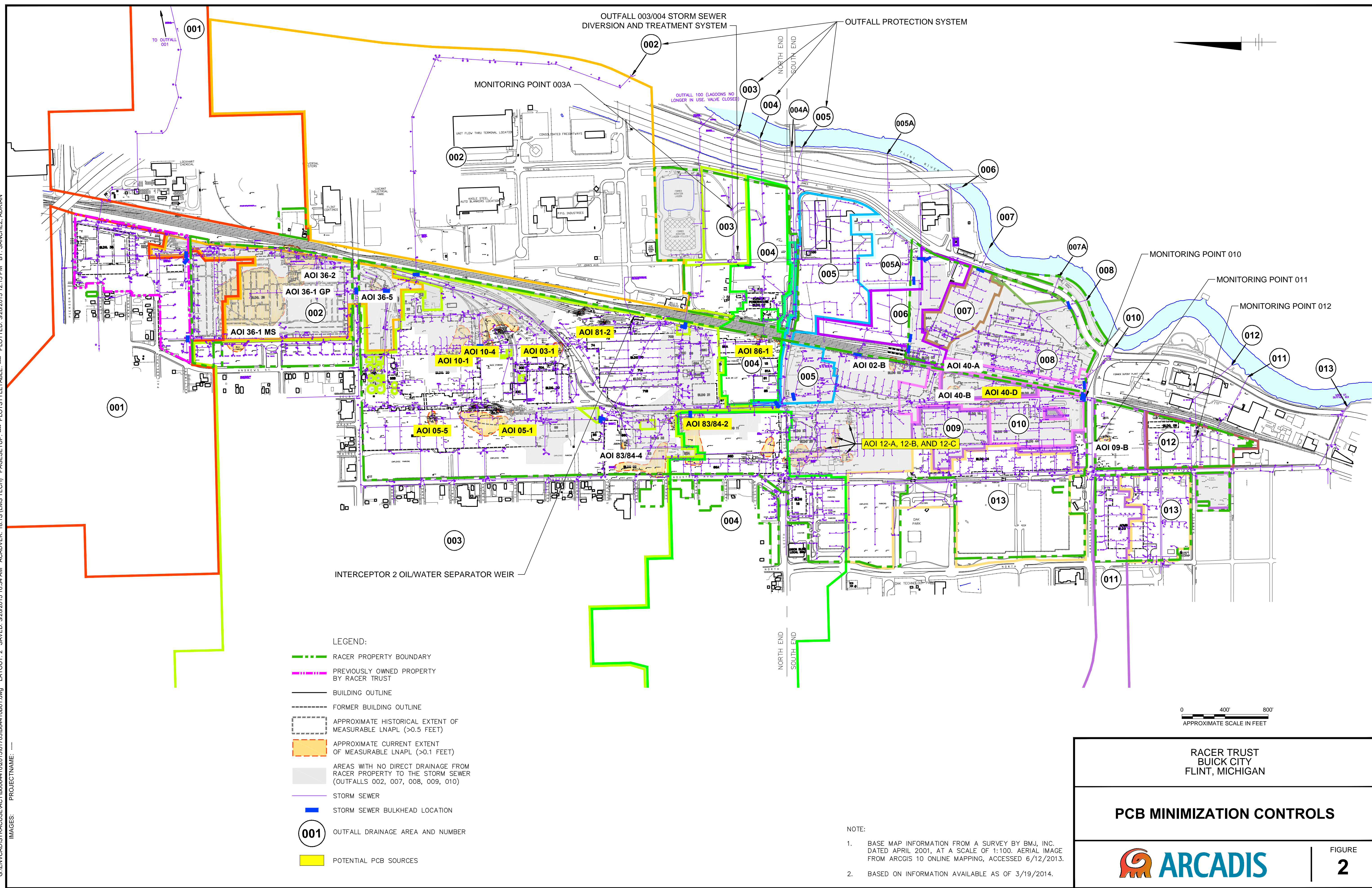


MICHIGAN



|  |                    |
|--|--------------------|
| RACER TRUST<br>BUICK CITY<br>FLINT, MICHIGAN   |                    |
| <b>SITE LOCATION MAP</b>   |                    |
|  | FIGURE<br><b>1</b> |

CITY: SYRACUSE DIV/GROUP: 141 DB: A SANCHEZ LD: GMS PIC: C.S. PETERS PM: C. KIKER TM: C. KIKER LVR: ONL+OFF=REF  
 G:\ENV\CAD\SYRACUSE\ACT\B0064410\2015\01703\B64410B01.dwg LAYOUT: 2 SAVED: 3/20/2015 10:34 AM ACADVER: 18.1(S (LMS TECH)) PAGES: 2 LAYOUT: 2  
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- LEGEND:
- RACER PROPERTY BOUNDARY
  - PREVIOUSLY OWNED PROPERTY BY RACER TRUST
  - BUILDING OUTLINE
  - FORMER BUILDING OUTLINE
  - APPROXIMATE HISTORICAL EXTENT OF MEASURABLE LNAPL (>0.5 FEET)
  - APPROXIMATE CURRENT EXTENT OF MEASURABLE LNAPL (>0.1 FEET)
  - AREAS WITH NO DIRECT DRAINAGE FROM RACER PROPERTY TO THE STORM SEWER (OUTFALLS 002, 007, 008, 009, 010)
  - STORM SEWER
  - STORM SEWER BULKHEAD LOCATION
  - 001 OUTFALL DRAINAGE AREA AND NUMBER
  - POTENTIAL PCB SOURCES

NOTE:  
 1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED APRIL 2001, AT A SCALE OF 1:100. AERIAL IMAGE FROM ARCGIS 10 ONLINE MAPPING, ACCESSED 6/12/2013.  
 2. BASED ON INFORMATION AVAILABLE AS OF 3/19/2014.

RACER TRUST  
 BUICK CITY  
 FLINT, MICHIGAN

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**PCB MINIMIZATION CONTROLS**

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FIGURE  
**2**



**Attachment 1**

Quarterly Progress Reports

*Transmitted via Electronic Mail*

Mr. Chris Black  
U.S. Environmental Protection Agency – Region 5  
Land and Chemicals Division  
77 W. Jackson Blvd. DE-97  
Chicago, IL 60604-3590

ENVIRONMENT

Subject:  
First Quarter 2014 Progress Report (No. 11)  
Revitalizing Auto Communities Environmental Response (RACER) Trust  
Buick City Site, Flint, Michigan

Date:  
April 16, 2014

Contact:  
Micki M. Maki, P.E.

Dear Mr. Black:

Phone:  
248.994.2271

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this First Quarter 2014 Progress Report (No. 11) in accordance with Section VI (18b) of the RACER Trust's Administrative Order on Consent (Consent Order), Docket Number RCRA-05-2011-0024 for the Buick City Site located in Flint, Michigan (the Site), which was effective on September 29, 2011.

Email:  
[Micki Maki@arcadis-us.com](mailto:MickiMaki@arcadis-us.com)

Please note that in accordance with General Motors Corporation's Administrative Order on Consent Number R8H-5-00-02 for the North American Operations [NAO] Flint Operations Site (also known as Buick City) Quarterly Progress Reports No.1 through 46 were submitted to the United States Environmental Protection Agency (EPA) documenting Site activities from January 1, 2000 through June 30, 2011.

Our ref:  
B0064410.2014

This First Quarter 2014 Progress Report (No. 11) covers the period of January 1, 2014 through March 31, 2014.

The following briefly summarizes the work performed and data collected, problems encountered, project schedule, and estimated percent complete for a list of activities.

## **1. Data Collected This Quarter**

The samples collected as part of Site investigation or monitoring activities during this quarter are discussed below. This data will be presented to the EPA in the 2014 Annual CMI Report, except as noted below.

### **1.1 Storm Sewer Water Samples**

In January, February, and March, ARCADIS conducted the “NPDES Plus” Monitoring Program (NPMP) sampling program. The NPMP typically consists of collecting monthly samples from the following Site storm sewers as access allows MP001, MP003, MP006, MP009, MP010, MP011, and MP013. However, due to winter weather some of these locations were inaccessible during this quarters’ sampling events. NPMP samples collected in March were also submitted for dissolved metals analysis, to aid in determining the potential sources of metal impacts in the storm water. This data will be included in the annual CMI Report.

As required per Part 1, Section A 2 in the current National Pollution Discharge Elimination System (NPDES) Permit No. MI0001597, weekly composite samples were collected from Monitoring Point 003A. This data will be included in the 2014 Yearly Pollutant Minimization Plan (PMP) for PCBs report, which will submitted to the MDEQ as required in the NPDES permit.

### **1.2 Soil Samples**

In January, February and March ARCADIS collected soil samples as part of the LNAPL area investigations to delineate and characterize the PCB impacts in soil. A total of 163 soil samples were collected from soil boring locations and submitted for laboratory analysis. This data will be included in the LNAPL remedy selection memos.

### **1.3 LNAPL Samples**

In the first quarter, ARCADIS collected a one oil sample from the 003/004 storm sewer system in order to characterize this waste for the upcoming cleaning/maintenance activities that are planned for the second quarter. The LNAPL sample was submitted for laboratory analysis of total PCBs. This data will be included in the annual CMI Report.

In addition, 13 LNAPL samples were collected as part of the PCB delineation activities at the Site and submitted for Laboratory analysis of PCBs. This data will be included in the LNAPL remedy selection memos.

## 2. Work Performed This Quarter

Attachments 1, 2, and 3 present the monthly Site progress reports for January, February, and March which document the work performed this quarter.

## 3. Problems Encountered

As mentioned in Section 1, due to winter weather conditions NPMP sampling could not be completed at all locations during this quarters' sampling events. No other problems were encountered.

## 4. Project Schedule – Near-Term Milestone Activities Anticipated During the Next Quarter

A projected field work schedule for the second and third quarter of 2014 is included in Attachment 4.

### 4.1 Routine Work

#### *Task 1 Outfall 003/004 Oil Removal Systems*

- Continue OMM inspections of system.

#### *Task 6 Maintain Booms on Outfalls*

- Continue to perform inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Dispose of waste as necessary.
- Continue to perform inspections of Oil Interceptor #2.

#### *Task 8 NPDES PLUS Monitoring*

- Perform NPMP monitoring in April, May, and June.

#### *Task 10 Maintain Select Surface Covers*

- Perform semi-annual inspection of surface cover.

#### *Task 12 Agency Coordination/Negotiation, Reporting, Project Management*

- Continue to participate in regulatory agency calls.
- Prepare Quarterly Report for submittal to EPA.
- Complete Annual CMI report.

#### *Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Continue quarterly P-trap inspections.

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- Continue OM&M phase of Outfall 002 passive recovery trench.

**4.2 Non-Routine Work**

*Task 1 Outfall 003/004 Oil Removal System*

- Perform annual maintenance event of Outfall 003/004 Oil Removal System. Dispose of waste as necessary.

*Task 2 LNAPL Investigation*

- Complete additional investigation of LNAPL plumes and impacts.
- Complete evaluation of Site data to aid in selecting methods and locations for additional LNAPL pilot testing.
- Finalize Remedy Recommendation report.

*Task 3 LNAPL Recovery Bench and Field-Scale Testing*

- Propose pilot testing activities to EPA for approval.

*Task 6 Maintain Booms on Outfalls*

- Perform maintenance event of Oil Interceptor #2. Dispose of waste as necessary.

*Task 9 RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues*

- Finalize remedy recommendations memos for waste management units (WMU) #3, #7, and #10 to be incorporated in Remedy Recommendation report.

*Task 11 Lead Soil Removal*

- Complete RFI-38-12 Manganese Soil Removal.

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Complete additional bulkhead activities at select locations.
- Complete review of re-routing options for Outfall 004 and 013 storm sewer with the City of Flint.

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- Restart OM&M phase of AOI 09-B LNAPL remediation system.

**5. Estimated Percent Complete**

*Task 1 Outfall 003/004 Oil Removal Systems*

- Outfall 003/004 Oil removal System OM&M – Ongoing

*Task 2 LNAPL Investigation*

- LNAPL LIF Investigations – 100%
- Southend Natural Source Zone Depletion Study – 100%
- Southend Transmissivity Testing – 100%
- Northend Natural Source Zone Depletion Study – 90%
- Northend Transmissivity Testing – 75%
- Additional LNAPL Investigation – 80%

*Task 3 LNAPL Recovery Bench and Field-Scale Testing*

- LNAPL Bench Scale Testing – 25%
- LNAPL Pilot Scale Testing – 33%

*Task 7 Enhanced Groundwater Monitoring*

- Groundwater Monitoring – Ongoing

*Task 8 NPDES PLUS Monitoring*

- NPDES PLUS Monitoring – Ongoing

*Task 9 RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues*

- Northend RCRA WMU Closures – 90%
- Southend RCRA WMU Closures – 90%
- Northend Restrictive Covenant – 0%
- Southend Restrictive Covenant – 90%
- Monitoring Well Abandonments – 5%
- UST Issue Resolution – 100%

*Task 10 Maintain Select Surface Covers*

- Maintain Select Surface Covers – Ongoing
- Installation of Additional Surface Cover – Southend – 100%

*Task 11 Lead Soil Removal*

- Lead Soil Removal – 95%
- Northern Parcel Investigation – 90%
- Northern Parcel Soil Removal – 25%

*Task 12 Agency Coordination/Negotiation, Reporting, Project Management*

- RFI Phase I Report - 100%
- RFI Phase II Report - 100%
- Human Health Exposure Control EI Report - 100%
- CA 750 Report - 100%
- Revised Corrective Measures Proposal (CMP), May 1, 2008 – 100%
- Revised CMP Addendum No. 1 – 100%
- Southend Corrective Measures Implementation (CMI) Work Plan – 100%
- Revised CMP Addendum No. 2 – Northend and Site-wide Groundwater - 100%
- Revised CMP Addendum No. 2-1 – Response to EPA Comments - 100%
- 2012 CMI Annual Report – 100%
- 2013 CMI Annual Report – 25%

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Outfall 002 Storm Sewer Evaluation - 100%
- Outfall 003 Storm Sewer Evaluation – 50%
- Outfall 004 Re-route into Outfall 013 Evaluation - 90%
- Outfall 005 Storm Sewer Evaluation – 100%
- Outfall 002 Final Measure Implementation– 90%
- Outfall 003 Final Measure Implementation – 25%
- Outfall 005 Final Measure Implementation – 90%
- Outfall 007 Final Measure Implementation – 100%

*Task 14 Address 15 Areas of Subsurface LNAPL*

- Address 15 Areas of LNAPL – 7%
  - AOI 09-B System Design, Permitting, and Construction – 100%

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- LNAPL Recovery OM&M – 25%
- Secondary LNAPL Remediation – 0%

**6. Budget Status**

- 2014 Budget – The 2014 Budget Request was approved by the EPA on December 16, 2013.
- 2014 Budget Amendment No. 1 – Budget Amendment No. 1 was approved by the EPA on March 7, 2014.

If you have any questions, please call me.

Sincerely,  
ARCADIS



Micki Maki, P.E.  
Project Manager

Copies:

Peter Quackenbush, Michigan Department of Environmental Quality, (via email)  
William Yocum, Michigan Department of Environmental Quality (via email)  
Flint Public Library  
Grant Trigger, RACER Trust (via email)  
Dave Favero, RACER Trust (via email)

Attachments:

Attachment 1 – January 2014 Project Update - RACER Buick City Site  
Attachment 2 – February 2014 Project Update - RACER Buick City Site  
Attachment 3 – March 2014 Project Update - RACER Buick City Site  
Attachment 4 – RACER Buick City Field Schedule – 2<sup>nd</sup> and 3rd Quarter 2014



**Attachment 1**

January 2014 Monthly Update



ARCADIS of Michigan, LLC  
28550 Cabot Drive  
Suite 500  
Novi  
Michigan 48377  
Tel 248 994 2240  
Fax 248 994 2241

**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki Maki

Date:  
March 25, 2014

ARCADIS Project No.:  
B0064410.2014

Subject:  
January 2014 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this January 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from January 1, 2014 through January 31, 2014.

**Task 1 - Outfall 003/004 Oil Removal Systems**

Routine Work

- Continued operations, maintenance, and monitoring (OMM) activities on the 003/004 system. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Non - Routine Work

- No work performed.

**Task 2 - LNAPL Investigation**

Routine Work

- No work performed.

Non - Routine Work

- Coordinated and conducted PCB and AOI delineation investigation activities.
- Continued development of Evaluation and Remedy Recommendation memos.
- Continued development and drafting of cross sections.

**Task 3 - LNAPL Recovery Bench and Field-Scale Testing**

Routine Work

- No work performed.

Non - Routine Work

- Investigated potential pilot test technologies.

**Task 4 - Operate Fact. 10 LNAPL/GW System**

- Task Completed.

**Task 5 - Operate Fact. 36 LNAPL/GW System**

- Task Completed.

**Task 6 - Maintain Booms on Outfalls**

Routine Work

- Performed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Disposed of waste as necessary.
  - As a result of the bulkheading work previously performed at the site, observations of sheen and product at Outfall 002 have dramatically decreased. Recent observations have noted that oxidized oil is very minimal and the amount of emulsified oil has steadily declined since bulkheading activities were completed.
- Performed inspections of Oil Interceptor #2.

Non - Routine Work

- No work performed.

**Task 7 - Enhanced Groundwater Monitoring**

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 8 - NPDES PLUS Monitoring**

Routine Work

- Completed the monthly NPDES Plus Monitoring event for January.

Non - Routine Work

- No work Performed.

**Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues**

Routine Work

- No work performed.

Non - Routine Work

- Prepared the Waste Management Unit (WMU) remedy recommendation memos.

**Task 10 – Maintain Select Surface Covers**

Routine Work

- Completed semi-annual inspection of Select Surface Covers.

Non - Routine Work

- No work performed.

**Task 11 - Lead Soil Removal**

Routine Work

- No work performed.

Non - Routine Work

- Reviewed and finalized the Northern Parcel excavation work plan.
- Correspondence regarding NPDES and SWPPP requirements for the Northern Parcel and rented portion of AOI 36-1.

**Task 12 - Agency Coordination/Negotiation, Reporting, Project Management**

Routine Work

- Prepared the Monthly EPA update memo.
- Began coordination and completion of the 2013 CMI Report.

Non - Routine Work

- Attended an EPA meeting to discuss remedy recommendation memo.
- Completed and submitted the 2014 Budget Amendment #1.

**Task 13 - Outfall 002/005 Oil Minimization & Investigation**

Routine Work

- Not Applicable.

Non - Routine Work

- Finalized and submitted the Outfall 004 Flow Monitoring Memo.
- Began the Outfall 013 storm sewer boom study.
- Reviewed CCTV video and documented notable findings from Outfall 003 and 013 storm sewers.
- Completed the bid solicitation process for the upcoming bulkheading Addendum #2 project.

**Task 14 - Address 15 Areas of Subsurface LNAPL**

Routine Work

- Not Applicable.

Non - Routine Work

- Continued evaluating possible AOI remedy selections.

**Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation**

Routine Work

- Performed OMM activities on the Outfall 002 passive recovery trench.

Non - Routine Work

- Assessed 2013 operation summary and developed 2014 operational options for the AOI 09-B MPE system.



**Attachment 2**

February 2014 Monthly Update



ARCADIS G&M of Michigan, LLC  
10559 Citation Drive  
Suite 100  
Brighton  
Michigan 48116  
Tel 810 229 8594  
Fax 810 229 8837

**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki Maki

Date:  
March 25, 2014

ARCADIS Project No.:  
B0064410.2014

Subject:  
February 2013 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this February 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from February 1, 2014 through February 28, 2014.

**Task 1 - Outfall 003/004 Oil Removal Systems**

Routine Work

- Continued operations, maintenance, and monitoring (OMM) activities on the 003/004 system. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Non - Routine Work

- Completed high density polyethylene (HDPE) pipe jetting of manholes 3-6 and 4-6 to remove blockages from piping to ensure operation of the 003/004 system.

**Task 2 - LNAPL Investigation**

Routine Work

- No work performed.

Non - Routine Work

- Coordinated and conducted PCB delineation investigation activities.
- Continued development of Evaluation and Remedy Recommendation memos.
- Continued development and drafting of cross sections.

**Task 3 - LNAPL Recovery Bench and Field-Scale Testing**

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 4 - Operate Fact. 10 LNAPL/GW System**

- Task Completed.

**Task 5 - Operate Fact. 36 LNAPL/GW System**

- Task Completed.

**Task 6 - Maintain Booms on Outfalls**

Routine Work

- Performed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Disposed of waste as necessary.
  - As a result of the bulkheading work previously performed at the site, observations of sheen and product at Outfall 002 have dramatically decreased. Recent observations have noted that oxidized oil is very minimal and the amount of emulsified oil has steadily declined since bulkheading activities were completed.
- Performed inspections of Oil Interceptor #2.

Non - Routine Work

- No work performed.

**Task 7 - Enhanced Groundwater Monitoring**

Routine Work

- Began preparation of annual groundwater monitoring report.

Non - Routine Work

- No work performed.

**Task 8 - NPDES PLUS Monitoring**

Routine Work

- Completed the monthly NPDES Plus Monitoring event.

Non - Routine Work

- Began evaluation of the mercury in the monthly NPMP data, as well as the Site soil and groundwater data.

**Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues**

Routine Work

- No work performed.

Non - Routine Work

- Finalized remedy recommendation memos for waste management units (WMU) 3, 7, and 10.

**Task 10 – Maintain Select Surface Covers**

Routine Work

- Completed select surface covers inspection and documentation.

Non - Routine Work

- No work performed.

**Task 11 - Lead Soil Removal**

Routine Work

- No work performed.

Non - Routine Work

- Assisted with the preparation and review of documents associated with the sale of the Northern Parcel.

**Task 12 - Agency Coordination/Negotiation, Reporting, Project Management**

Routine Work

- Prepared the Monthly EPA update memo.
- Continued preparation of the 2013 CMI Report.

Non - Routine Work

- Attended EPA meeting to discuss remedy recommendations.

**Task 13 - Outfall 002/005 Oil Minimization & Investigation**

Routine Work

- Not Applicable.

Non - Routine Work

- Finalized draft Outfall 001 and 009 Bulkheading Work Plan.
- Awarded Outfall 002 and 005 - Addendum #2 bulkheading project to Job Site Services.
- Met with the City of Flint to discuss the proposed Outfall 004 Reroute.

**Task 14 - Address 15 Areas of Subsurface LNAPL**

Routine Work

- Not Applicable.

Non - Routine Work

- Continued evaluative possible remedy selections.

**Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation**

Routine Work

- Performed OMM activities on the Outfall 002 passive recovery trench.
- Completed the monthly monitoring well gauging at AOI-09-B.

Non - Routine Work

- Developed the AOI-09-B System Summary and Recommendation memo.



**Attachment 3**

March 2014 Monthly Update



ARCADIS of Michigan, LLC  
28550 Cabot Drive  
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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki Maki

Date:  
April 15, 2014

ARCADIS Project No.:  
B0064410.2014

Subject:  
March 2014 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this March 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from March 1, 2014 through March 31, 2014.

**Task 1 - Outfall 003/004 Oil Removal Systems**

Routine Work

- Continued operations, maintenance, and monitoring (OMM) activities on the 003/004 system. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Non - Routine Work

- Completed high density polyethylene (HDPE) pipe jetting of manholes 3-6 and 4-6 to remove blockages from piping to ensure operation of the 003/004 system.
- Collected oil sample from the Baysaver Storage Unit for waste characterization purposes.

**Task 2 - LNAPL Investigation**

Routine Work

- No work performed.

Non - Routine Work

- Coordinated and conducted PCB delineation investigation activities.
- Continued development of Remedy Recommendation memos.
- Finalized natural source zone depletion (NSZD) Southend Memo and submitted to EPA.
- Continued development and drafting of cross sections.

**Task 3 - LNAPL Recovery Bench and Field-Scale Testing**

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 4 - Operate Fact. 10 LNAPL/GW System**

- Task Completed.

**Task 5 - Operate Fact. 36 LNAPL/GW System**

- Task Completed.

**Task 6 - Maintain Booms on Outfalls**

Routine Work

- Performed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Disposed of waste as necessary.
- Performed inspections of Oil Interceptor #2.

Non - Routine Work

- No work performed.

**Task 7 - Enhanced Groundwater Monitoring**

Routine Work

- Continued preparation of annual groundwater monitoring report.

Non - Routine Work

- Prepared the Notice Of Migration (NOM) Report pertaining to AOI 83/84-5 LNAPL Area.

**Task 8 - NPDES PLUS Monitoring**

Routine Work

- Completed the monthly NPDES Plus Monitoring event.

Non - Routine Work

- Continued evaluation of the mercury exceedances.
- Prepared enhanced additional upgradient sampling work plan.

**Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues**

Routine Work

- No work performed.

Non - Routine Work

- Finalized remedy recommendation memos for waste management units (WMU) 3, 7, and 10.

**Task 10 – Maintain Select Surface Covers**

Routine Work

- Completed select surface covers inspection and documentation.

Non - Routine Work

- No work performed.

**Task 11 - Lead Soil Removal**

Routine Work

- No work performed.

Non - Routine Work

- Assisted with Northern Parcel sale documents.
- Began preparation of the Northern Parcel Manganese Soil Removal Request for Proposal (RFP) Document.

**Task 12 - Agency Coordination/Negotiation, Reporting, Project Management**

Routine Work

- Prepared the Monthly EPA update memo.
- Continued preparation of the 2013 CMI Report.

Non - Routine Work

- Attended EPA meeting to discuss remedy recommendations.
- Obtain final lien waivers for 2013 invoices.

**Task 13 - Outfall 002/005 Oil Minimization & Investigation**

Routine Work

- Not Applicable.

Non - Routine Work

- Finalized Outfall 004 Reroute Summary Memo.
- Began locating and marking Outfall 002 and 005 bulkhead and manhole cap locations in preparation of the upcoming bulkheading work.
- Prepared Outfall 002 and 005 Bulkheading Work Plan (Addendum #3) for RACER review.
- Performed Outfall 003 storm sewer reroute surveying.

**Task 14 - Address 15 Areas of Subsurface LNAPL**

Routine Work

- Not Applicable.

Non - Routine Work

- Continued evaluative possible remedy selections.

**Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation**

Routine Work

- Performed OMM activities on the Outfall 002 passive recovery trench.
- Completed the monthly monitoring well gauging at AOI-09-B.

Non - Routine Work

- Finalized the AOI-09-B System Summary and Recommendation memo.
- Performed carbon changeout at the AOI-09-B multi-phase extraction (MPE) system and began preparing for system startup.
- Prepared Outfall 002 passive recovery trench summary memo.



**Attachment 4**

2<sup>nd</sup> and 3<sup>rd</sup> Quarter Field Schedule

## RACER Buick City 2014 Field Schedule Second and Third Quarter 2014

| ID | Task Name  | Qtr 2, 2014 |     |     | Qtr 3, 2014 |     |     |
|----|--|-------------|-----|-----|-------------|-----|-----|
|    |  | Apr         | May | Jun | Jul         | Aug | Sep |
| 1  | REMEDIATION ACTIVITIES - Second and Third Quarter                                |             |     |     |             |     |     |
| 2  | <b>Task 1 - Outfall 003/004 Oil Removal Systems</b>                              |             |     |     |             |     |     |
| 3  | <b>Subtask 01 - Weekly Inspections</b>   |             |     |     |             |     |     |
| 4  | <b>Subtask 03 - Maintenance Event</b>  |             |     |     |             |     |     |
| 5  | 003/004 Maintenance Event  |             |     |     |             |     |     |
| 6  | <b>Task 2 - LNAPL Investigation</b>  |             |     |     |             |     |     |
| 7  | <b>Subtask 05 - LNAPL Transmissivity Evaluation (Northend)</b>                   |             |     |     |             |     |     |
| 8  | Transmissivity Testing   |             |     |     |             |     |     |
| 9  | <b>Subtask 06- Miscellaneous LNAPL Evaluation/Testing</b>                        |             |     |     |             |     |     |
| 10 | Respirometry Testing   |             |     |     |             |     |     |
| 11 | Additional LNAPL/PCB Delineation   |             |     |     |             |     |     |
| 12 | <b>Task 3 - Benchscale/pilot testing</b>   |             |     |     |             |     |     |
| 13 | Pilot Test 1 - Planning  |             |     |     |             |     |     |
| 14 | Pilot Test 1 -Field  |             |     |     |             |     |     |
| 15 | Pilot test 1 - Reporting   |             |     |     |             |     |     |
| 16 | <b>Task 6 - Maintain Booms on Outfalls</b>                                       |             |     |     |             |     |     |
| 17 | <b>Subtask 00 - Oil Interceptor #2 Inspection and Waste Removal</b>              |             |     |     |             |     |     |
| 18 | <b>Subtask 01 - Outfall Boom Inspections and Maintenance - 2 hours per day</b>   |             |     |     |             |     |     |
| 19 | <b>Task 8 - NPDES PLUS Monitoring</b>  |             |     |     |             |     |     |
| 20 | April NPMP Sampling Event  |             |     |     |             |     |     |
| 21 | May NPMP Sampling Event  |             |     |     |             |     |     |
| 22 | June NPMP Sampling Event   |             |     |     |             |     |     |
| 23 | July NPMP Sampling Event   |             |     |     |             |     |     |
| 24 | August NPMP Sampling Event   |             |     |     |             |     |     |
| 25 | September NPMP Sampling Event  |             |     |     |             |     |     |
| 26 | <b>Task 11 - Soil Removal</b>  |             |     |     |             |     |     |
| 27 | Northern Parcel Soil Removal   |             |     |     |             |     |     |
| 28 | <b>Task 13 - Outfall 002/005 Oil Minimization &amp; Investigation</b>            |             |     |     |             |     |     |
| 29 | <b>Subtask 02 - Outfall 002 &amp; 005 Bulkhead implementation</b>                |             |     |     |             |     |     |
| 30 | Bulkhead Implementation  |             |     |     |             |     |     |
| 31 | <b>Task 15 - LNAPL Recovery OM&amp;M Followed by Secondary LNAPL Remediation</b> |             |     |     |             |     |     |
| 32 | Outfall 002 Passive Recovery Trench  |             |     |     |             |     |     |
| 33 | AOI 09-B NAPL Recovery O&M - 2013  |             |     |     |             |     |     |
| 34 | AOI 36-1 Preliminary System Installation Activities                              |             |     |     |             |     |     |

Routine Task Non-Routine Task Drilling Events Construction Events

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*Transmitted via Electronic Mail*

Mr. Chris Black  
U.S. Environmental Protection Agency – Region 5  
Land and Chemicals Division  
77 W. Jackson Blvd. DE-97  
Chicago, IL 60604-3590

ENVIRONMENT

Subject:  
Second Quarter 2014 Progress Report (No. 12)  
Revitalizing Auto Communities Environmental Response (RACER) Trust  
Buick City Site, Flint, Michigan

Date:  
July 15, 2014

Contact:  
Micki M. Maki, P.E.

Dear Mr. Black:

Phone:  
248.994.2271

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this Second Quarter 2014 Progress Report (No. 11) in accordance with Section VI (18b) of the RACER Trust's Administrative Order on Consent (Consent Order), Docket Number RCRA-05-2011-0024 for the Buick City Site located in Flint, Michigan (the Site), which was effective on September 29, 2011.

Email:  
[Micki Maki@arcadis-us.com](mailto:Micki.Maki@arcadis-us.com)

Please note that in accordance with General Motors Corporation's Administrative Order on Consent Number R8H-5-00-02 for the North American Operations [NAO] Flint Operations Site (also known as Buick City) Quarterly Progress Reports No.1 through 46 were submitted to the United States Environmental Protection Agency (EPA) documenting Site activities from January 1, 2000 through June 30, 2011.

Our ref:  
B0064410.2014

This Second Quarter 2014 Progress Report (No. 12) covers the period of April 1, 2014 through June 30, 2014.

The following briefly summarizes the work performed and data collected, problems encountered, project schedule, and estimated percent complete for a list of activities.

## **1. Data Collected This Quarter**

The samples collected as part of Site investigation or monitoring activities during this quarter are discussed below. This data will be presented to the EPA in the 2014 Annual CMI Report, except as noted below.

### **1.1 Storm Sewer Water Samples**

In May and June, ARCADIS conducted the “NPDES Plus” Monitoring Program (NPMP) sampling program. No samples were able to be collected in April due to precipitation. The NPMP typically consists of collecting monthly samples from the following Site storm sewers as access allows MP001, MP003, MP006, MP009, MP010, MP011, and MP013. During the June sampling event additional samples were conducted at upgradient and midpoint samples were collected per the EPA approved Additional NPDES Plus Monitoring Program Sampling Work Plan. The proposed outfall sampling was unable to be completed as the elevation of the river was too high. The outfall sampling will be completed when possible. The NPMP data will be included in the annual CMI Report.

As required per Part 1, Section A 2 in the current National Pollution Discharge Elimination System (NPDES) Permit No. MI0001597, weekly composite samples were collected from Monitoring Point 003A. This data will be included in the 2013 Yearly Pollutant Minimization Plan (PMP) for PCBs report, which will submitted to the MDEQ as required in the NPDES permit.

### **1.2 Soil Samples**

In May, ARCADIS collected confirmation soil samples as part of the excavation of the manganese impacts in soil at Northern Parcel. A total of 56 soil samples were collected from excavation floors and sidewalls and submitted for laboratory analysis. This data will be included a brief summary report.

### **1.3 AOI 09-B System Samples**

The MPE system was re-started on April 9, 2014. ARCADIS collected samples from the AOI 09-B Multiphase Extraction (MPE) system as required by the City of Flint Sanitary Use Permit #2-02-RBC001. In accordance with the permit four grab samples and one composite sample are collected from the system effluent line on a monthly basis. The composite sample is submitted for laboratory analysis of ammonia-nitrogen, BOD, total phosphorous, total suspended solids, metals, SVOCs, and PCBs and the grab samples were submitted for laboratory analysis of hexane extractable material (HEM), amenable cyanide, and VOCs plus xylenes. This data is

submitted to the City of Flint on a monthly basis in the AOI 09-B Monthly Discharge Report.

In April, May, and June, additional system samples were collected to monitor system performance. Grab samples were collected from the carbon influent, carbon midfluent, and system influent sample ports. Samples from these three locations are submitted on a monthly basis for laboratory analysis of BTEX, VOCs, xylenes, and/or gasoline range organics.

In April, during system startup activities, an additional grab sample was collected from various process locations for treatment process verification. This samples was submitted for laboratory analysis of ammonia-nitrogen, BOD, total phosphorous, total suspended solids, metals, SVOCs, HEM, amendable cyanide, VOCs, xylenes, BTEX, gasoline range organics, and/or PCBs.

In April, May, and June, monthly air samples were collected from the AOI 09-B Multiphase Extraction (MPE) system as required by the Michigan Department of Environmental Quality (MDEQ) Permit # 165-11. Samples were collected from the Thermal Oxidizer influent piping. Additional samples were collected on April 25, 2014 and May 14, 2014 for the startup period. For endpoint verification, samples were collected on a weekly basis June 9, 2014 through June 30, 2014. This data is submitted to the MDEQ on a monthly basis in the AOI 09-B Monthly Air Report.

## **2. Work Performed This Quarter**

Attachments 1, 2, and 3 present the monthly Site progress reports for April, May, and June that document the work performed this quarter.

## **3. Problems Encountered**

As mentioned in Section 1.1, wet weather conditions in April prevented the collection of NPMP samples and the high river elevation prevented the collection of the outfall samples. No other problems were encountered.

## **4. Project Schedule – Near-Term Milestone Activities Anticipated During the Next Quarter**

A projected field work schedule for the third and fourth quarter of 2014 is included in Attachment 4.

## 4.1 Routine Work

### Task 1 *Outfall 003/004 Oil Removal Systems*

- Continue OMM inspections of system.

### Task 6 *Maintain Booms on Outfalls*

- Continue to perform inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Dispose of waste as necessary.
- Continue to perform inspections of Oil Interceptor #2.

### Task 8 *NPDES PLUS Monitoring*

- Perform NPMP monitoring in July, August, and September.

### Task 12 *Agency Coordination/Negotiation, Reporting, Project Management*

- Continue to participate in regulatory agency calls.
- Prepare Quarterly Report for submittal to EPA.
- Complete Annual CMI report.

### Task 13 *Outfall 002/005 Oil Minimization & Investigation*

- Continue quarterly P-trap inspections.

### Task 15 *LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- Continue OM&M phase of Outfall 002 passive recovery trench.

## 4.2 Non-Routine Work

### Task 1 *Outfall 003/004 Oil Removal System*

- Perform annual maintenance event of Outfall 003/004 Oil Removal System. Dispose of waste as necessary.

### Task 2 *LNAPL Investigation*

- Complete additional investigation of LNAPL areas and impacts.
- Complete evaluation of Site data to aid in selecting methods and locations for additional LNAPL pilot testing.
- Finalize Remedy Recommendation report.

### Task 3 *LNAPL Recovery Bench and Field-Scale Testing*

- Propose pilot testing activities to EPA for approval.

*Task 6 Maintain Booms on Outfalls*

- Perform maintenance event of Oil Interceptor #2. Dispose of waste as necessary.

*Task 9 RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues*

- Finalize remedy recommendations memos for waste management units (WMU) #3, #7, and #10 to be incorporated in Remedy Recommendation report.

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Complete review of re-routing options for Outfall 004 and 013 storm sewer with the City of Flint.

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- Continue OM&M phase of AOI 09-B LNAPL remediation system.

## **5. Estimated Percent Complete**

*Task 1 Outfall 003/004 Oil Removal Systems*

- Outfall 003/004 Oil removal System OM&M – Ongoing

*Task 2 LNAPL Investigation*

- LNAPL LIF Investigations – 100%
- Southend Natural Source Zone Depletion Study – 100%
- Southend Transmissivity Testing – 100%
- Northend Natural Source Zone Depletion Study – 90%
- Northend Transmissivity Testing – 75%
- Additional LNAPL Investigation – 80%

*Task 3 LNAPL Recovery Bench and Field-Scale Testing*

- LNAPL Bench Scale Testing – 25%
- LNAPL Pilot Scale Testing – 33%

*Task 7 Enhanced Groundwater Monitoring*

- Groundwater Monitoring – Ongoing

*Task 8 NPDES PLUS Monitoring*

- NPDES PLUS Monitoring – Ongoing

*Task 9 RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues*

- Northend RCRA WMU Closures – 90%
- Southend RCRA WMU Closures – 90%
- Northend Restrictive Covenant – 0%
- Southend Restrictive Covenant – 90%
- Monitoring Well Abandonments – 5%
- UST Issue Resolution – 100%

*Task 10 Maintain Select Surface Covers*

- Maintain Select Surface Covers – Ongoing
- Installation of Additional Surface Cover – Southend – 100%

*Task 11 Lead Soil Removal*

- Lead Soil Removal – 100%
- Northern Parcel Investigation – 100%
- Northern Parcel Soil Removal – 100%

*Task 12 Agency Coordination/Negotiation, Reporting, Project Management*

- RFI Phase I Report - 100%
- RFI Phase II Report - 100%
- Human Health Exposure Control EI Report - 100%
- CA 750 Report - 100%
- Revised Corrective Measures Proposal (CMP), May 1, 2008 – 100%
- Revised CMP Addendum No. 1 – 100%
- Southend Corrective Measures Implementation (CMI) Work Plan – 100%
- Revised CMP Addendum No. 2 – Northend and Site-wide Groundwater - 100%

- Revised CMP Addendum No. 2-1 – Response to EPA Comments - 100%
- 2012 CMI Annual Report – 100%
- 2013 CMI Annual Report – 80%

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Outfall 002 Storm Sewer Evaluation - 100%
- Outfall 003 Storm Sewer Evaluation – 50%
- Outfall 004 Re-route into Outfall 013 Evaluation - 90%
- Outfall 005 Storm Sewer Evaluation – 100%
- Outfall 002 Final Measure Implementation– 90%
- Outfall 003 Final Measure Implementation – 25%
- Outfall 005 Final Measure Implementation – 90%
- Outfall 007 Final Measure Implementation – 100%

*Task 14 Address 15 Areas of Subsurface LNAPL*

- Address 15 Areas of LNAPL – 7%
  - AOI 09-B System Design, Permitting, and Construction – 100%

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- LNAPL Recovery OM&M – 25%
- Secondary LNAPL Remediation – 0%

**6. Budget Status**

- 2014 Budget – The 2014 Budget Request was approved by the EPA on December 16, 2013.
- 2014 Budget Amendment No. 1 – Budget Amendment No. 1 was approved by the EPA on March 7, 2014.
- 2014 Budget Modification – Budget Modification was approved by the EPA on May 23, 2014.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in blue ink that reads "Micki M. Maki".

Micki Maki, P.E.  
Project Manager

Copies:

Peter Quackenbush, Michigan Department of Environmental Quality, (via email)  
William Yocum, Michigan Department of Environmental Quality (via email)  
Flint Public Library  
Grant Trigger, RACER Trust (via email)  
Dave Favero, RACER Trust (via email)

Attachments:

Attachment 1 – April 2014 Project Update - RACER Buick City Site  
Attachment 2 – May 2014 Project Update - RACER Buick City Site  
Attachment 3 – June 2014 Project Update - RACER Buick City Site  
Attachment 4 – RACER Buick City Field Schedule – 3<sup>rd</sup> and 4<sup>th</sup> Quarter 2014



**Attachment 1**

April 2014 Project Update



ARCADIS of Michigan, LLC  
28550 Cabot Drive  
Suite 500  
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Michigan 48377  
Tel 248 994 2240  
Fax 248 994 2241

**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki Maki

Date:  
June 30, 2014

ARCADIS Project No.:  
B0064410.2014

Subject:  
April 2014 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this April 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from April 1, 2014 through April 30, 2014.

**Task 1 - Outfall 003/004 Oil Removal Systems**

Routine Work

- Continued operations, maintenance, and monitoring (OMM) activities on the 003/004 system. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Non - Routine Work

- No work performed.

**Task 2 - LNAPL Investigation**

Routine Work

- No work performed.

Non - Routine Work

- Continued development of Remedy Recommendation memos.
- Developed a draft 24 month schedule for site activities.
- Continued development and drafting of conceptual site model cross sections.

**Task 3 - LNAPL Recovery Bench and Field-Scale Testing**

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 4 - Operate Fact. 10 LNAPL/GW System**

- Task Completed.

**Task 5 - Operate Fact. 36 LNAPL/GW System**

- Task Completed.

**Task 6 - Maintain Booms on Outfalls**

Routine Work

- Performed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Disposed of waste as necessary.
- Performed inspections of Oil Interceptor #2.

Non - Routine Work

- Performed maintenance cleaning event of Oil Interceptor #2.

**Task 7 - Enhanced Groundwater Monitoring**

Routine Work

- Continued preparation of annual groundwater monitoring report.

Non - Routine Work

- Submitted the Notice of Migration (NOM) pertaining to AOI 83/84-5 LNAPL Area.

**Task 8 - NPDES PLUS Monitoring**

Routine Work

- Completed the monthly NPDES Plus Monitoring event.

Non - Routine Work

- Continued evaluation of the mercury exceedances.
- Finalize and submit additional upgradient sampling work plan to the EPA for approval.
- Investigate Outfall 001 in preparation of upcoming activities and address condition issues.
- Complete Traffic control permits with the City of Flint.

**Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues**

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 10 – Maintain Select Surface Covers**

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 11 - Lead Soil Removal**

Routine Work

- No work performed.

Non - Routine Work

- Assisted with Northern Parcel sale documents.
- Prepared an air monitoring and sampling work plan.
- Reviewed Northern Parcel Manganese Soil Removal bids, awarded contract, and prepared for field activities.

**Task 12 - Agency Coordination/Negotiation, Reporting, Project Management**

Routine Work

- Prepared the Quarterly EPA Report.
- Continued preparation of the 2013 CMI Report.

Non - Routine Work

- Attended EPA meeting to discuss remedy recommendations.

**Task 13 - Outfall 002/005 Oil Minimization & Investigation**

Routine Work

- Not Applicable.

Non - Routine Work

- Finalized Outfall 004 Reroute Summary Memo.
- Finalized and submitted the Outfall 002 and 005 Bulkheading Work Plan (Addendum #3) for EPA approval.
- Completed initial surveying in preparation for Outfall 003 storm sewer reroute feasibility study.
- Developed Outfall 003 feasibility study plan and cost estimate.
- Developed the Draft Outfall 004 Reroute Monitoring plan and submit to RACER for review.

**Task 14 - Address 15 Areas of Subsurface LNAPL**

Routine Work

- Not Applicable.

Non - Routine Work

- Continued to evaluate possible remedy selections for Outfall 003.
- Developed cost estimates for remedy selections

**Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation**

Routine Work

- Performed OMM activities on the Outfall 002 passive recovery trench.

Non - Routine Work

- Perform system startup and maintenance activities at the AOI-09-B multi-phase extraction (MPE) system.
- Finalize Outfall 002 passive recovery trench summary memo.



**Attachment 2**

May 2014 Project Update



ARCADIS of Michigan, LLC  
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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki Maki

Date:  
June 30, 2014

ARCADIS Project No.:  
B0064410.2014

Subject:  
May 2014 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this May 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from May 1, 2014 through May 31, 2014.

**Task 1 - Outfall 003/004 Oil Removal Systems**

Routine Work

- Continued operations, maintenance, and monitoring (OMM) activities on the 003/004 system. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Non - Routine Work

- No work performed.

**Task 2 - LNAPL Investigation**

Routine Work

- No work performed.

Non - Routine Work

- Continued development of Remedy Recommendation memos.
- Continued development and drafting of conceptual site model cross sections.

**Task 3 - LNAPL Recovery Bench and Field-Scale Testing**

Routine Work

- No work performed.

Non - Routine Work

- Began developing AOI-36 pilot test work plan.

**Task 4 - Operate Fact. 10 LNAPL/GW System**

- Task Completed.

**Task 5 - Operate Fact. 36 LNAPL/GW System**

- Task Completed.

**Task 6 - Maintain Booms on Outfalls**

Routine Work

- Performed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Disposed of waste as necessary.
- Performed inspections of Oil Interceptor #2.

Non - Routine Work

- Completed Oil Interceptor #2 cleaning/maintenance event.

**Task 7 - Enhanced Groundwater Monitoring**

Routine Work

- Continued preparation of groundwater monitoring section of annual CMI report.

Non - Routine Work

- No work performed.

**Task 8 - NPDES PLUS Monitoring**

Routine Work

- Completed the monthly NPDES Plus Monitoring event.

Non - Routine Work

- Continued evaluation of the mercury exceedances.

**Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues**

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 10 – Maintain Select Surface Covers**

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 11 - Lead Soil Removal**

Routine Work

- No work performed.

Non - Routine Work

- Completed Northern Parcel manganese soil excavation project.

**Task 12 - Agency Coordination/Negotiation, Reporting, Project Management**

Routine Work

- Prepared the Monthly EPA update memo.
- Continued preparation of the 2013 CMI Report.

Non - Routine Work

- Obtain final lien waivers for 2013 invoices.

**Task 13 - Outfall 002/005 Oil Minimization & Investigation**

Routine Work

- Not Applicable.

Non - Routine Work

- Coordinated installation of Outfall 003 flow monitoring devices and began flow study.
- Prepared Outfall 002 and 005 Bulkheading Work Plan (Addendum #4) for RACER review.
- Began bulkheading and manhole capping activities in accordance with the Outfall 002 and 005 Bulkheading Work Plan (Addendum #2 & #4).
- Prepared Outfall Exit Strategy memo.

**Task 14 - Address 15 Areas of Subsurface LNAPL**

Routine Work

- Not Applicable.

Non - Routine Work

- Continued evaluate possible remedy selections for Outfall 003.

**Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation**

Routine Work

- Performed operations, maintenance, and monitoring (OMM) activities on the AOI-09B system. Free product and groundwater removal is summarized below.
  - Removal as follows:

| Substance                        | May Removal       | Total Removal     |
|----------------------------------|-------------------|-------------------|
| Free Product (Measured)          | 0 gallons         | 135 gallons       |
| Vapor Phase Mass (Estimated)     | 51 pounds         | 2.060 pounds      |
| Groundwater Discharge (Measured) | 168,393.8 gallons | 990,127.9 gallons |

- Performed OMM activities on the Outfall 002 passive recovery trench.

Non - Routine Work

- No work performed.



**Attachment 3**

June 2014 Project Update



ARCADIS of Michigan, LLC  
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Tel 248 994 2240  
Fax 248 994 2241

**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
July 14, 2014

ARCADIS Project No.:  
B0064410.2014

Subject:  
June 2014 Project Update - RACER Buick City Site, Flint, Michigan

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On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this June 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from June 1, 2014 through June 30, 2014.

**Task 1 - Outfall 003/004 Oil Removal Systems**

Routine Work

- Continued operations, maintenance, and monitoring (OMM) activities on the 003/004 system. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Non - Routine Work

- Prepared PCB disposal determination email and submit for review.

**Task 2 - LNAPL Investigation**

Routine Work

- No work performed.

Non - Routine Work

- Continued development of Remedy Recommendation memos.
- Continued development and drafting of conceptual site models
- Continued addressing EPA comments on Remedy Recommendation Memos.
- Began evaluating vapor intrusion exceedances to determine areas of concern.
- Began preparing Supplemental Corrective Measures Implementation Work Plan.

**Task 3 - LNAPL Recovery Bench and Field-Scale Testing**

Routine Work

- No work performed.

Non - Routine Work

- Began preparing MPE pilot test work plan.

**Task 4 - Operate Fact. 10 LNAPL/GW System**

- Task Completed.

**Task 5 - Operate Fact. 36 LNAPL/GW System**

- Task Completed.

**Task 6 - Maintain Booms on Outfalls**

Routine Work

- Performed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Disposed of waste as necessary.
- Performed inspections of Oil Interceptor #2.

Non - Routine Work

- No work performed.

**Task 7 - Enhanced Groundwater Monitoring**

Routine Work

- Continued preparation of annual groundwater monitoring report.

Non - Routine Work

- Prepared the Notice of Migration (NOM) pertaining to AOI 83/84-5 LNAPL Area.

**Task 8 - NPDES PLUS Monitoring**

Routine Work

- Completed the monthly NPDES Plus Monitoring event.

Non - Routine Work

- Continued evaluation of the mercury exceedances and preparation of GSI strategy memo.
- Completed additional NPMP upgradient and midpoint sampling event.

**Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues**

Routine Work

- No work performed.

Non - Routine Work

- No work performed.

**Task 10 – Maintain Select Surface Covers**

Routine Work

- Completed select surface covers inspection and documentation.

Non - Routine Work

- Began preparation of AOI-40 surface cover work plan.

**Task 11 - Lead Soil Removal**

Routine Work

- No work performed.

Non - Routine Work

- Began preparation of the Northern Parcel Manganese Soil Removal documentation report.

**Task 12 - Agency Coordination/Negotiation, Reporting, Project Management**

Routine Work

- Prepared the Monthly EPA update memo.
- Continued preparation of the 2013 CMI Report.

Non - Routine Work

- Attended EPA meeting.

**Task 13 - Outfall 002/005 Oil Minimization & Investigation**

Routine Work

- Not Applicable.

Non - Routine Work

- Continued bulkheading construction activities in accordance with the approved bulkheading work plans (Addendum 2 & 3).
- Prepared outfall exit strategy memo.

**Task 14 - Address 15 Areas of Subsurface LNAPL**

Routine Work

- Not Applicable.

Non - Routine Work

- Continued evaluation of possible remedies for Outfall 003.

**Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation**

Routine Work

- Completed the monthly monitoring well gauging at AOI-09-B.
- Collected vapor samples from the AOI-09-B system.

Non - Routine Work

- Finalized the AOI-09-B System Summary and Recommendation memo.
- Performed AOI-09-B multi-phase extraction (MPE) system cleaning and start up.



**Attachment 4**

RACER Buick City Field Schedule  
– 3<sup>rd</sup> and 4<sup>th</sup> Quarter 2014

## RACER Buick City 2014 Field Schedule Third and Forth Quarter 2014

| ID | Task Name  | Duration        | Start              | July 1              |     | July 21 |      | August 11 |     | September 1 |      | September 21 |      | October 11 |      | November 1 |      | November 21 |       | December 11 |       | Ja |      |      |       |       |
|----|--|-----------------|--------------------|---------------------|-----|---------|------|-----------|-----|-------------|------|--------------|------|------------|------|------------|------|-------------|-------|-------------|-------|----|------|------|-------|-------|
|    |  |                 |                    | 6/29                | 7/6 | 7/13    | 7/20 | 7/27      | 8/3 | 8/10        | 8/17 | 8/24         | 8/31 | 9/7        | 9/14 | 9/21       | 9/28 | 10/5        | 10/12 | 10/19       | 10/26 |    | 11/2 | 11/9 | 11/16 | 11/23 |
| 1  | REMEDIATION ACTIVITIES - Third and Forth Quarter                                 | 132 days        | Tue 7/1/14         | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 2  | <b>Task 1 - Outfall 003/004 Oil Removal Systems</b>                              | <b>132 days</b> | <b>Tue 7/1/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 3  | <b>Subtask 01 - Weekly Inspections</b>   | 132 days        | Tue 7/1/14         | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 4  | <b>Subtask 03 - Maintenance Event</b>  | <b>15 days</b>  | <b>Mon 8/4/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 5  | 003/004 Maintenance Event  | 15 days         | Mon 8/4/14         | [Blue grid bar]     |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 6  | <b>Task 2 - LNAPL Investigation</b>  | <b>20 days</b>  | <b>Tue 9/2/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 7  | <b>Subtask 06- Miscellaneous LNAPL Evaluation/Testing</b>                        | <b>20 days</b>  | <b>Tue 9/2/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 8  | Supplemental Investigation   | 20 days         | Tue 9/2/14         | [Green hatched bar] |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 9  | <b>Task 3 - Benchscale/pilot testing</b>   | <b>70 days</b>  | <b>Mon 2/17/14</b> | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 10 | AOI 36 Pilot Test  | 15 days         | Mon 9/8/14         | [Blue grid bar]     |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 11 | <b>Task 6 - Maintain Booms on Outfalls</b>                                       | <b>195 days</b> | <b>Wed 1/1/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 12 | Subtask 00 - Oil Interceptor #2 Inspection and Waste Removal                     | 132 days        | Tue 7/1/14         | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 13 | Subtask 01 - Outfall Boom Inspections and Maintenance                            | 132 days        | Tue 7/1/14         | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 14 | <b>Task 7 - Enhanced Groundwater Monitoring</b>                                  | <b>10 days</b>  | <b>Mon 8/25/14</b> | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 15 | 2014 Annual Groundwater Monitoring Event   | 10 days         | Mon 8/25/14        | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 16 | <b>Task 8 - NPDES PLUS Monitoring</b>  | <b>195 days</b> | <b>Wed 1/1/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 17 | <b>Subtask 01 - NPDES Plus Monitoring</b>  | <b>107 days</b> | <b>Mon 7/7/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 18 | July NPMP Sampling Event   | 1 day           | Mon 7/7/14         | [Yellow dot]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 19 | August NPMP Sampling Event   | 1 day           | Tue 8/5/14         | [Yellow dot]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 20 | September NPMP Sampling Event  | 1 day           | Wed 9/3/14         | [Yellow dot]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 21 | October NPMP Sampling Event  | 1 day           | Tue 10/7/14        | [Yellow dot]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 22 | November NPMP Sampling Event   | 1 day           | Tue 11/4/14        | [Yellow dot]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 23 | December NPMP Sampling Event   | 1 day           | Tue 12/2/14        | [Yellow dot]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 24 | <b>Subtask 02 - Mercury Investigation</b>  | <b>30 days</b>  | <b>Tue 9/9/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 25 | Field investigation  | 30 days         | Tue 9/9/14         | [Green hatched bar] |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 26 | <b>Task 10 - maintain Select Surface Cover</b>                                   | <b>5 days</b>   | <b>Mon 9/15/14</b> | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 27 | Select Surface Cover Installation  | 5 days          | Mon 9/15/14        | [Red double bar]    |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 28 | <b>Task 13 - Outfall 002/005 Oil Minimization &amp; Investigation</b>            | <b>10 days</b>  | <b>Mon 8/4/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 29 | <b>Subtask 02 - Outfall 002 &amp; 005 Bulkhead implementation</b>                | <b>10 days</b>  | <b>Mon 8/4/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 30 | Bulkhead Implementation - Excavations  | 10 days         | Mon 8/4/14         | [Red double bar]    |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 31 | <b>Task 15 - LNAPL Recovery OM&amp;M Followed by Secondary LNAPL Remediation</b> | <b>132 days</b> | <b>Tue 7/1/14</b>  | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 32 | Outfall 002 Passive Recovery Trench  | 132 days        | Tue 7/1/14         | [Yellow bar]        |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 33 | AOI 09-B MPE Recovery O&M  | 66 days         | Tue 7/1/14         | [Yellow bar] 0%     |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |
| 34 | AOI 36-1 Preliminary System Installation Activities                              | 30 days         | Thu 11/20/14       | [Blue grid bar]     |     |         |      |           |     |             |      |              |      |            |      |            |      |             |       |             |       |    |      |      |       |       |

Routine Task [Yellow bar] Non-Routine Task [Blue grid bar] Drilling Events [Green hatched bar] Construction Events [Red double bar]

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*Transmitted via Electronic Mail*

Mr. Chris Black  
U.S. Environmental Protection Agency – Region 5  
Land and Chemicals Division  
77 W. Jackson Blvd. DE-97  
Chicago, IL 60604-3590

ENVIRONMENT

Subject:  
Third Quarter 2014 Progress Report (No. 13)  
Revitalizing Auto Communities Environmental Response (RACER) Trust  
Buick City Site, Flint, Michigan

Date:  
October 15, 2014

Contact:  
Micki M. Maki

Dear Mr. Black:

Phone:  
248.994.2271

On behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), ARCADIS is submitting this Third Quarter 2014 Progress Report (No. 13) in accordance with Section VI (18b) of the RACER Trust's Administrative Order on Consent (Consent Order), Docket Number RCRA-05-2011-0024 for the Buick City Site located in Flint, Michigan (the Site), which was effective on September 29, 2011.

Email:  
[Micki Maki@arcadis-us.com](mailto:MickiMaki@arcadis-us.com)

Please note that in accordance with General Motors Corporation's Administrative Order on Consent Number R8H-5-00-02 for the North American Operations [NAO] Flint Operations Site (also known as Buick City) Quarterly Progress Reports No.1 through 46 were submitted to the United States Environmental Protection Agency (EPA) documenting Site activities from January 1, 2000 through June 30, 2011.

Our ref:  
B0064410.2014

This Third Quarter 2014 Progress Report (No. 13) covers the period of July 1, 2014 through September 30, 2014.

The following briefly summarizes the work performed and data collected, problems encountered, project schedule, and estimated percent complete for a list of activities.

## **1. Data Collected This Quarter**

The samples collected as part of Site investigation or monitoring activities during this quarter are discussed below. This data will be presented to the EPA in the 2014 Annual CMI Report, except as noted below.

### **1.1 Storm Sewer Water Samples**

In July, August, and September, ARCADIS conducted the “NPDES Plus” Monitoring Program (NPMP) sampling program. The NPMP typically consists of collecting monthly samples from the following Site storm sewers as access allows MP001, MP003, MP006, MP009, MP010, MP011, and MP013. Bulkheading activities were completed at Outfalls 009 and 010, eliminating the Site’s contributions to these outfalls; therefore, NPMP sampling is no longer conducted at these locations. The NPMP data will be included in the annual CMI Report.

As required per Part 1, Section A 2 in the current National Pollution Discharge Elimination System (NPDES) Permit No. MI0001597, weekly composite samples were collected from Monitoring Point 003A. This data will be included in the 2014 Yearly Pollutant Minimization Plan (PMP) for PCBs report, which will be submitted to the Michigan Department of Environmental Quality (MDEQ) as required in the NPDES permit.

### **1.2 AOI 09-B System Samples**

ARCADIS continues to collect samples from the AOI 09-B Multiphase Extraction (MPE) system as required by the City of Flint Sanitary Use Permit #2-02-RBC001. In accordance with the permit four grab samples and one composite sample are collected from the system effluent line on a monthly basis. The composite sample is submitted for laboratory analysis of ammonia-nitrogen, BOD, total phosphorous, total suspended solids, metals, SVOCs, and PCBs and the grab samples were submitted for laboratory analysis of hexane extractable material (HEM), amenable cyanide, and VOCs plus xylenes. This data is submitted to the City of Flint on a monthly basis in the AOI 09-B Monthly Discharge Report.

In July, August, and September, monthly air samples were collected from the AOI 09-B MPE system as required by the MDEQ Permit # 165-11. Samples were collected from the Thermal Oxidizer influent piping. For endpoint verification, additional samples were collected on a weekly basis July 1, 2014 through August 15, 2014. This data is submitted to the MDEQ on a monthly basis in the AOI 09-B Monthly Air Report.

## 2. Work Performed This Quarter

Attachments 1, 2, and 3 present the monthly Site progress reports for July, August, and September that document the work performed this quarter.

## 3. Problems Encountered

No problems were encountered.

## 4. Project Schedule – Near-Term Milestone Activities Anticipated During the Next Quarter

A projected field work schedule for the fourth quarter of 2014 and first quarter of 2015 is included in Attachment 4.

### 4.1 Routine Work

#### Task 1 *Outfall 003/004 Oil Removal Systems*

- Continue OMM inspections of system.

#### Task 6 *Maintain Booms on Outfalls*

- Continue to perform inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Dispose of waste as necessary.
- Continue to perform inspections of Oil Interceptor #2.

#### Task 8 *NPDES PLUS Monitoring*

- Perform NPMP monitoring in July, August, and September.

#### Task 12 *Agency Coordination/Negotiation, Reporting, Project Management*

- Continue to participate in regulatory agency calls.
- Prepare Quarterly Report for submittal to EPA.

#### Task 13 *Outfall 002/005 Oil Minimization & Investigation*

- Continue quarterly P-trap inspections.

#### Task 15 *LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- Continue OM&M phase of Outfall 002 passive recovery trench.

**4.2 Non-Routine Work**

*Task 1 Outfall 003/004 Oil Removal System*

- Perform annual maintenance event of Outfall 003/004 Oil Removal System. Dispose of waste as necessary.

*Task 2 LNAPL Investigation*

- Complete additional investigation of LNAPL areas and impacts.
- Complete evaluation of Site data to aid in selecting methods and locations for additional LNAPL pilot testing.

*Task 3 LNAPL Recovery Bench and Field-Scale Testing*

- Propose treatability study activities for LNAPL infiltration elimination to EPA for approval.
- Conduct the AOI 36 MPE Pilot Test activities.

*Task 6 Maintain Booms on Outfalls*

- Perform maintenance event of Oil Interceptor #2. Dispose of waste as necessary.

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Complete the re-routing of Outfall 004 and 013 storm sewer.

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- Complete OM&M phase of AOI 09-B LNAPL remediation system.

**5. Estimated Percent Complete**

*Task 1 Outfall 003/004 Oil Removal Systems*

- Outfall 003/004 Oil removal System OM&M – Ongoing

*Task 2 LNAPL Investigation*

- LNAPL LIF Investigations – 100%
- Southend Natural Source Zone Depletion Study – 100%
- Southend Transmissivity Testing – 100%
- Northend Natural Source Zone Depletion Study – 90%
- Northend Transmissivity Testing – 75%
- Additional LNAPL Investigation – 80%

*Task 3 LNAPL Recovery Bench and Field-Scale Testing*

- LNAPL Bench Scale Testing – 25%
- LNAPL Pilot Scale Testing – 33%

*Task 7 Enhanced Groundwater Monitoring*

- Groundwater Monitoring – Ongoing

*Task 8 NPDES PLUS Monitoring*

- NPDES PLUS Monitoring – Ongoing

*Task 9 RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues*

- Northend RCRA WMU Closures – 90%
- Southend RCRA WMU Closures – 90%
- Northend Restrictive Covenant – 0%
- Southend Restrictive Covenant – 90%
- Monitoring Well Abandonments – 5%
- UST Issue Resolution – 100%

*Task 10 Maintain Select Surface Covers*

- Maintain Select Surface Covers – Ongoing
- Installation of Additional Surface Cover – Southend – 100%

*Task 11 Lead Soil Removal*

- Lead Soil Removal – 100%
- Northern Parcel Investigation – 100%
- Northern Parcel Soil Removal – 100%

*Task 12 Agency Coordination/Negotiation, Reporting, Project Management*

- RFI Phase I Report - 100%
- RFI Phase II Report - 100%
- Human Health Exposure Control EI Report - 100%
- CA 750 Report - 100%

- Revised Corrective Measures Proposal (CMP), May 1, 2008 – 100%
- Revised CMP Addendum No. 1 – 100%
- Southend Corrective Measures Implementation (CMI) Work Plan – 100%
- Revised CMP Addendum No. 2 – Northend and Site-wide Groundwater - 100%
- Revised CMP Addendum No. 2-1 – Response to EPA Comments - 100%
- 2012 CMI Annual Report – 100%
- 2013 CMI Annual Report – 100%

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Outfall 002 Storm Sewer Evaluation - 100%
- Outfall 003 Storm Sewer Evaluation – 60%
- Outfall 004 Re-route into Outfall 013 Evaluation - 90%
- Outfall 005 Storm Sewer Evaluation – 100%
- Outfall 002 Final Measure Implementation– 90%
- Outfall 003 Final Measure Implementation – 30%
- Outfall 005 Final Measure Implementation – 90%
- Outfall 007 Final Measure Implementation – 100%

*Task 14 Address 15 Areas of Subsurface LNAPL*

- Address 15 Areas of LNAPL – 7%
  - AOI 09-B System Design, Permitting, and Construction – 100%

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- LNAPL Recovery OM&M – 30%
- Secondary LNAPL Remediation – 0%

**6. Budget Status**

- 2014 Budget – The 2014 Budget Request was approved by the EPA on December 16, 2013.
- 2014 Budget Amendment No. 1 – Budget Amendment No. 1 was approved by the EPA on March 7, 2014.

- 2014 Budget Modification – Budget Modification was approved by the EPA on May 23, 2014.
- 2014 Budget Amendment No. 2 – Budget Amendment No. 2 was approved by the EPA on September 9, 2014.

If you have any questions, please contact me.

Sincerely,  
ARCADIS



Micki Maki  
Project Manager

Copies:

Peter Quackenbush, Michigan Department of Environmental Quality, (via email)  
William Yocum, Michigan Department of Environmental Quality (via email)  
Flint Public Library  
Grant Trigger, RACER Trust (via email)  
Dave Favero, RACER Trust (via email)

Attachments:

Attachment 1 – July 2014 Project Update - RACER Buick City Site  
Attachment 2 – August 2014 Project Update - RACER Buick City Site  
Attachment 3 – September 2014 Project Update - RACER Buick City Site  
Attachment 4 – RACER Buick City Field Schedule –4<sup>th</sup> Quarter 2014 and 1<sup>st</sup> Quarter 2015



**Attachment 1**

July 2014 Monthly Update



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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
August 26, 2014

ARCADIS Project No.:  
B0064410.2014.01202

Subject:  
July 2014 Project Update - RACER Buick City Site, Flint, Michigan

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On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this July 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from July 1, 2014 through July 31, 2014. Please note that format of the report has been changed slightly to provide more detailed description of activities completed. Also, the summary of routine operations, maintenance, and monitoring (OMM) tasks has been moved to the end of the document.

Task 1 - Outfall 003/004 Oil Removal Systems

- One weekly inspection of the 003/004 system concluded that a blockage was present in the diversion lines. Line jetting was performed to remove the blockage and optimize system performance.
- An email request was submitted to USEPA requesting a determination allowing the waste from the Outfall 003/004 system to be disposed of as a Non-TSCA material.

## Task 2 - LNAPL Investigation

- A vapor intrusion evaluation was conducted to identify exceedances and to determine areas of concern.
- Work continued on the Remedy Recommendation Report. Memos and figures were updated to incorporate comments.
- Preparation of the 2014 Supplemental Corrective Measures Implementation (CMI) Work Plan was continued.

## Task 3 - LNAPL Recovery Bench and Field-Scale Testing

- The MPE pilot test work plan was prepared, finalized and delivered to USEPA for review. This task also included determining pilot test costs and evaluating data to determine proper placement of well locations for performing the pilot test at the AOI-36-1/36-2 LNAPL Area.

## Task 4 - Operate Fact. 10 LNAPL/GW System

This task was previously completed prior to the month of July 2014. No work was performed during this month for this task.

## Task 5 - Operate Fact. 36 LNAPL/GW System

This task was previously completed prior to the month of July 2014. No work was performed during this month for this task.

## Task 7 - Enhanced Groundwater Monitoring

- Work consisted of continued preparation of annual groundwater monitoring report, which is part of the 2013 CMI Annual Report. This work included reviewing groundwater monitoring text, tables and figures.

## Task 8 - NPDES PLUS Monitoring

- The monthly NPMP sampling event for July was completed. This required coordinating access to Spiral Weld property prior to performing the sampling event. As bulkhead activities have been completed downstream of the Outfall 010 monitoring point, this point has been removed from the monthly NPMP sampling.
- Based on a review of the June Additional NPMP Sampling event results, up to two more events may be conducted, following completion of the planned outfall sampling. Activities also included development of a budget amendment and revisions to the sampling plan.
- Preparation of the GSI strategy memo was also performed. This included evaluation of the metals exceedances, revising the memo to include direct GSI discharge, updating tables to incorporate 2014 data, review of corresponding figures, and development of a budget amendment.

## Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues

- Work completed consisted of an onsite meeting with CSX to discuss potential deed restrictions and miscellaneous site activities.

## Task 10 – Maintain Select Surface Covers

- Completed routine inspections of select surface covers and documentation of surface cover status was performed. Inspections and documentation were performed to ensure no breach in surface cover had occurred since the previous inspection.
- Completed review and finalization of AOI-40 surface cover work plan to address direct contact concerns. The AOI-40 surface cover plan was submitted to the EPA for review.

## Task 11 - Lead Soil Removal

- Prepared the Northern Parcel Manganese Soil Removal documentation report and submitted to the USEPA for review.

## Task 12 - Agency Coordination/Negotiation, Reporting, Project Management

- Developed and presented a Buick City LNAPL summary to the MDEQ.
- Prepared and submitted the June Monthly USEPA update memo, the Quarterly USEPA progress report, and the RACER Buick City Settlement Agreement Update Report.
- Continued preparation of the 2013 CMI Annual Report including report, figures and table review.
- Participated in a meeting with the EPA in Chicago to review the Remedy Recommendation Memo.

## Task 13 - Outfall 002/005 Oil Minimization & Investigation

- Drafted an outfall exit strategy memo for RACER review, including a review of tables, figures and text.
- Began preparation of the 2014 Outfall 003 boom study work plan that will allow better delineation of where LNAPL is infiltrating the storm sewers.

## Task 14 - Address 15 Areas of Subsurface LNAPL

- Continued evaluation of potential remedies for Outfall 003 LNAPL infiltration elimination. The evaluation identified potential data gaps and a ranking of the elimination options based on a variety of effectiveness and implementability criteria.

## **Routine OMM Work**

### Task 1 - Outfall 003/004 Oil Removal Systems

- Continued OMM activities on the 003/004 system. Activities included inspection of the 003/004 interceptor, weekly gauging, and weekly sampling. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Task 6 - Maintain Booms on Outfalls

- Completed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, 005 and of Oil Interceptor #2. Inspections of the outfalls were performed once per week, prior to forecasted rain events, and following rain events to ensure booms were functioning properly and identify when maintenance events were necessary.
- Completed inspections at Oil Interceptor #2 once a week to ensure that the booms are in good order and identify when maintenance events are necessary.

Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation

- Completed routine O&M and reporting for the AOI-09B system.
- Performed weekly O&M visits, monthly monitoring well gauging, monthly system groundwater sample collection, monthly and weekly vapor sample collection at the AOI-09B system. Weekly vapor sample collections were performed to provide additional data sets to better determine whether system operations are nearing asymptotic conditions.
- In addition, the June monthly POTW report to the City of Flint and June monthly air report to USEPA for the AOI-09B system were generated and submitted. Completed monthly 002 passive recovery trench inspection and gauging.



**Attachment 2**

August 2014 Monthly Update



ARCADIS of Michigan, LLC  
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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
October 13, 2014

ARCADIS Project No.:  
B0064410.2014.01202

Subject:  
August 2014 Project Update - RACER Buick City Site, Flint, Michigan

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On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this August 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from August 1, 2014 through August 31, 2014. Please note that format of the report has been changed slightly to provide more detailed description of activities completed. Also, the summary of routine operations, maintenance, and monitoring (OMM) tasks has been moved to the end of the document.

Task 1 - Outfall 003/004 Oil Removal Systems

- One weekly inspection of the 003/004 system concluded that a blockage was present in the diversion lines. Line jetting was performed to remove the blockage and optimize system performance.
- Received USEPA waste approval for the Outfall 003/004 system on August 20, 2014. Began modifying the Outfall 003/004 System Cleaning RFP to reflect the USEPA approval.

## Task 2 - LNAPL Investigation

- Continued evaluating vapor intrusion pathway to determine areas of concern that may need additional investigation or evaluation.
- Continued finalizing the Remedy Recommendation Report. Memos and figures were updated to incorporate comments.
- Continued preparation of the 2014 Supplemental Corrective Measures Implementation (CMI) Work Plan, which outlines additional field work needed to further characterize and delineate the extent of the impacts at the site.

## Task 3 - LNAPL Recovery Bench and Field-Scale Testing

- Reviewed data for the development of an Outfall 003 treatability study and selected locations based on representative groundwater and LNAPL data.

## Task 4 - Operate Fact. 10 LNAPL/GW System

This task was previously completed prior to the month of August 2014. No work was performed during this month for this task.

## Task 5 - Operate Fact. 36 LNAPL/GW System

This task was previously completed prior to the month of August 2014. Specifications for the former system were provided for potential use at other sites, with no other work related to this task performed.

## Task 7 - Enhanced Groundwater Monitoring

- Continued preparation of annual groundwater monitoring report, which is part of the 2013 CMI Annual Report. This work included development of future monitoring plan, reviewing groundwater monitoring text, tables and figures.
- Initiated planning and coordination of annual 2014 groundwater monitoring and sampling activities

## Task 8 - NPDES PLUS Monitoring

- Coordinated and completed the monthly NPMP sampling event. This required coordinating access to American SpiralWeld property prior to performing the sampling event. As bulkhead activities have been completed downstream of the Outfall 010 monitoring point, this point has been removed from the monthly NPMP sampling.
- Preparation of the GSI strategy memo was also performed. This included evaluation of the metals exceedances, revising the memo to include direct GSI discharge, updating tables to incorporate 2014 data, and review of corresponding figures.

## Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues

- Began well survey for groundwater restrictive zone in coordination with the City of Flint.
- Completed a summary of damaged or missing monitoring wells.
- Completed Remedy Recommendation Memo edits through final review of WMU #3, 7, and 10 closures.

## Task 11 - Lead Soil Removal

- Finalized Northern Parcel Completion Memo revisions and submitted completed memo to USEPA.
- Developed costs of surface cover versus excavation for the direct contact exceedances at AOI-40-1.

## Task 12 - Agency Coordination/Negotiation, Reporting, Project Management

- Prepared and submitted the July Monthly USEPA update memo.
- Continued preparation of the 2013 CMI Annual Report including report, figures and table review.
- Prepared annual scope and budget for 2015 site activities.

## Task 13 - Outfall 002/005 Oil Minimization & Investigation

- Continued to update the outfall exit strategy memo for RACER review, including a review of tables, figures and text and incorporation of RACER comments to memo.
- Continued preparation of the 2014 Outfall 003 boom study work plan to refine the delineation of where LNAPL is infiltrating the storm sewers.
- Performed oversight of subcontractor BMJ completing GPS survey of select manholes at Outfall 004 and preparation of reroute activities.
- Initiated Outfall 004 sewer reroute design and task coordination, including drafting a scope of work, discussions with City of Flint and review of existing sewer structural analysis.

## Task 14 - Address 15 Areas of Subsurface LNAPL

- Continued evaluation of potential remedies for Outfall 003 LNAPL infiltration elimination. The evaluation identified potential data gaps and a ranking of the elimination options based on a variety of effectiveness and implementability criteria.

## **Routine OMM Work**

### Task 1 - Outfall 003/004 Oil Removal Systems

- Continued OMM activities on the 003/004 system. Activities included inspection of the 003/004 interceptor, weekly gauging, and weekly sampling. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

## Task 6 - Maintain Booms on Outfalls

- Completed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, 005 and of Oil Interceptor #2. Inspections of the outfalls were performed once per week, prior to forecasted rain events, and following rain events to ensure booms were functioning properly and identify when maintenance events were necessary.
- Completed inspections at Oil Interceptor #2 once a week to ensure that the booms are in good order and identify when maintenance events are necessary.

## Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation

- Completed routine O&M and reporting for the AOI-09B system. As part of routine maintenance it was determined that the blowers were leaking oil. This issue was addressed.
- Performed weekly O&M visits, monthly monitoring well gauging, monthly system groundwater sample collection, monthly and weekly vapor sample collection at the AOI-09B system. Weekly vapor sample collections were performed to provide additional data sets to better determine whether system operations are nearing asymptotic conditions.
- The July monthly POTW report to the City of Flint and July monthly air report to USEPA for the AOI-09B system were generated and submitted.
- Completed monthly 002 passive recovery trench inspections and gauging.



**Attachment 3**

September 2014 Monthly Memos



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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
October 14, 2014

ARCADIS Project No.:  
B0064410.2014.01202

Subject:  
September 2014 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), ARCADIS is submitting this September 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from September 1, 2014 through September 30, 2014. Please note that format of the report has been changed slightly to provide more detailed description of activities completed. Also, the summary of routine operations, maintenance, and monitoring (OMM) tasks has been moved to the end of the document.

Task 1 - Outfall 003/004 Oil Removal Systems

- Developed the Outfall 003/004 system maintenance event RFP and waste characterization samples were collected.

Task 2 - LNAPL Investigation

- Finalized and submitted the Final Draft Remedy Recommendation Report.
- Continued preparing the 2014 Supplemental Corrective Measures Implementation (CMI) Work Plan.

## Task 4 - Operate Fact. 10 LNAPL/GW System

This task was previously completed prior to the month of September 2014. No work was performed during this month for this task.

## Task 5 - Operate Fact. 36 LNAPL/GW System

This task was previously completed prior to the month of September 2014. Specifications for the former system were provided for potential use at other sites, with no other work related to this task performed.

## Task 7 - Enhanced Groundwater Monitoring

- Continued planning and coordination of annual 2014 groundwater monitoring and sampling activities.

## Task 8 - NPDES PLUS Monitoring

- Coordinated and completed the monthly NPMP sampling event.
- Completed investigation to identify acceptable alternate outfall sampling locations. This required coordinating access to Spiral Weld property prior to performing the sampling event.
- Continued to prepare the GSI strategy memo, including; evaluation of the metals exceedances, revising the memo to include direct GSI discharge, updating tables to incorporate 2014 data, review of corresponding figures, and development of a budget amendment.
- Developed a sampling plan to investigate the direct discharge pathway between AOI 40 and the Flint River, which was included in the SCMI Work Plan.

## Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues

- Completed neighborhood well survey for groundwater restrictive zone in coordination with the City of Flint, and preparation of the well survey memo and attachments.

## Task 11 - Lead Soil Removal

- Developed a draft notification letter to the MDEQ regarding the sale of Northern Parcel to ASW.
- Developed costs of surface cover versus excavation for the direct contact exceedances at AOI-40-1.

## Task 12 - Agency Coordination/Negotiation, Reporting, Project Management

- Finalized and Submitted the Remedy Recommendation Report to the USEPA.
- Updated and submitted the draft annual scope and budget for 2015 site activities to RACER for review.

## Task 13 - Outfall 002/005 Oil Minimization & Investigation

- Continued to develop an outfall exit strategy memo for RACER review, including a review of tables, figures and text and implementation of RACER comments to memo.
- Finalized and submitted 2014 Outfall 003 boom study work plan that will allow better delineation of where LNAPL is infiltrating the storm sewers.
- Finalized and submitted Outfall 004 sewer reroute design packet to the City of Flint.
- Completed the Outfall 006, 009, and 010 bulkheading scope of work.

## Task 14 - Address 15 Areas of Subsurface LNAPL

- Continued evaluation of potential remedies for Outfall 003 LNAPL infiltration elimination. The evaluation identified potential data gaps and a ranking of the elimination options based on a variety of effectiveness and implementability criteria.

## **Routine OMM Work**

### Task 1 - Outfall 003/004 Oil Removal Systems

- Continued OMM activities on the 003/004 system. Activities included inspection of the 003/004 interceptor, weekly gauging, and weekly sampling. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.

Task 6 - Maintain Booms on Outfalls

- Completed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, 005 and of Oil Interceptor #2. Inspections of the outfalls were performed once per week, prior to forecasted rain events, and following rain events to ensure booms were functioning properly and identify when maintenance events were necessary.
- Completed inspections at Oil Interceptor #2 once a week to ensure that the booms are in good order and identify when maintenance events are necessary.

Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation

- Completed routine O&M and reporting for the AOI-09B system. As part of routine maintenance it was determined that the blowers were found to be leaking oil. This issue was addressed.
- Performed weekly O&M visits, monthly monitoring well gauging, monthly system groundwater sample collection, monthly and weekly vapor sample collection at the AOI-09B system. Weekly vapor sample collections were performed to provide additional data sets to better determine whether system operations are nearing asymptotic conditions.
- Completed and submitted the August monthly POTW report to the City of Flint and August monthly air report to MDEQ for the AOI-09B system.
- Completed monthly 002 passive recovery trench inspections and gauging.



**Attachment 4**

4<sup>th</sup> Quarter 2014 and 1<sup>st</sup> Quarter  
2015 Field Schedule

**RACER Buick City Quarterly Report #13  
Fourth Quarter 2014 and First Quarter 2015 Schedule**

| ID | Task Name   | Duration        | Start              | Finish              | 1st Quarter                 |     |     |     |
|----|---|-----------------|--------------------|---------------------|-----------------------------|-----|-----|-----|
|    |   |                 |                    |                     | Sep                         | Nov | Jan | Mar |
| 1  |   |                 |                    |                     |                             |     |     |     |
| 2  | <b>Task 1 - Outfall 003/004 Oil Removal Systems</b>                             | <b>130 days</b> | <b>Wed 10/1/14</b> | <b>Tue 3/31/15</b>  | [Gantt bar from Sep to Mar] |     |     |     |
| 3  | Outfall 003/004 System OMM  | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Gantt bar from Sep to Mar] |     |     |     |
| 4  | Annual Outfall 003/004 System Maintenance 2014 Event                            | 30 days         | Mon 11/3/14        | Fri 12/12/14        | [Gantt bar in Nov]          |     |     |     |
| 5  |   |                 |                    |                     |                             |     |     |     |
| 6  | <b>Task 2 - Supplemental Investigations</b>                                     | <b>130 days</b> | <b>Wed 10/1/14</b> | <b>Tue 3/31/15</b>  | [Gantt bar from Sep to Mar] |     |     |     |
| 7  | Supplemental Corrective Measures Implementation (SCMI) Work Plan #1 Development | 8 days          | Wed 10/1/14        | Fri 10/10/14        | [Gantt bar in Sep]          |     |     |     |
| 8  | EPA Review and Approval Process   | 30 days         | Mon 10/13/14       | Fri 11/21/14        | [Gantt bar in Oct]          |     |     |     |
| 9  | SCMI Work Plan #1 Planning and Coordination                                     | 10 days         | Mon 10/13/14       | Fri 10/24/14        | [Gantt bar in Oct]          |     |     |     |
| 10 | SCMI Work Plan #1 Implementation  | 10 days         | Mon 10/27/14       | Fri 11/7/14         | [Gantt bar in Oct]          |     |     |     |
| 11 |   |                 |                    |                     |                             |     |     |     |
| 12 | SCMI Work Plan #2 Development   | 30 days         | Mon 1/5/15         | Fri 2/13/15         | [Gantt bar in Jan]          |     |     |     |
| 13 | EPA Review and Approval Process   | 30 days         | Mon 2/16/15        | Fri 3/27/15         | [Gantt bar in Feb]          |     |     |     |
| 14 |   |                 |                    |                     |                             |     |     |     |
| 15 | Vapor Intrusion Investigation   | 107 days        | Mon 11/3/14        | Tue 3/31/15         | [Gantt bar from Nov to Mar] |     |     |     |
| 16 |   |                 |                    |                     |                             |     |     |     |
| 17 | <b>Task 3 - LNAPL Recovery Bench and Field Scale Pilot Testing</b>              | <b>87 days?</b> | <b>Mon 12/1/14</b> | <b>Tue 3/31/15</b>  | [Gantt bar from Dec to Mar] |     |     |     |
| 18 | Conduct AOI 36-1/36-2 Pilot Test  | 15 days         | Mon 12/1/14        | Fri 12/19/14        | [Gantt bar in Dec]          |     |     |     |
| 19 | AOI 36-1/36-2 Pilot Test Summary/Basis of Design (BOD) Report                   | 20 days         | Mon 1/5/15         | Fri 1/30/15         | [Gantt bar in Jan]          |     |     |     |
| 20 | EPA Approval of AOI 36-1 BOD Recommendations                                    | 20 days         | Mon 2/2/15         | Fri 2/27/15         | [Gantt bar in Feb]          |     |     |     |
| 21 |   |                 |                    |                     |                             |     |     |     |
| 22 | Additional Pilot Test   | 42 days         | Mon 2/2/15         | Tue 3/31/15         | [Gantt bar in Feb]          |     |     |     |
| 23 |   |                 |                    |                     |                             |     |     |     |
| 24 | <b>Task 6 - Maintain Booms on Outfalls</b>                                      | <b>130 days</b> | <b>Wed 10/1/14</b> | <b>Tue 3/31/15</b>  | [Gantt bar from Sep to Mar] |     |     |     |
| 25 | Standard OMM  | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Gantt bar from Sep to Mar] |     |     |     |
| 26 | Oil Interceptor #2 Maintenance  | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Gantt bar from Sep to Mar] |     |     |     |
| 27 |   |                 |                    |                     |                             |     |     |     |
| 28 | <b>Task 7 - Enhanced Groundwater Monitoring</b>                                 | <b>23 days</b>  | <b>Wed 10/1/14</b> | <b>Fri 10/31/14</b> | [Gantt bar in Oct]          |     |     |     |
| 29 | <b>Annual Groundwater Sampling Event -2015</b>                                  | <b>23 days</b>  | <b>Wed 10/1/14</b> | <b>Fri 10/31/14</b> | [Gantt bar in Oct]          |     |     |     |
| 30 | Planning/Coordination   | 13 days         | Wed 10/1/14        | Fri 10/17/14        | [Gantt bar in Oct]          |     |     |     |
| 31 | Field Event   | 10 days         | Mon 10/20/14       | Fri 10/31/14        | [Gantt bar in Oct]          |     |     |     |
| 32 |   |                 |                    |                     |                             |     |     |     |
| 33 | <b>Task 8 - NPDES Plus Monitoring</b>   | <b>130 days</b> | <b>Wed 10/1/14</b> | <b>Tue 3/31/15</b>  | [Gantt bar from Sep to Mar] |     |     |     |
| 34 | Monthly Sampling Events   | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Gantt bar from Sep to Mar] |     |     |     |
| 35 |   |                 |                    |                     |                             |     |     |     |
| 36 | Address Metal Impact in Site Storm Sewers                                       | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Gantt bar from Sep to Mar] |     |     |     |
| 37 |   |                 |                    |                     |                             |     |     |     |
| 38 | <b>Task 12 - Agency Coordination/Negotiation, Reporting, Project Management</b> | <b>157 days</b> | <b>Wed 10/1/14</b> | <b>Thu 5/7/15</b>   | [Gantt bar from Sep to May] |     |     |     |
| 39 | Agency Meetings and Negotiations  | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Gantt bar from Sep to Mar] |     |     |     |
| 40 | Project Management and Administration   | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Gantt bar from Sep to Mar] |     |     |     |

## RACER Buick City Quarterly Report #13 Fourth Quarter 2014 and First Quarter 2015 Schedule

| ID | Task Name   | Duration        | Start              | Finish              | 1st Quarter                         |     |     |     |
|----|---|-----------------|--------------------|---------------------|-------------------------------------|-----|-----|-----|
|    |   |                 |                    |                     | Sep                                 | Nov | Jan | Mar |
| 41 | <b>Reporting</b>  | <b>91 days</b>  | <b>Thu 1/1/15</b>  | <b>Thu 5/7/15</b>   | [Task bar spanning from Sep to Mar] |     |     |     |
| 42 | Final Decision Issued by EPA  | 1 day           | Mon 1/5/15         | Mon 1/5/15          | [Task bar in Jan]                   |     |     |     |
| 43 | CMI Work Plan   | 88 days         | Tue 1/6/15         | Thu 5/7/15          | [Task bar spanning from Jan to Mar] |     |     |     |
| 44 | CMI Annual Report -2015   | 63 days         | Thu 1/1/15         | Mon 3/30/15         | [Task bar spanning from Sep to Mar] |     |     |     |
| 45 |   |                 |                    |                     |                                     |     |     |     |
| 46 | <b>Task 13 - Outfall 002/005 Oil Minimization &amp; Investigation</b> | <b>58 days</b>  | <b>Wed 10/1/14</b> | <b>Fri 12/19/14</b> | [Task bar spanning from Oct to Dec] |     |     |     |
| 47 | Outfall 004 Reroute Design and Work Plan development                  | 20 days         | Wed 10/1/14        | Tue 10/28/14        | [Task bar in Oct]                   |     |     |     |
| 48 | EPA Review and Approval Process                                       | 20 days         | Wed 10/29/14       | Tue 11/25/14        | [Task bar in Nov]                   |     |     |     |
| 49 | Outfall 004 Reroute Planning and Coordination                         | 15 days         | Mon 11/3/14        | Fri 11/21/14        | [Task bar in Nov]                   |     |     |     |
| 50 | Outfall 004 Reroute Implementation                                    | 20 days         | Mon 11/24/14       | Fri 12/19/14        | [Task bar in Dec]                   |     |     |     |
| 51 |   |                 |                    |                     |                                     |     |     |     |
| 52 | <b>Task 17 - Compliance</b>   | <b>130 days</b> | <b>Wed 10/1/14</b> | <b>Tue 3/31/15</b>  | [Task bar spanning from Oct to Mar] |     |     |     |
| 53 | Outfall 003A Weekly Sampling and eDMR's                               | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Task bar spanning from Oct to Mar] |     |     |     |
| 54 | SWPP annual review and Inspections                                    | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Task bar spanning from Oct to Mar] |     |     |     |
| 55 | Yearly Trend Monitoring and PMP                                       | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Task bar spanning from Oct to Mar] |     |     |     |
| 56 |   |                 |                    |                     |                                     |     |     |     |
| 57 | <b>Task 18 - Addressing Soil Impacts</b>                              | <b>64 days</b>  | <b>Thu 1/1/15</b>  | <b>Tue 3/31/15</b>  | [Task bar spanning from Jan to Mar] |     |     |     |
| 58 | <b>Surface Cover Installations</b>                                    | <b>64 days</b>  | <b>Thu 1/1/15</b>  | <b>Tue 3/31/15</b>  | [Task bar spanning from Jan to Mar] |     |     |     |
| 59 | Addendum to Soil Cover Work Plan                                      | 40 days         | Thu 1/1/15         | Wed 2/25/15         | [Task bar in Jan]                   |     |     |     |
| 60 | EPA Review and Approval Process                                       | 24 days         | Thu 2/26/15        | Tue 3/31/15         | [Task bar in Feb]                   |     |     |     |
| 61 |   |                 |                    |                     |                                     |     |     |     |
| 62 | <b>Task 19 - Remedy Design, Implementation, and OM&amp;M</b>          | <b>186 days</b> | <b>Wed 10/1/14</b> | <b>Wed 6/17/15</b>  | [Task bar spanning from Oct to Jun] |     |     |     |
| 63 | <b>AOI 36-1/36-2 MPE System</b>                                       | <b>120 days</b> | <b>Thu 1/1/15</b>  | <b>Wed 6/17/15</b>  | [Task bar spanning from Jan to Jun] |     |     |     |
| 64 | System Design   | 30 days         | Mon 3/2/15         | Fri 4/10/15         | [Task bar in Mar]                   |     |     |     |
| 65 | Infrastructure Coordination   | 120 days        | Thu 1/1/15         | Wed 6/17/15         | [Task bar spanning from Jan to Jun] |     |     |     |
| 66 |   |                 |                    |                     |                                     |     |     |     |
| 67 | Outfall 002 Passive Recovery Trench OM&M                              | 130 days        | Wed 10/1/14        | Tue 3/31/15         | [Task bar spanning from Oct to Mar] |     |     |     |
| 68 |   |                 |                    |                     |                                     |     |     |     |
| 69 | Remedy Design and Implementation                                      | 64 days         | Thu 1/1/15         | Tue 3/31/15         | [Task bar spanning from Jan to Mar] |     |     |     |
| 70 |   |                 |                    |                     |                                     |     |     |     |
| 71 | Restrictive Covenants   | 64 days         | Thu 1/1/15         | Tue 3/31/15         | [Task bar spanning from Jan to Mar] |     |     |     |
| 72 |   |                 |                    |                     |                                     |     |     |     |
| 73 | <b>AOI 09-B MPE System</b>  | <b>5 days</b>   | <b>Mon 1/19/15</b> | <b>Fri 1/23/15</b>  | [Task bar in Jan]                   |     |     |     |
| 74 | Submit AOI 09-B Completion Memo to EPA                                | 1 day           | Mon 1/19/15        | Mon 1/19/15         | [Task bar in Jan]                   |     |     |     |
| 75 | EPA Review and Approval Process                                       | 4 days          | Tue 1/20/15        | Fri 1/23/15         | [Task bar in Jan]                   |     |     |     |
| 76 |   |                 |                    |                     |                                     |     |     |     |
| 77 | <b>Task 20 - Outfall Exit Strategy</b>                                | <b>57 days</b>  | <b>Mon 1/12/15</b> | <b>Tue 3/31/15</b>  | [Task bar spanning from Jan to Mar] |     |     |     |
| 78 | <b>Outfall 005</b>  | <b>57 days</b>  | <b>Mon 1/12/15</b> | <b>Tue 3/31/15</b>  | [Task bar spanning from Jan to Mar] |     |     |     |
| 79 | Coord with MDEQ/City OF Flint   | 30 days         | Mon 1/12/15        | Fri 2/20/15         | [Task bar in Jan]                   |     |     |     |
| 80 | EPA Review and Approval Process                                       | 28 days         | Sun 2/22/15        | Tue 3/31/15         | [Task bar in Feb]                   |     |     |     |

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*Transmitted via Electronic Mail*

Mr. Chris Black  
U.S. Environmental Protection Agency – Region 5  
Land and Chemicals Division  
77 W. Jackson Blvd. DE-97  
Chicago, IL 60604-3590

ENVIRONMENT

Subject:  
Fourth Quarter 2014 Progress Report (No. 14)  
Revitalizing Auto Communities Environmental Response (RACER) Trust  
Buick City Site, Flint, Michigan

Date:  
January 15, 2015

Contact:  
Micki M. Maki

Dear Mr. Black:

Phone:  
248.994.2271

On behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), ARCADIS is submitting this Fourth Quarter 2014 Progress Report (No. 14) in accordance with Section VI (18b) of the RACER Trust's Administrative Order on Consent (Consent Order), Docket Number RCRA-05-2011-0024 for the Buick City Site located in Flint, Michigan (the Site), which was effective on September 29, 2011.

Email:  
[Micki.Maki@arcadis-us.com](mailto:Micki.Maki@arcadis-us.com)

Please note that in accordance with General Motors Corporation's Administrative Order on Consent Number R8H-5-00-02 for the North American Operations [NAO] Flint Operations Site (also known as Buick City) Quarterly Progress Reports No.1 through 46 were submitted to the United States Environmental Protection Agency (EPA) documenting Site activities from January 1, 2000 through June 30, 2011.

Our ref:  
B0064410.2014

This Fourth Quarter 2014 Progress Report (No. 14) covers the period of October 1, 2014 through December 31, 2014.

The following briefly summarizes the work performed and data collected, problems encountered, project schedule, and estimated percent complete for a list of activities.

## **1. Data Collected This Quarter**

The samples collected as part of Site investigation or monitoring activities during this quarter are discussed below. This data will be presented to the EPA in the 2014 Annual CMI Report, except as noted below.

### **1.1 Storm Sewer Water Samples**

In October, November, and December, ARCADIS conducted the “NPDES Plus” Monitoring Program (NPMP) sampling program. The NPMP typically consists of collecting monthly samples from the following Site storm sewers as access allows MP001, MP003, MP006, MP011, and MP013. The NPMP data will be included in the annual CMI Report.

As required per Part 1, Section A 2 in the current National Pollution Discharge Elimination System (NPDES) Permit No. MI0001597, weekly composite samples were collected from Monitoring Point 003A. This data will be included in the 2014 Yearly Pollutant Minimization Plan (PMP) for PCBs report, which will be submitted to the Michigan Department of Environmental Quality (MDEQ) as required in the NPDES permit.

### **1.2 Soil Samples**

In October, November, and December, ARCADIS collected soil samples as part of the Supplemental Corrective Measures Investigation (SCMI) to delineate and characterize the impacts in soil. A total of 235 soil samples were collected from soil boring locations and submitted for laboratory analysis of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), metals, and/or PCBs. This data will be included in the annual CMI Report.

### **1.3 LNAPL Samples**

In the fourth quarter, ARCADIS collected a total of 10 LNAPL sample as part of the SCMI plan. The LNAPL samples were submitted for laboratory analysis of PCBs. This data will be included in the annual CMI report.

#### **1.4 Groundwater Samples**

In October, 50 monitoring wells were sampled as part of the annual groundwater sampling event and to characterize groundwater in Outfall 008 Drainage area.. The groundwater samples were submitted for laboratory analysis of VOCs, metals, and/or PCBs.

In December, fifteen monitoring wells in the Outfall 008 drainage area were sampled to confirm the results of the October sampling event. The groundwater samples were submitted for laboratory analysis of metals.

#### **1.5 AOI 09-B System Samples**

ARCADIS continues to collect samples from the AOI 09-B Multiphase Extraction (MPE) system as required by the City of Flint Sanitary Use Permit #2-02-RBC001. In accordance with the permit four grab samples and one composite sample are collected from the system effluent line on a monthly basis. The composite sample is submitted for laboratory analysis of ammonia-nitrogen, BOD, total phosphorous, total suspended solids, metals, SVOCs, and PCBs and the grab samples were submitted for laboratory analysis of hexane extractable material (HEM), amenable cyanide, and VOCs plus xylenes. This data is submitted to the City of Flint on a monthly basis in the AOI 09-B Monthly Discharge Report.

In October and November, monthly air samples were collected from the AOI 09-B MPE system as required by the MDEQ Permit # 165-11. Samples were collected from the Thermal Oxidizer influent piping. For endpoint verification, additional samples were collected on a weekly basis July 1, 2014 through August 15, 2014. This data is submitted to the MDEQ on a monthly basis in the AOI 09-B Monthly Air Report.

The system was shut down on November 19, 2014.

### **2. Work Performed This Quarter**

Attachments 1, 2, and 3 present the monthly Site progress reports for October, November, and December that document the work performed this quarter.

### **3. Problems Encountered**

No problems were encountered.

#### 4. Project Schedule – Near-Term Milestone Activities Anticipated During the Next Quarter

A projected field work schedule for the fourth quarter of 2014 and first quarter of 2015 is included in Attachment 4. Please note that the 2015 Schedule includes the new tasks that were included in the 2015 Budget Request.

##### 4.1 Routine Work

*Task 1 Outfall 003/004 Oil Removal Systems*

- Continue OMM inspections of system.

*Task 6 Maintain Booms on Outfalls*

- Continue to perform inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Dispose of waste as necessary.
- Continue to perform inspections of Oil Interceptor #2.

*Task 8 NPDES PLUS Monitoring*

- Perform NPMP monitoring in January, February, and March.

*Task 12 Agency Coordination/Negotiation, Reporting, Project Management*

- Continue to participate in regulatory agency calls.
- Prepare Quarterly Report for submittal to EPA.

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Continue quarterly P-trap inspections.

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- Continue OM&M phase of Outfall 002 passive recovery trench.

##### 4.2 Non-Routine Work

*Task 2 LNAPL Investigation*

- Complete additional investigation of LNAPL areas and impacts.
- Complete evaluation of Site data to aid in selecting methods and locations for additional LNAPL pilot testing.

*Task 3 LNAPL Recovery Bench and Field-Scale Testing*

- Propose treatability study activities for LNAPL infiltration elimination to EPA for approval.
- Conduct the AOI 36 MPE Pilot Test activities.

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Complete the re-routing of Outfall 004 and 013 storm sewer.
- Investigate Outfall 003 storm sewer reroute options.

**5. Estimated Percent Complete**

*Task 1 Outfall 003/004 Oil Removal Systems*

- Outfall 003/004 Oil removal System OM&M – Ongoing

*Task 2 LNAPL Investigation*

- LNAPL LIF Investigations – 100%
- Southend Natural Source Zone Depletion Study – 100%
- Southend Transmissivity Testing – 100%
- Northend Natural Source Zone Depletion Study – 90%
- Northend Transmissivity Testing – 75%
- Additional LNAPL Investigation – 80%

*Task 3 LNAPL Recovery Bench and Field-Scale Testing*

- LNAPL Bench Scale Testing – 25%
- LNAPL Pilot Scale Testing – 33%

*Task 7 Enhanced Groundwater Monitoring*

- Groundwater Monitoring – Ongoing

*Task 8 NPDES PLUS Monitoring*

- NPDES PLUS Monitoring – Ongoing

*Task 9 RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues*

- Northend RCRA WMU Closures – 90%
- Southend RCRA WMU Closures – 90%

- Northend Restrictive Covenant – 0%
- Southend Restrictive Covenant – 90%
- Monitoring Well Abandonments – 5%
- UST Issue Resolution – 100%

*Task 10 Maintain Select Surface Covers*

- Maintain Select Surface Covers – Ongoing
- Installation of Additional Surface Cover – Southend – 100%

*Task 11 Lead Soil Removal*

- Lead Soil Removal – 100%
- Northern Parcel Investigation – 100%
- Northern Parcel Soil Removal – 100%

*Task 12 Agency Coordination/Negotiation, Reporting, Project Management*

- RFI Phase I Report - 100%
- RFI Phase II Report - 100%
- Human Health Exposure Control EI Report - 100%
- CA 750 Report - 100%
- Revised Corrective Measures Proposal (CMP), May 1, 2008 – 100%
- Revised CMP Addendum No. 1 – 100%
- Southend Corrective Measures Implementation (CMI) Work Plan – 100%
- Revised CMP Addendum No. 2 – Northend and Site-wide Groundwater - 100%
- Revised CMP Addendum No. 2-1 – Response to EPA Comments - 100%
- 2012 CMI Annual Report – 100%
- 2013 CMI Annual Report – 100%

*Task 13 Outfall 002/005 Oil Minimization & Investigation*

- Outfall 002 Storm Sewer Evaluation - 100%
- Outfall 003 Storm Sewer Evaluation – 60%

- Outfall 004 Re-route into Outfall 013 Evaluation - 90%
- Outfall 005 Storm Sewer Evaluation – 100%
- Outfall 002 Final Measure Implementation– 90%
- Outfall 003 Final Measure Implementation – 30%
- Outfall 005 Final Measure Implementation – 90%
- Outfall 007 Final Measure Implementation – 100%

*Task 14 Address 15 Areas of Subsurface LNAPL*

- Address 15 Areas of LNAPL – 7%
  - AOI 09-B System Design, Permitting, and Construction – 100%

*Task 15 LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation*

- LNAPL Recovery OM&M – 40%
- Secondary LNAPL Remediation – 0%

**6. Budget Status**

- 2015 Budget – The 2015 Budget Request was approved by the EPA on December 12, 2014.

If you have any questions, please contact me.

Sincerely,  
ARCADIS



Micki Maki  
Project Manager

Copies:

Peter Quackenbush, Michigan Department of Environmental Quality, (via email)  
William Yocum, Michigan Department of Environmental Quality (via email)  
Flint Public Library  
Grant Trigger, RACER Trust (via email)  
Dave Favero, RACER Trust (via email)

Attachments:

Attachment 1 – October 2014 Project Update - RACER Buick City Site  
Attachment 2 – November 2014 Project Update - RACER Buick City Site  
Attachment 3 – December 2014 Project Update - RACER Buick City Site  
Attachment 4 – RACER Buick City Field Schedule – 1<sup>st</sup> and 2<sup>nd</sup> Quarter 2015



**Attachment 1**

October 2014 Project Update



ARCADIS of Michigan, LLC  
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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
December 4, 2014

ARCADIS Project No.:  
B0064410.2014.01202

Subject:  
October 2014 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this October 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from October 1, 2014 through October 31, 2014. Please note that format of the report has been changed slightly to provide more detailed description of activities completed. Also, the summary of routine operations, maintenance, and monitoring (OMM) tasks has been moved to the end of the document.

Task 2 - LNAPL Investigation

- Coordinated traffic control permitting with City of Flint for the Supplemental Corrective Measures Investigation (SCMI) field activities.
- Finalized SCMI drilling investigation request for proposal (RFP), reviewed bids and selected subcontractor.
- Began SCMI investigation field investigation activities at Factory 36.

## Task 4 - Operate Fact. 10 LNAPL/GW System

This task was previously completed prior to the month of October 2014. No work was performed during this month for this task.

## Task 5 - Operate Fact. 36 LNAPL/GW System

This task was previously completed prior to the month of October 2014. No work was performed during this month for this task.

## Task 7 - Enhanced Groundwater Monitoring

- Completed planning and coordination of annual 2014 groundwater monitoring and sampling activities.
- Completed annual 2014 groundwater monitoring and sampling event.

## Task 8 - NPDES PLUS Monitoring

- Completed the monthly NPMP sampling event for October.
- Evaluated additional outfall sampling locations upgradient of the River.
- Developed flowchart to outline MS4, CWA, and GSI regulations and how the regulations apply to the Site.

## Task 9 - RCRA Closures, Well Abandonment, Restrictive Covenants, Resolve UST Issues

- Completed the well survey for the groundwater restrictive zone and finalized the well survey memo and attachments.

## Task 11 - Lead Soil Removal

- Finalize Northern Parcel Completion Memo and submitted revision to USEPA.
- Developed follow up letter to the MDEQ discussing sale of Northern Parcel to ASW.
- Coordinated disposal of waste totes.

## Task 12 - Agency Coordination/Negotiation, Reporting, Project Management

- Finalized and submitted Quarterly Report to Racer for review.
- Finalized and submitted MDEQ bulkheading notification
- Incorporate RACER comments into SCMI work plan, finalize and submit to EPA for review.

## Task 13 - Outfall 002/005 Oil Minimization & Investigation

- Performer the Outfall 003 Boom Study Investigation to better define where LNAPL is infiltrating the storm sewers.
- Continued to advance Outfall 004 sewer reroute design, including meeting with the City of Flint and RACER regarding alternatives and development of the work plan.

## Task 14 - Address 15 Areas of Subsurface LNAPL

- Continued evaluation of potential remedies for Outfall 003 LNAPL infiltration elimination. The evaluation identified potential data gaps and a ranking of the elimination options based on a variety of effectiveness and implementability criteria.

## **Routine OMM Work**

### Task 1 - Outfall 003/004 Oil Removal Systems

- Continued OMM activities on the 003/004 system. Activities included inspection of the 003/004 interceptor, weekly gauging, and weekly sampling. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.
- Continued coordinating Outfall 003/004 system maintenance event including development of the RFP.

### Task 6 - Maintain Booms on Outfalls

- Completed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, 005 and of Oil Interceptor #2. Inspections of the outfalls were performed once per week, prior to forecasted rain events, and following rain events to ensure booms were functioning properly and identify when maintenance events were necessary.
- Completed inspections at Oil Interceptor #2 once a week to ensure that the booms are in good order and identify when maintenance events are necessary.

### Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation

- Completed routine O&M and reporting for the AOI-09B system.
- Developed and reviewed AOI-09 system end point memo.
- Performed weekly O&M visits, monthly monitoring well gauging, monthly system groundwater sample collection, monthly and weekly vapor sample collection at the AOI-09B system. Weekly vapor sample collections were performed to provide additional data sets to better determine whether system operations are nearing asymptotic conditions.
- Generated and submitted the September monthly POTW report to the City of Flint and September monthly air report to MDEQ for the AOI-09B system.
- Completed monthly 002 passive recovery trench inspection and gauging.



**Attachment 2**

November 2014 Project Update



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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
December 19, 2014

ARCADIS Project No.:  
B0064410.2014.01202

Subject:  
November 2014 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this November 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from November 1, 2014 through November 30, 2014. Please note that format of the report has been changed slightly to provide more detailed description of activities completed. Also, the summary of routine operations, maintenance, and monitoring (OMM) tasks has been moved to the end of the document.

Task 2 - LNAPL Investigation

- Continued Supplemental Corrective Measures Implementation (SCMI) field investigation activities in the Northend of the Site. Completed temporary wells, permanent wells, soil borings and soil sample collection activities.
- Coordinated SCMI investigation waste documentation, container inspections, and disposal.

Task 3 – LNAPL Recovery Bench and Field-Scale Pilot Testing

- Finalized Draft Vapor Intrusion Evaluation Memo and submitted to RACER for review.
- Coordinated vapor intrusion (VI) Request for Proposal (RFP) for sampling locations included in the SCMI work plan.
- Postpone implementation of the AOI 36-1/36-2 multi-phase extraction (MPE) pilot test to 2015.

Task 7 - Enhanced Groundwater Monitoring

- Reviewed and tabulated field notes and analytical data from 2014 annual groundwater monitoring event.
- Provided CSX with the analytical data results from samples collected on their property during the annual groundwater sampling event, per the access agreement.
- Coordinated waste characterization and disposal related to the annual groundwater monitoring event.
- Began drafting the 2014 Annual Corrective measures Implementation (CMI) report.

Task 8 - NPDES PLUS Monitoring

- Completed the November monthly NPMP sampling event.
- Additional NPMP sample collected along Outfall 001 storm sewer, downgradient of the Site near the river.
- Prepared for and attended meeting with RACER to discuss groundwater/surface water interface (GSI) criteria and Municipal Separate Storm Sewer (MS4) regulations.
- Evaluated next steps for metals issues at Outfall 006 and 008.

## Task 10 – Maintain Select Surface Covers

- Inspect AOI 40 area to determine practicability of slope cover.

## Task 11 - Lead Soil Removal

- Assembled waste disposal performance metric report for EPA.
- Continued to coordinate disposal of waste totes.

## Task 12 - Agency Coordination/Negotiation, Reporting, Project Management

- Finalized and submitted revised SCMI work plan to EPA.
- Drafted letter to City of Flint discussing odors observed along the Outfall 001 storm sewer during NPDES monitoring.
- Submitted Outfall 004 Reroute plans to the City of Flint (11/9/14).

## Task 13 - Outfall 002/005 Oil Minimization & Investigation

- Continued evaluation of potential remedies for Outfall 003 LNAPL infiltration elimination. Summarized Outfall 003 Boom Study information. Met with RACER to discuss boom study results and develop Outfall 003 strategy.
- Continued to advance Outfall 004 sewer reroute design. Began preparation of post construction monitoring plan and distributed the Outfall 004 Reroute RFP.

## **Routine OMM Work**

### Task 1 - Outfall 003/004 Oil Removal Systems

- Continued OMM activities on the 003/004 system. Activities included inspection of the 003/004 interceptor, weekly gauging, and weekly sampling. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.
- Continued coordinating Outfall 003/004 system maintenance event including distribution of the RFP and conducting the bid walk.

### Task 6 - Maintain Booms on Outfalls

- Completed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Inspections of the outfalls were performed once per week, prior to forecasted rain events, and following rain events to ensure booms were functioning properly and identify when maintenance events were necessary
- Completed inspections at Oil Interceptor #2 once a week to ensure that the booms are in good order and identify when maintenance events are necessary.

### Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation

- Completed routine O&M and reporting for the AOI-09B system.
- Revised Draft AOI-09 System memo.
- Performed weekly O&M visits, monthly monitoring well gauging, monthly system groundwater sample collection, monthly and weekly vapor sample collection at the AOI-09B system. Weekly vapor sample collections were performed to provide additional data sets to better determine whether system operations are nearing asymptotic conditions.
- Generated and submitted the October monthly POTW report to the City of Flint and October monthly air report to MDEQ for the AOI-09B system.
- Completed monthly 002 passive recovery trench inspection and gauging.



**Attachment 3**

December 2014 Project Update



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**MEMO**

To:  
Chris Black, USEPA

Copies:  
Grant Trigger, RACER  
Dave Favero, RACER  
Christi Kiker, ARCADIS

From:  
Micki M. Maki

Date:  
January 15, 2014

ARCADIS Project No.:  
B0064410.2014.01202

Subject:  
December 2014 Project Update - RACER Buick City Site, Flint, Michigan

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS is submitting this December 2014 Project Update to provide a brief summary of work performed at the Buick City Site (the Site) from December 1, 2014 through December 31, 2014. Please note that format of the report has been changed slightly to provide more detailed description of activities completed. Also, the summary of routine operations, maintenance, and monitoring (OMM) tasks has been moved to the end of the document.

Task 2 - LNAPL Investigation

- Continued Supplemental Corrective Measures Implementation (SCMI) field investigation activities at multiple AOIs in the Northend and Southend of the Site. Completed temporary wells, permanent wells, soil borings, and soil and LNAPL sample collection activities.
- Began review and analysis of analytical data and development of electronic boring logs associated with the SCMI investigation.
- Coordinated SCMI investigation waste documentation, container inspections, and disposal.

## Task 3 – LNAPL Recovery Bench and Field-Scale Pilot Testing

- Coordinated vapor intrusion (VI) for sampling locations included in the SCMI work plan.

## Task 7 - Enhanced Groundwater Monitoring

- Reviewed and tabulated field notes and analytical data from 2014 annual groundwater monitoring event.
- Provided City of Flint with the analytical data results from samples collected on their property during the annual groundwater sampling event, per the access agreement.
- Coordinated waste characterization and disposal related to the annual groundwater monitoring event.
- Finalize draft 1,4-dioxane Work Plan for RACER review.

## Task 8 - NPDES PLUS Monitoring

- Collect samples to assess metals issues at the Outfall 008 in the Former Factory 84 Area.

## Task 11 - Lead Soil Removal

- Complete disposal of waste totes.

## Task 13 - Outfall 002/005 Oil Minimization & Investigation

- Continued evaluation of potential remedies for Outfall 003 LNAPL infiltration elimination.

## **Routine OMM Work**

### Task 1 - Outfall 003/004 Oil Removal Systems

- Continued OMM activities on the 003/004 system. Activities included inspection of the 003/004 interceptor, weekly gauging, and weekly sampling. Inspections are being performed once per week to ensure that the system is running properly and to determine if any system modifications are warranted to optimize system performance.
- Completed the Outfall 003/004 system maintenance event including the disposal of 35,302 gallons of waste.

### Task 6 - Maintain Booms on Outfalls

- Completed inspections and maintenance (as necessary) of Outfalls 002, 003, 004, and 005. Inspections of the outfalls were performed once per week, prior to forecasted rain events, and following rain events to ensure booms were functioning properly and identify when maintenance events were necessary
- Completed inspections at Oil Interceptor #2 once a week to ensure that the booms are in good order and identify when maintenance events are necessary.
- Completed a maintenance event for Oil Interceptor #2.

### Task 8 - NPDES PLUS Monitoring

- Completed the December monthly NPMP sampling event.

### Task 15 - LNAPL Recovery OM&M Followed by Secondary LNAPL Remediation

- Completed shut down activities for the AOI-09B system.
- Revised Draft AOI-09 System memo.
- Generated and submitted the November monthly POTW report to the City of Flint and November monthly air report to MDEQ for the AOI-09B system.
- Completed the monthly 002 passive recovery trench inspection and gauging.



**Attachment 4**

1<sup>st</sup> and 2<sup>nd</sup> Quarter 2015 Field  
Schedule

| ID | Task Name   | Duration | Start       | Finish      | Predecessor | 2015 Schedule - Q1 and Q2 |                         |       |       |                    |      |  |
|----|---|----------|-------------|-------------|-------------|---------------------------|-------------------------|-------|-------|--------------------|------|--|
|    |   |          |             |             |             | January                   | 1st Quarter<br>February | March | April | 2nd Quarter<br>May | June |  |
| 1  |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 2  | <b>Task 1 - Outfall 003/004 Oil Removal Systems</b>                             | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 1 Gantt Bar]        |                         |       |       |                    |      |  |
| 3  | Outfall 003/004 System OMM  | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 1 Sub-bar]          |                         |       |       |                    |      |  |
| 4  |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 5  | <b>Task 2 - Supplemental Investigations</b>                                     | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 2 Gantt Bar]        |                         |       |       |                    |      |  |
| 6  | Supplemental Corrective Measures Implementation (SCMI) Work Plan Development    | 30 days  | Mon 1/5/15  | Fri 2/13/15 |             | [Task 2 Sub-bar]          |                         |       |       |                    |      |  |
| 7  | EPA Review and Approval Process   | 30 days  | Mon 2/16/15 | Fri 3/27/15 | 6           | [Task 2 Sub-bar]          |                         |       |       |                    |      |  |
| 8  | Investigation Field Work  | 20 days  | Mon 4/13/15 | Fri 5/8/15  |             | [Task 2 Sub-bar]          |                         |       |       |                    |      |  |
| 9  | Prepare SCMI Summary Memo   | 20 days  | Mon 5/11/15 | Fri 6/5/15  | 8           | [Task 2 Sub-bar]          |                         |       |       |                    |      |  |
| 10 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 11 | Vapor Intrusion Investigation   | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 2 Sub-bar]          |                         |       |       |                    |      |  |
| 12 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 13 | <b>Task 3 - LNAPL Recovery Bench and Field Scale Pilot Testing</b>              | 55 days? | Mon 3/23/15 | Fri 6/5/15  |             | [Task 3 Gantt Bar]        |                         |       |       |                    |      |  |
| 14 | AOI 36-1/36-2 Pilot Test  | 10 days  | Mon 3/23/15 | Fri 4/3/15  |             | [Task 3 Sub-bar]          |                         |       |       |                    |      |  |
| 15 | AOI 36-1/36-2 Pilot Test Summary/Basis of Design (BOD) Report                   | 20 days  | Mon 4/13/15 | Fri 5/8/15  |             | [Task 3 Sub-bar]          |                         |       |       |                    |      |  |
| 16 | EPA Approval of AOI 36-1 BOD Recommendations                                    | 20 days  | Mon 5/11/15 | Fri 6/5/15  | 15          | [Task 3 Sub-bar]          |                         |       |       |                    |      |  |
| 17 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 18 | <b>Task 6 - Maintain Booms on Outfalls</b>                                      | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 6 Gantt Bar]        |                         |       |       |                    |      |  |
| 19 | Standard OMM  | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 6 Sub-bar]          |                         |       |       |                    |      |  |
| 20 | Oil Interceptor #2 Maintenance  | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 6 Sub-bar]          |                         |       |       |                    |      |  |
| 21 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 22 | <b>Task 8 - NPDES Plus Monitoring</b>   | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 8 Gantt Bar]        |                         |       |       |                    |      |  |
| 23 | Monthly Sampling Events   | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 8 Sub-bar]          |                         |       |       |                    |      |  |
| 24 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 25 | Address Metal Impact in Site Storm Sewers                                       | 127 days | Mon 1/5/15  | Tue 6/30/15 |             | [Task 8 Sub-bar]          |                         |       |       |                    |      |  |
| 26 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 27 | <b>Task 12 - Agency Coordination/Negotiation, Reporting, Project Management</b> | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 12 Gantt Bar]       |                         |       |       |                    |      |  |
| 28 | Agency Meetings and Negotiations  | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 12 Sub-bar]         |                         |       |       |                    |      |  |
| 29 | Project Management and Administration   | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 12 Sub-bar]         |                         |       |       |                    |      |  |
| 30 | Reporting   | 91 days  | Thu 1/1/15  | Thu 5/7/15  |             | [Task 12 Sub-bar]         |                         |       |       |                    |      |  |
| 31 | Final Decision Issued by EPA  | 1 day    | Mon 1/5/15  | Mon 1/5/15  |             | [Task 12 Sub-bar]         |                         |       |       |                    |      |  |
| 32 | CMI Work Plan   | 88 days  | Tue 1/6/15  | Thu 5/7/15  | 31          | [Task 12 Sub-bar]         |                         |       |       |                    |      |  |
| 33 | CMI Annual Report -2015   | 63 days  | Thu 1/1/15  | Mon 3/30/15 |             | [Task 12 Sub-bar]         |                         |       |       |                    |      |  |
| 34 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 35 | <b>Task 17 - Compliance</b>   | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 17 Gantt Bar]       |                         |       |       |                    |      |  |
| 36 | Outfall 003A Weekly Sampling and eDMR's   | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 17 Sub-bar]         |                         |       |       |                    |      |  |
| 37 | SWPP annual review and inspections  | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 17 Sub-bar]         |                         |       |       |                    |      |  |
| 38 | Yearly Trend Monitoring and PMP   | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 17 Sub-bar]         |                         |       |       |                    |      |  |
| 39 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 40 | <b>Task 18 - Addressing Soil Impacts</b>  | 118 days | Thu 1/1/15  | Mon 6/15/15 |             | [Task 18 Gantt Bar]       |                         |       |       |                    |      |  |
| 41 | Surface Cover Inspections   | 1 day    | Mon 6/15/15 | Mon 6/15/15 |             | [Task 18 Sub-bar]         |                         |       |       |                    |      |  |
| 42 | 2015 Annual Inspection  | 1 day    | Mon 6/15/15 | Mon 6/15/15 |             | [Task 18 Sub-bar]         |                         |       |       |                    |      |  |
| 43 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 44 | Surface Cover Installations   | 100 days | Thu 1/1/15  | Wed 5/20/15 |             | [Task 18 Sub-bar]         |                         |       |       |                    |      |  |
| 45 | Addendum to Soil Cover Work Plan  | 40 days  | Thu 1/1/15  | Wed 2/25/15 |             | [Task 18 Sub-bar]         |                         |       |       |                    |      |  |
| 46 | EPA Review and Approval Process   | 30 days  | Thu 2/26/15 | Wed 4/8/15  | 45          | [Task 18 Sub-bar]         |                         |       |       |                    |      |  |
| 47 | Remedy Implementation   | 30 days  | Thu 4/9/15  | Wed 5/20/15 | 46          | [Task 18 Sub-bar]         |                         |       |       |                    |      |  |
| 48 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 49 | <b>Task 19 - Remedy Design, Implementation, and OM&amp;M</b>                    | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 19 Gantt Bar]       |                         |       |       |                    |      |  |
| 50 | AOI 36-1/36-2 MPE System  | 120 days | Thu 1/1/15  | Wed 6/17/15 |             | [Task 19 Sub-bar]         |                         |       |       |                    |      |  |
| 51 | Infrastructure Coordination   | 120 days | Thu 1/1/15  | Wed 6/17/15 |             | [Task 19 Sub-bar]         |                         |       |       |                    |      |  |
| 52 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 53 | Outfall 004 Storm Sewer Reroute   | 20 days  | Mon 2/9/15  | Fri 3/6/15  |             | [Task 19 Sub-bar]         |                         |       |       |                    |      |  |
| 54 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 55 | Outfall 002 Passive Recovery Trench OM&M  | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 19 Sub-bar]         |                         |       |       |                    |      |  |
| 56 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 57 | Remedy Design and Implementation  | 129 days | Thu 1/1/15  | Tue 6/30/15 |             | [Task 19 Sub-bar]         |                         |       |       |                    |      |  |
| 58 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 59 | Restrictive Covenants   | 100 days | Thu 1/1/15  | Wed 5/20/15 |             | [Task 19 Sub-bar]         |                         |       |       |                    |      |  |
| 60 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 61 | AOI 09-B MPE System   | 21 days  | Mon 1/19/15 | Mon 2/16/15 |             | [Task 19 Sub-bar]         |                         |       |       |                    |      |  |
| 62 | Submit AOI 09-B Completion Memo to EPA  | 1 day    | Mon 1/19/15 | Mon 1/19/15 |             | [Task 19 Sub-bar]         |                         |       |       |                    |      |  |
| 63 | EPA Review and Approval Process   | 20 days  | Tue 1/20/15 | Mon 2/16/15 | 62          | [Task 19 Sub-bar]         |                         |       |       |                    |      |  |
| 64 |   |          |             |             |             |                           |                         |       |       |                    |      |  |
| 65 | <b>Task 20 - Outfall Exit</b>   | 122 days | Mon 1/12/15 | Tue 6/30/15 |             | [Task 20 Gantt Bar]       |                         |       |       |                    |      |  |
| 66 | Outfall 005   | 122 days | Mon 1/12/15 | Tue 6/30/15 |             | [Task 20 Sub-bar]         |                         |       |       |                    |      |  |
| 67 | Coord with MDEQ/City Of Flint   | 30 days  | Mon 1/12/15 | Fri 2/20/15 |             | [Task 20 Sub-bar]         |                         |       |       |                    |      |  |
| 68 | EPA Review and Approval Process   | 30 days  | Sun 2/22/15 | Thu 4/2/15  | 67          | [Task 20 Sub-bar]         |                         |       |       |                    |      |  |
| 69 | End Outfall 005 Inspections   | 62 days  | Mon 4/6/15  | Tue 6/30/15 | 68          | [Task 20 Sub-bar]         |                         |       |       |                    |      |  |



**Attachment 2**

2014 Outfall 003 Dry and Wet  
Weather Storm Water Sampling  
Results

2014 Outfall 003A Wet Weather Storm Water Sampling Data  
2014 Yearly PMP Report

RACER Trust  
Buick City  
Flint, Michigan

| Location ID:<br>Date Collected:<br>Outfall: | Units | OUTFALL 003A<br>10/03/14<br>003 |
|---|-------|---------------------------------|
| <b>PCB</b>                                  |       |                                 |
| Aroclor-1016 (PCB-1016)                     | ug/L  | <0.10                           |
| Aroclor-1221 (PCB-1221)                     | ug/L  | <0.10                           |
| Aroclor-1232 (PCB-1232)                     | ug/L  | <0.10                           |
| Aroclor-1242 (PCB-1242)                     | ug/L  | <0.10                           |
| Aroclor-1248 (PCB-1248)                     | ug/L  | <0.10                           |
| Aroclor-1254 (PCB-1254)                     | ug/L  | <0.10                           |
| Aroclor-1260 (PCB-1260)                     | ug/L  | <0.10                           |
| Total PCBs                                  | ug/L  | <0.10                           |



### **Attachment 3**

2014 Field Inspection Notes – Outfall  
003/004 BaySaver Separation  
System

| DATE      | WEATHER   |                         | OUTFALL 003  |            |                    |                    |            |          |           |                     |                      |                    | SYSTEM COMPONENTS |            |                      |          |                    |            |                     |            |          |                    |        |                            | OUTFALL 004     |            |          |           |            |     |     |
|-----------|-----------|-------------------------|--|------------|--------------------|--------------------|------------|----------|-----------|---------------------|----------------------|--------------------|-------------------|------------|----------------------|----------|--------------------|------------|---------------------|------------|----------|--------------------|--------|----------------------------|-----------------|------------|----------|-----------|------------|-----|-----|
|           | Temp (-F) | Conditions (rain, etc.) | MH 3-3   |            | MH 3-6             |                    |            |          |           |                     | Bay Saver Primary MH |                    |                   |            | Bay Saver Storage MH |          |                    |            | Oil Water Separator |            |          |                    | MH 4-6 |                            |                 | MH 4-5     |          |           |            |     |     |
|           |           |                         | Obstructions (Y/N)   | Flow (Y/N) | Obstructions (Y/N) | Quantity of Debris | Flow (Y/N) | Depths   |           | Cresting Weir (Y/N) | Pooling Oil (Y/N)    | Obstructions (Y/N) | Qty. of Debris    | Flow (Y/N) | Depths               |          | Obstructions (Y/N) | Flow (Y/N) | Type of Debris      | Depths     |          | Obstructions (Y/N) | Depths | Visible Obstructions (Y/N) | Debris Quantity | Flow (Y/N) | Depths   |           | Flow (Y/N) |     |     |
|           |           |                         |  |            |                    |                    |            | To Water | To Bottom |                     |                      |                    |                   |            | To LNAPL             | To Water |                    |            |                     | To Bottom  | To LNAPL |                    |        |                            |                 |            | To Water | To Bottom |            |     |     |
| 1/16/2014 | 30        | overcast                | Begin to check vaults 3-6 and 4-6 when collecting the weekly 003A sample to verify storm sewer conditions for sampling. No measurements are collected. |            |                    |                    |            |          |           |                     |                      |                    |                   |            |                      |          |                    |            |                     |            |          |                    |        |                            |                 |            |          |           |            |     | No  |
| 1/24/2014 | 0         | snow                    | Begin to check vaults 3-6 and 4-6 when collecting the weekly 003A sample to verify storm sewer conditions for sampling. No measurements are collected. |            |                    |                    |            |          |           |                     |                      |                    |                   |            |                      |          |                    |            |                     |            |          |                    |        |                            |                 |            |          |           |            |     | No  |
| 1/31/2014 | 20        | clear                   | Check vaults 3-6 and 4-6 when collecting the weekly 003A sample to verify storm sewer conditions for sampling. No measurements are collected.          |            |                    |                    |            |          |           |                     |                      |                    |                   |            |                      |          |                    |            |                     |            |          |                    |        |                            |                 |            |          |           |            |     | No  |
| 2/7/2014  | 15        | cloudy                  | No   | Yes        | No                 | NA                 | Yes        | 11.25    | 12.40     | No                  | No                   | No                 | some trash        | Yes        | NA                   | 11.32    | 19.75              | No         | Yes                 | EO         | 11.45    | See notes          | No     | NA                         | 10.01           | No         | None     | Yes*      | 5          | 9.6 | No  |
| 2/14/2014 | 25        | snow                    | No   | Yes        | No                 | NA                 | Yes        | 11.25    | 12.40     | No                  | No                   | No                 | some trash        | Yes        | NA                   | 11.4     | 19.79              | No         | Yes                 | EO         | 11.5     | See notes          | No     | NA                         | 10              | No         | None     | Yes*      | 5          | 9.6 | yes |
| 2/17/2014 | 26        | snow                    | No   | Yes        | No                 | NA                 | Yes        | 11.35    | 12.40     | No                  | No                   | No                 | some trash        | Yes        | NA                   | 11.5     | 19.80              | No         | Yes                 | EO         | 11.4     | See notes          | No     | NA                         | 10              | No         | None     | Yes*      | 5          | 9.6 | yes |
| 2/19/2014 | 27        | snow                    | No   | Yes        | No                 | NA                 | Yes        | 11.42    | 12.40     | No                  | No                   | No                 | some trash        | Yes        | NA                   | 11.4     | 19.80              | No         | Yes                 | EO         | 11.45    | See notes          | No     | NA                         | 10              | No         | None     | Yes*      | 5          | 9.6 | yes |
| 2/21/2014 | 28        | snow                    | No   | Yes        | No                 | NA                 | Yes        | 11.20    | 12.40     | No                  | No                   | No                 | some trash        | Yes        | NA                   | 11.3     | 19.80              | No         | Yes                 | EO         | 11.45    | See notes          | No     | NA                         | 10              | No         | None     | Yes*      | 5          | 9.6 | yes |
| 2/26/2014 | 15        | snow                    | No   | Yes        | No                 | NA                 | Yes        | 11.20    | 12.40     | No                  | No                   | No                 | some trash        | Yes        | NA                   | 11.1     | 19.80              | No         | Yes                 | EO         | 11.35    | See notes          | No     | NA                         | 10              | No         | None     | Yes*      | 5          | 9.6 | yes |
| 3/5/2014  | 23        | Lt Snow                 | No   | Yes        | No                 | NA                 | Yes        | 11.20    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 10.9     | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | None     | Yes*      | 5          | 9.6 | yes |
| 3/7/2014  | 40        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 11.20    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 10.9     | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 5          | 9.6 | yes |
| 3/10/2014 | 48        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 10.20    | 12.40     | Yes                 | No                   | No                 | LittleTrash       | Yes        | NA                   | 10.85    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 4.8        | 9.6 | yes |
| 3/19/2014 | 40        | Cloudy                  | No   | Yes        | No                 | NA                 | Yes        | 10.25    | 12.40     | Yes                 | No                   | No                 | LittleTrash       | Yes        | NA                   | 10.25    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 5          | 9.6 | yes |
| 3/24/2014 | 30        | Snow                    | No   | Yes        | No                 | NA                 | Yes        | 10.25    | 12.40     | Yes                 | No                   | No                 | LittleTrash       | Yes        | NA                   | 10.75    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 7.25       | 9.6 | No  |
| 3/31/2014 | 60        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 11.00    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.25    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 7.45       | 9.6 | No  |
| 4/10/2014 | 70        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 11.40    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.45    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 7.55       | 8.5 | No  |
| 4/18/2014 | 70        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 11.60    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.4     | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 7.6        | 8.6 | No  |
| 4/24/2014 | 60        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 11.80    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.45    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 7.2        | 8.7 | No  |
| 4/28/2014 | 58        | Rain                    | No   | Yes        | No                 | NA                 | Yes        | 10.20    | 12.40     | Yes                 | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.43    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 4.4        | 8.8 | Yes |
| 5/9/2014  | 77        | Rain                    | No   | Yes        | No                 | NA                 | Yes        | 10.10    | 12.40     | Yes                 | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.45    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 4.3        | 8.7 | Yes |
| 5/16/2014 | 50        | Cloudy                  | No   | Yes        | No                 | NA                 | Yes        | 11.10    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.41    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 6.25       | 8.8 | No  |
| 5/23/2014 | 70        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 11.45    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.4     | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 6.39       | 8.6 | No  |
| 5/28/2014 | 75        | Rain                    | No   | Yes        | No                 | NA                 | Yes        | 10.20    | 12.40     | Yes                 | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.45    | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 4.2        | 8.8 | Yes |
| 6/6/2014  | 81        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 11.60    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.4     | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 5          | 8.8 | No  |
| 6/16/2014 | 90        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 11.70    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.4     | 19.8               | No         | Yes                 | EO         | 11.3     | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 5.95       | 8.8 | No  |
| 6/25/2014 | 75        | Rain                    | No   | Yes        | No                 | NA                 | Yes        | 10.00    | 12.40     | Yes                 | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.45    | 19.8               | No         | Yes                 | EO         | 11.35    | See notes          | No     | NA                         | 10              | No         | Little   | Yes*      | 4.4        | 8.8 | Yes |
| 7/2/2014  | 75        | Cloudy                  | No   | Yes        | No                 | NA                 | Yes        | 11.70    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.4     | 19.8               | No         | Yes                 | EO         | 11.35    | See notes          | No     | NA                         | 9.95            | No         | Little   | Yes*      | 7.75       | 8.8 | No  |
| 7/10/2014 | 75        | Sunny                   | No   | Yes        | No                 | NA                 | Yes        | 11.60    | 12.40     | No                  | No                   | No                 | LittleTrash       | Yes        | NA                   | 11.45    | 19.8               | No         | Yes                 | EO         | 11.35    | See notes          | No     | NA                         | 9.9             | No         | Little   | Yes*      | 7.55       | 8.8 | No  |
| 7/14/2014 | 80        | Rain                    | No   | Yes        | No                 | Little Trash       | Yes        | 10.10    | 12.40     | Yes                 | No                   | Yes                | No Trash          | Yes        | NA                   | 11.5     | 19.8               | No         | Yes                 | EO         | 11.4     | See notes          | No     | NA                         | 9.9             | No         | Little   | Yes*      | 7.55       | 8.8 | Yes |
| 7/24/2014 | 83        | Sunny                   | No   | Yes        | No                 | Some Trash         | Yes        | 11.30    | 12.40     | No                  | No                   | No                 | No Trash          | Yes        | NA                   | 11.65    | 19.8               | No         | No                  | EO & Trash | 11.45    | See notes          | No     | NA                         | 9.95            | Yes        | Some     | No        | 7.6        | 8.8 | No  |

Note:  
 NA indicates data not applicable  
 EO indicates emulsified oil

2014 Field Inspection Notes  
 Outfall 003/004 BaySaver Separation System  
 2014 Yearly PMP Report

RACER Trust  
 Buick City  
 Flint, Michigan

| DATE       | WEATHER   |                         | OUTFALL 003   |            |                    |                    |            |          |           |                     |                   | SYSTEM COMPONENTS    |                |            |          |                      |                    |            |                |                     |          |                    | OUTFALL 004 |          |                            |                 |            |           |     |            |      |     |
|------------|-----------|-------------------------|---|------------|--------------------|--------------------|------------|----------|-----------|---------------------|-------------------|----------------------|----------------|------------|----------|----------------------|--------------------|------------|----------------|---------------------|----------|--------------------|-------------|----------|----------------------------|-----------------|------------|-----------|-----|------------|------|-----|
|            | Temp (-F) | Conditions (rain, etc.) | MH 3-3  |            | MH 3-6             |                    |            |          |           |                     |                   | Bay Saver Primary MH |                |            |          | Bay Saver Storage MH |                    |            |                | Oil Water Separator |          |                    | MH 4-6      |          |                            |                 | MH 4-5     |           |     |            |      |     |
|            |           |                         | Obstructions (Y/N)  | Flow (Y/N) | Obstructions (Y/N) | Quantity of Debris | Flow (Y/N) | Depths   |           | Cresting Weir (Y/N) | Pooling Oil (Y/N) | Obstructions (Y/N)   | Qty. of Debris | Flow (Y/N) | Depths   |                      | Obstructions (Y/N) | Flow (Y/N) | Type of Debris | Depths              |          | Obstructions (Y/N) | Depths      |          | Visible Obstructions (Y/N) | Debris Quantity | Flow (Y/N) | Depths    |     | Flow (Y/N) |      |     |
|            |           |                         |   |            |                    |                    |            | To Water | To Bottom |                     |                   |                      |                |            | To LNAPL | To Water             |                    |            |                | To Bottom           | To LNAPL |                    | To Water    | To Water |                            |                 |            | To Bottom |     |            |      |     |
| 7/31/2014  | 80        | Rain                    | No  | Yes        | No                 | Some Trash         | Yes        | 11.30    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.65                | 19.8               | No         | No             | EO & Trash          | 12.45    | See notes          |             | No       | NA                         | 10              | Yes        | Some      | No  | 7          | 8.8  | No  |
| 8/7/2014   | 85        | Sunny                   | No  | Yes        | No                 | Some Trash         | Yes        | 11.40    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.6                 | 19.8               | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10              | Yes        | Some      | No  | 7.25       | 8.8  | No  |
| 8/11/2014  | 80        | Lt. Rain                | No  | Yes        | No                 | Some Trash         | Yes        | 11.10    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.4                 | 19.8               | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10              | No         | Some      | Yes | 7          | 8.78 | No  |
| 8/18/2014  | 80        | M. Cloudy               | No  | Yes        | No                 | Some Trash         | Yes        | 11.40    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.5                 | 19.8               | No         | No             | EO & Trash          | 12.45    | See notes          |             | No       | NA                         | 10              | No         | Some      | Yes | 7.25       | 8.8  | No  |
| 8/27/2014  | 80        | Sunny                   | No  | Yes        | No                 | Some Trash         | Yes        | 11.20    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.55                | 19.8               | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10              | No         | Some      | Yes | 7.35       | 8.78 | No  |
| 9/4/2014   | 85        | Sunny                   | No  | Yes        | No                 | Some Trash         | Yes        | 11.40    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.6                 | 19.8               | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10              | No         | Some      | Yes | 7.3        | 8.78 | No  |
| 9/10/2014  | 80        | Rain                    | No  | Yes        | No                 | Some Trash         | Yes        | 11.20    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.55                | 19.8               | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10              | No         | Some      | Yes | 7.25       | 8.78 | No  |
| 9/19/2014  | 75        | Overcast                | No  | Yes        | No                 | Some Trash         | Yes        | 11.40    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.6                 | 19.8               | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10              | No         | Some      | Yes | 7.15       | 8.78 | No  |
| 9/23/2014  | 75        | Overcast                | No  | Yes        | No                 | Some Trash         | Yes        | 11.30    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.6                 | 19.8               | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10              | No         | Some      | Yes | 7.2        | 8.78 | No  |
| 10/2/2014  | 70        | Cloudy                  | No  | Yes        | No                 | Some Trash         | Yes        | 11.10    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.55                | 19.78              | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10.01           | No         | Some      | Yes | 7.25       | 8.8  | No  |
| 10/9/2014  | 60        | Sunny                   | No  | Yes        | No                 | Some Trash         | Yes        | 11.25    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.6                 | 19.78              | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10              | No         | Some      | Yes | 7.25       | 8.78 | No  |
| 10/15/2014 | 60        | overcast                | No  | Yes        | No                 | Some Trash         | Yes        | 11.39    | 12.41     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.57                | 19.78              | No         | No             | EO & Trash          | 12.48    | See notes          |             | No       | NA                         | 10.02           | No         | Some      | yes | 7.23       | 8.78 | No  |
| 10/21/2014 | 50        | overcast                | No  | Yes        | No                 | Some Trash         | Yes        | 11.42    | 12.40     | No                  | No                | No                   | couple items   | Yes        | NA       | 11.59                | 19.78              | No         | No             | EO & Trash          | 12.49    | See notes          |             | No       | NA                         | 10.02           | No         | Some      | yes | 7.26       | 8.76 | No  |
| 10/31/2014 | 40        | Rain/OC                 | No  | Yes        | No                 | Some Trash         | Yes        | 11.36    | 12.41     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.56                | 19.78              | No         | No             | EO & Trash          | 12.47    | See notes          |             | No       | NA                         | 10.01           | No         | Some      | Yes | 7.22       | 8.89 | No  |
| 11/4/2014  | 45        | overcast                | No  | Yes        | No                 | Some Trash         | Yes        | 10.23    | 12.40     | Yes                 | No                | No                   | LittleTrash    | Yes        | NA       | 11.46                | 19.79              | No         | No             | EO                  | 12.44    | See notes          |             | No       | NA                         | 10.01           | No         | some      | yes | 5.13       | 8.88 | Yes |
| 11/6/2014  | 45        | overcast                | 4-6 and 3-6 lines jetted, multiple obstructions, lines clear and flows equalized. |            |                    |                    |            |          |           |                     |                   |                      |                |            |          |                      |                    |            |                |                     |          |                    |             |          |                            |                 |            |           |     |            |      |     |
| 11/12/2014 | 35        | overcast                | No  | Yes        | No                 | Some Trash         | Yes        | 11.40    | 12.41     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.57                | 19.78              | No         | No             | EO & Trash          | 12.48    | See notes          |             | No       | NA                         | 10.02           | No         | Some      | yes | 7.23       | 8.86 | No  |
| 11/18/2014 | 20        | overcast                | No  | Yes        | No                 | Some Trash         | Yes        | 11.39    | 12.41     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.56                | 19.77              | No         | No             | EO                  | 12.49    | See notes          |             | No       | NA                         | 10.01           | No         | Some      | yes | 7.25       | 8.89 | No  |
| 11/24/2014 | 50        | rain                    | No  | Yes        | No                 | Some Trash         | Yes        | 11.20    | 12.40     | No                  | No                | No                   | No Trash       | Yes        | NA       | 11.55                | 19.8               | No         | No             | EO & Trash          | 12.5     | See notes          |             | No       | NA                         | 10              | No         | Some      | Yes | 7.25       | 8.78 | No  |
| 12/1/2014  | 30        | clear                   |   |            |                    |                    |            |          |           |                     |                   |                      |                |            |          |                      |                    |            |                |                     |          |                    |             |          |                            |                 |            |           |     |            |      |     |
| 12/3/2014  | 30        | overcast                | Annual Maintenance  |            |                    |                    |            |          |           |                     |                   |                      |                |            |          |                      |                    |            |                |                     |          |                    |             |          |                            |                 |            |           |     |            |      |     |
| 12/15/2014 | 50        | overcast                | No  | Yes        | no                 | none               | Yes        | 11.19    | 12.40     | No                  | No                | No                   | None           | Yes        | NA       | 11.59                | 19.93              | No         | Yes            | EO                  | NA       | 11.91              | 19.26       | No       | NA                         | 10.01           | No         | None      | Yes | 7.23       | 8.99 | No  |
| 12/22/2014 | 40        | clear                   | No  | Yes        | no                 | none               | Yes        | 11.19    | 12.40     | No                  | No                | No                   | None           | Yes        | NA       | 11.51                | 19.93              | No         | Yes            | EO                  | NA       | 11.62              | 19.27       | No       | NA                         | 10.02           | No         | None      | Yes | 7.21       | 9.1  | No  |
| 12/29/2014 | 40        | clear                   | No  | Yes        | no                 | none               | Yes        | 11.21    | 12.41     | No                  | No                | No                   | None           | Yes        | NA       | 11.49                | 19.91              | No         | Yes            | EO                  | NA       | 11.67              | 19.24       | No       | NA                         | 10.02           | No         | None      | Yes | 7.25       | 9.1  | No  |

Note:  
 NA indicates data not applicable  
 EO indicates emulsified oil