BUICK CITY SITE PUBLIC MEETING

RACER Trust

June 21, 2023
6 pm to 7:30 pm
The Dome Auditorium – Flint City Hall
Site Redevelopment

- RACER property in process of being sold

273 acres in process of being sold

- Former RACER property
- Portions reserved from sale pending remediation
Oil-Water Interceptor #2 Decommissioning

Oil Interceptor #2 was abandoned and closed as part of the Outfall 003 re-route work

Oil Water Interceptor #2
PFAS Investigation Update

FORMER LAGOON AREA

HAMILTON AVE AREA

FORMER FOAM GENERATION BUILDING (FGB)
Most recent concentration of PFOS in groundwater shown at each location.
Proposed Pilot Test

Outside vendor is currently seeking permission from EGLE to complete on-site pilot test for groundwater remediation.

Bench scale testing on samples from this area showed a decrease in PFOS using the proposed technology.
Treatment Process

Treated Soils Included:

• Sediment from the lagoon bottom
• Side slope soils with phragmites
• Stockpiled clay soils
• Soils around the perimeter of the lagoon
• Selected areas of soils south of the lagoon

Capped with soils from I69 rebuild and new pump station off Hemphill Road

Treatment agents:

• Blend of Powdered Activated Carbon (PAC) and bentonite clay
• Rembind – specialty activated carbon
• PAC
• Granular Activated Carbon (Spent)
• Portland Cement
• EnviroSet – a blend based on Portland cement
Samples Collected on June 8

Samples:

- Collected 35 soil samples
- At 11 locations around the lagoon
- Goal is to evaluate how each of the treatment agents performed.
- Activated carbon captures PFAS
- Portland binds it
- Which is better and why?
Sonic Drilling Rig
June 8, 2023
Phragmites in soils treated with PAC
Phragmites and soils treated with PAC - under wet soils
Hamilton Ave Area

2019 PFOS Soil Data
Hamilton Ave Area

January – June 2020 PFOS Soil Data
Hamilton Ave Area

July – October 2020
PFOS Soil Data
May 2021 – May 2022
PFOS Soil Data

10 borings installed south of Hamilton Avenue

17 borings installed to the northwest for additional delineation
Hamilton Ave Area

2019 PFOS Groundwater Data
Hamilton Ave Area

July – October 2020 PFOS Groundwater Data
December 2020 – April 2021
PFOS Groundwater Data

Hamilton Ave Area
Hamilton Ave Area

May 2021 – May 2022 PFOS Groundwater Data

6 wells installed in Hamilton Avenue

13 wells installed south of Hamilton Avenue

22 wells installed to the northwest for additional delineation
Hamilton Ave Area

May 2021 – May 2023
PFOS Groundwater Data

1 well installed south of Hamilton Avenue

4 monitoring wells installed north of Hamilton Avenue for the Tracer Study
Hamilton Ave Area 3-D Model, Sept 2021

PFOS in Groundwater

PFOS in Soil

Posted Analytical Data
PFOS
- >250,000 ng/L
- >100,000 - 250,000 ng/L
- >50,000 - 100,000 ng/L
- >10,000 - 50,000 ng/L
- >1,000 - 10,000 ng/L
- >12 - 1,000 ng/L

Posted Soil Analytical Data
PFOS
- >250,000 ng/kg
- >100,000 - 250,000 ng/kg
- >50,000 - 100,000 ng/kg
- >10,000 - 50,000 ng/kg
- >1,000 - 10,000 ng/kg
- >240 - 1,000 ng/kg
The tracer study is being conducted to evaluate the speed and direction of groundwater flowing in two areas near Hamilton Avenue.

Three different dye colors (green, orange and yellow) will be used in the tracer study.

Downgradient monitoring wells will be monitored for the presence of dye over the course of several months to better understand how groundwater moves in this area.
Conceptual Tracer Study Cross Section
The dye tracer study was started in September 2022 to evaluate the speed and direction of groundwater flowing in two areas near Hamilton Avenue.

- Green dye was injected sequentially in Areas 1 and 2 from September 2022 to November 23, 2022.
- Downgradient monitoring wells and sewers are being monitored regularly for the presence of dye.
- Sampling locations are adjusted based on observations from the previous sampling event.
Monitoring Wells with Dye Detections
Monitoring Wells with Dye Detections

March 1, 2023

- INJECTION WELL
- DYE DETECTED
Monitoring Wells with Dye Detections

April 12, 2023

INJECTION WELL

DYE DETECTED

First detection
Closer to street
Monitoring Wells with Dye Detections

May 23, 2023

INJECTION WELL
DYE DETECTED
Tracer Study Observations to Date

- Observed groundwater flow has been slower than expected
  - Pre-tracer estimate: 0.6 ft/day (166 days to travel 100 ft)
  - Current estimate: 0.3 ft/day (333 days to travel 100 ft)
- Subsurface obstructions (concrete) may be influencing local flow

Sampling will continue until a robust data set is collected, which is currently anticipated to be Fall 2023/Spring 2024
Outfall 010
- Bulkhead installation completed in September 2021 to eliminate contributions from the Site.
- Before bulkhead installation PFOS concentrations ranged from 1,500 ng/L to 3,000 ng/L.
- Most recent sample indicates PFOS concentration at 550 ng/L in April 2022.

Outfall 011
- Permanent bulkheads installed in December 2021 to eliminate contributions from the Site.
- Most recent samples indicate groundwater is still entering the Outfall 011 storm sewer.
- Additional work is planned to address sewer lines and manholes servicing the road.
PFAS Next Steps – Remedial Technologies

Soil

- Stabilization in place – reduces potential for soil to leach PFAS
  - Chemical fixation
  - Encapsulation
- Soil washing and water treatment
- Containment – slurry wall
- On-site treatment and disposal in approved containment unit (landfill liner)
- Off-site disposal
- Bioremediation potential

Water

- Granular activated carbon
- Anion exchange resins
- Absorptive media
- Fractionation
- Membrane filtration
  - Nanofiltration/ultrafiltration
  - Reverse osmosis
- Bioremediation potential
Research and Work to Find Solutions

• PFAS in drinking water has been the primary focus of scientists and agencies

• We have only encountered 1 site in Michigan with a drinking water well issue
  o At our Coldwater Road site we worked with County Health officials and installed two in-home treatment systems

• Surface water impacts are the next most important area for PFAS

• As our summary shows, we continue to work hard to understand and address PFAS in groundwater and surface water

• A great deal of research is going on to find technology to cost-effectively address PFAS
Working with Third-Party PFAS Researchers

Provided soil and/or groundwater samples to:

• Parsons Engineering
• Heritage Environmental Services
• EcoSpears-Florida
• University of California - Berkeley
• University of Washington
• Battelle Memorial Institute
• Clarkson University
• University of Michigan
Site Activities

- We have arranged to accept clean fill dirt from several road construction projects including I-69 and 475. These soils have been used for environmental remediation work and can be used to prepare building pads for new development.

- We have licensed portions of the site for vehicle parking and equipment storage. Site improvements to support those activities have been provided by the licensees.

- We have installed plugs in the storm and sanitary sewers to eliminate Site contributions to the sewer system and Flint River.

- We continue to evaluate surface impacts at the Site. Surface covers have been installed over several impacted soil areas.
Redevelopment

• RACER has positioned its Buick City property to capture a significant economic development opportunity, in terms of new investment, tax revenues and jobs, for the City of Flint and the Flint region.

• RACER has signed an agreement to sell the remaining 352 acres to Ashley Capital – an experienced and well qualified developer who we have worked with before, most recently in Livonia.

• We are working hard to provide information to Ashley Capital to help their analysis of this opportunity.

• If they are satisfied with this analysis, we are hopeful they will close within the coming months.

• If they purchase the remaining property, we will continue to perform our work to address the old contamination issues.