United States Environmental Protection Agency

# EPA Proposes Soil, Water Cleanup for Auto Facility

## Southend-Starting at Leith Street, Buick City Site

Flint, Michigan January 2010

U.S. Environmental Protection Agency Region 5 wants to clean up a portion of a former auto facility by using a steam treatment on contaminated underground water and excavating or containing areas of polluted soil. The facility is the former General Motors North American Operations complex known as Buick City. The section targeted for cleanup is called the Southend, which is between Leith and Harriet streets. Addressing environmental contamination will be an important consideration for any business that is interested in redeveloping the Southend portion of Buick City.

This fact sheet is a summary of an official EPA document called a *statement of basis*. That document describes a range of proposed cleanup alternatives and EPA's preferred options for this section of the former GM site. The remaining portion of the former General Motors facility is called the Northend and will have its own s*tatement of basis* scheduled for release later in 2010.

EPA along with state partner Michigan Department of Natural Resources and Environment will not select a final cleanup plan until after the agencies review statements received from the public. A public meeting is scheduled Feb. 18, and the public comment period runs Jan. 28 – Feb. 28, 2010 *(see left-hand box for ways you can participate in the decision-making process)*. EPA is issuing the s*tatement of basis* as part of its public participation responsibilities under the federal Resource Conservation and Recovery Act (RCRA).[1] EPA may modify the proposed cleanup plan or select another option based on new information or public comments so your opinion is important.

### New owner

Buick City is owned by a company called Motors Liquidation Co. or MLC. MLC inherited dozens of idle and contaminated properties from the bankrupt General Motors Corp. when it reorganized with government help last year. MLC along with federal, state and local officials are considering the Southend portion for potential redevelopment and cleaning up pollution will be a key part of that effort. Cleanup on the more heavily contaminated Northend will come later.

Soil in the Southend portion is polluted with lead, gasoline and hydraulic fluids while underground water (called "ground water" in environmental terms) contains free-floating petroleum products, mostly hydraulic oil, fuel oil and gasoline. In environmental terms these substances are called "light non-aqueous phase liquid" or LNAPL. Drinking water and the Flint River are not affected by the Buick City pollution. Soil on an off-site property owned by CSX Railroad is also contaminated by pollutants coming from Buick City. The cleanup alternatives preferred by EPA would cost a total of $5.9 million

### Your opinions wanted

EPA invites your comments on the proposed cleanup plan for the Southend portion of the former Buick City facility in Flint. Your input is important because EPA may modify or select another cleanup option based on public comments. Here are some ways your voice can be heard during the public comment period that runs from **Jan. 28 to midnight, Feb. 28, 2010**:

- Fill out and return the enclosed comment form by the deadline.
- E-mail comments to EPA Public Affairs Specialist Rafael P. Gonzalez at gonzalez.rafaelp@epa.gov or fax to 312-582-5865.
- Attend a public meeting on **Thursday, Feb. 18**, 5:30 – 7:30 p.m., at Mott Community College, Regional Technology Center Auditorium, 1401 E. Court St., Flint, and submit a written or oral statement.

### Official document repository

You can read the *statement of basis* containing details about the cleanup plans for the Southend, and other official documents at the Flint Public Library, Main Branch, 1026 E. Kearsley St.

### Web site

For more information about the Buick City site and official documents click on this Web site: http://www.epa.gov/reg5rcra/wptdiv/sites/buickcity/index.html

*1 The statement of basis derives information from the "RCRA Facility Investigation Report" and "Corrective Measures Proposal." All of these documents can be reviewed in the Administrative Record located in the Flint Public Library, 1026 E. Kearsley St., or the EPA Region 5 Records Center, 77 W. Jackson Blvd., Chicago.*

and propose maintaining the existing building slabs and parking lots that cover contaminated soil and excavating soil on the CSX property. EPA also wants to prevent excavation on the Southend through institutional controls that will protect future workers from being exposed to contaminated subsurface soil. EPA's preferred ground water plan calls for steam-enhanced recovery of the LNAPL. All of the proposed cleanup options and EPA's preferences are presented in more detail later in this fact sheet.

EPA anticipates MLC signing a legal order to pay for the cleanup work and guaranteeing adequate funding for the life of the project. In the final cleanup plan, EPA will insist the entire Buick City site be restricted to industrial or commercial use, that no ground water underneath the site be used for anything other than sampling, and a long-term ground-water monitoring program be implemented.

## About the Buick City site

The entire facility including the Southend and Northend covers 452 acres located at 902 Leith St. in Flint. The Southend portion, which is the target of this latest cleanup plan, consists of the 230-acre area south of Leith Street and bounded on the east by Cole Boulevard and the Flint River and to the south by Harriet Street.

The complex played a major role in American automotive history. By the 1890s auto pioneers Billy Durant and J. Dallas Dort were producing "horseless carriages" on the property. In 1903 the Flint Wagon Works purchased the Buick Motor Co. from David Buick and relocated the business to Flint.

Manufacturing ceased on the Southend portion in 1999, and most of the buildings were demolished in 2002.

## Pollution investigations

The Southend contains no standing structures and consists of building slabs, asphalt parking lots and weedy areas. It is also bordered by a section of the Flint River. A *RCRA Facility Investigation* (RFI) was performed at the site to survey the nature and extent of the contamination. During the RFI, soil, ground water and surface water were sampled for pollutant levels, which were then compared with Michigan health standards for industrial workers

Investigators found elevated levels of various chemicals and petroleum products in the soil and underground water of the Southend. Most of the hot spots could be traced to former sumps, drains and tanks located in and around the now demolished buildings. Some of the contaminants involved were metals such as lead, manganese and chromium as well as several petroleum-derived substances. The LNAPL free product was also found in the ground water at several spots around the Southend.

Interim cleanup measures mostly involving the LNAPL pollution have already been performed at some of the polluted spots because the LNAPL soaked into the underground water. The interim measures included pumping LNAPL up to a holding tank where it was sent to an off-site disposal facility. A large tunnel connecting two of the former buildings was also drained of floodwater, scrubbed of contamination and then demolished and filled in during the interim cleanup. As part of the final cleanup plan, EPA would require that future owners of the Southend be informed about the former tunnel and possible remaining contamination.

## Risks to people and the environment

During the RFI, a human health risk assessment was performed to determine the health problems that could result if contamination at the facility was not cleaned up. A key assumption of the health assessment was that future use of the property will be restricted to industrial activity. Health risks were then calculated for routine exposures to the pollution by industrial workers who would be present on the property over many years.

The health assessment computes the chances of developing an additional case of cancer from the Southend contamination. Unfortunately, zero risk is impossible to achieve in the highly industrialized United States. EPA sets an acceptable risk range as 1-in-a-million chance of getting cancer from pollution to 1-in-10,000.

For this cleanup project, EPA selected Michigan standards that land on the midpoint of EPA's acceptable risk range. If contaminants are noncancerous but still cause health problems EPA uses what is called a hazard index quotient. To be acceptable to the Agency, the hazard index quotient for all pollutants must be less than one. Sections of land in the Southend with elevated contamination levels that failed to meet EPA's cancer or noncancer health standards will be cleaned up or the pollution adequately shielded to protect people.

Health risks were also calculated for wildlife living on or near the Southend. The only viable habitat found in the area was the Flint River. Sampling concluded wildlife was not currently affected by Southend pollution but could be if the ground water entering the river was contaminated at levels above state standards.

## Cleanup goals

Considering the anticipated industrial use of the property, the goals for the corrective measures proposed for the Southend are to protect workers' health and clean up the ground water as much as possible to shield the Flint River from pollutants. A long-term monitoring program for the underground water will also be part of any cleanup plan selected in order to make sure LNAPL levels are

dropping and the river is protected.

## Cleanup alternatives

Cleanup alternatives were developed for three Southend areas of concern: on-site soil contamination, primarily concentrated in four separate hot spots; off-site soil contamination in a small area of the CSX Railroad property at the southeast border of the Buick City site; and the LNAPL problem in underground water. As mentioned above, drinking water is not affected by Buick City pollution.

**On-site soil options**

**Alternative 1 – Engineering controls and additional institutional controls where lead levels exceed cleanup standards:** ***(this is EPA's preferred alternative)*** Under this option engineering controls would include maintaining the present surface cover including the remaining building slabs and parking lots to shield workers from lead exposure. The institutional controls include a deed restriction limiting excavation within areas of the Southend where lead levels exceed safety standards. **Cost - $15,000.**

**Alternative 2 – Excavation:** Soil exceeding lead safety levels would be dug up and disposed of at an appropriate off-site facility. The estimated volume of soil needing excavation is 10,470 cubic yards. **Cost - $2.9 million.**

**Off-site soil options**

These options involve the former Building 09 and above- and below-ground storage tanks that released contaminants that moved to CSX Railroad property.

**Alternative 1 – Engineering and institutional controls:** This option is identical to the on-site soil Alternative 1. **Cost - $15,000.**

**Alternative 2 – Excavation:** ***(EPA's preferred alternative)*** Same as on-site Alternative 2 except soil contaminated with a chemical called benzo(a)pyrene would be excavated along with lead-tainted earth. **Cost - $408,000.**

**Southend LNAPL options**

LNAPL remains a problem in several Southend sections despite the interim cleanup measures.

**Alternative 1 – Institutional controls:** This option would restrict direct contact with LNAPL in the ground water by preventing ground water usage and barring excavation in areas where LNAPL is present. **Cost - $15,000.**

**Alternative 2 – LNAPL extraction and institutional controls:** Under this alternative, as much LNAPL as possible would be collected from six new recovery wells in each section of the Southend with a LNAPL monitoring well. In addition, oil absorbing socks would be installed in existing monitoring wells to enhance extraction. The substance would then be collected and disposed of at an off-site facility. The same institutional controls as Alternative 1 would also be imposed. It is expected this system would operate for 30 years and if progress is not being made in reducing LNAPL levels then contingency measures would have to be implemented. **Cost - $4 million.**

**Alternative 3 – Steam-enhanced LNAPL extraction:** ***(EPA's preferred alternative)*** In this option, an underground network of steam injection and fluid extraction well fields would be installed in each of the LNAPL areas. Steam injected through these wells will strip the LNAPL that adheres to sub-surface soil and turn it into a more easily handled liquid phase. A vacuum system would remove the liquid, and then oil/water separation, air stripping and clay/carbon treatment would follow before disposal. This system should operate for two years. If LNAPL levels remain too high, institutional controls will be imposed or another treatment option tried. **Cost - $2.6 million.**

Long-term ground water monitoring at a **cost of $2.9 million** will also be performed under all options to measure the effectiveness of the cleanup steps and ensure continued compliance with Michigan criteria for the protection of the Flint River.

## Evaluation of alternatives

Each of the cleanup alternatives was evaluated against nine criteria listed in the box on the back page. All of the cleanup options would protect human health and the environment. On-site soil Alternative 1 is preferred because it does not require costly disposal of contaminated material and is easily implemented. Off-site soil Alternative 2 is preferred because no use restrictions or long-term maintenance or operation of cleanup equipment or controls would be required on the CSX property. LNAPL Alternative 3 is preferred because it quickly reduces the pollution mass and controls the movement of contaminated ground water. While LNAPL Alternative 2 has some short-term advantages because it is easier to install, it is much more costly than Alternative 3.

## Next steps

EPA in consultation with Michigan officials will evaluate public reaction to the preferred cleanup plans during the comment period and public meeting before deciding on a final choice. EPA's final decision document will be part of the public record and published in a local newspaper.

# EPA Proposes Cleanup Plan For Polluted Soil and Water

## Southend, Buick City Site
Flint, Mich.

Public Meeting: Feb. 18
Comment Period: Jan. 28 – Feb. 28

(details inside)

**Evaluation criteria**
The proposed cleanup alternatives discussed inside this fact sheet for the Buick City Southend were evaluated against these nine criteria:

1. **Overall protection (**determines whether the option protects human health and the environment by eliminating, reducing or controlling pollutants).
2. **Attaining cleanup standards.**
3. **Controlling pollutant releases.**
4. **Compliance with waste management standards** (disposal of the waste must meet state and federal regulations).
5. **Long-term effectiveness.**
6. **Reduction of toxicity, mobility or volume of contaminated waste.**
7. **Short-term effectiveness.**
8. **Implementability** (how easy can the cleanup option be installed given local conditions and suppliers).
9. **Cost.**

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SOUTHEND OF FORMER BUICK CITY SITE: EPA Proposes Cleanup Plan

United States
Environmental Protection
Agency
Region 5
Office of Public Affairs (P-19J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

## Use This Space to Write Your Comments

EPA is interested in your opinion about the proposed cleanup plan for the Buick City Southend site. You may use the space below to write your comments and submit at the Feb. 18, 2010, public meeting, or detach, fold, stamp and mail to EPA's Rafael P. Gonzalez. Comments must be postmarked by Feb. 28. If you have any questions, please contact Rafael directly at 312-886-0269, or toll free at 800-621-8431, 9:30 a.m. – 5:30 p.m., weekdays. Comments may also be faxed to 312-582-5865.

Name _____

Affiliation _____

Address _____

City _____ State _____ ZIP _____

**Buick City Southend Comment Sheet**

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Place
First
Class
Postage
Here

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