

# Remedial Investigation of the Lawrence Road Service Station



New Jersey Department of Environmental Protection  
(NJDEP) Remedial Investigation and Remedial Action Selection  
Term Contract A-73073



The Louis Berger Group, Inc.



The Township of Lawrence

# Goals and Objectives of the Investigation

- Confirm and delineate sources of contamination.
  - Assess groundwater quality and delineate groundwater contamination.
- Identify impacts to human receptors and ecological resources.

# Remedial Investigation of the Lawrence Road Service Station

- Site Location and History
- Nature and Extent of Contamination
- Remedial Investigation Activities



# Site Location and History

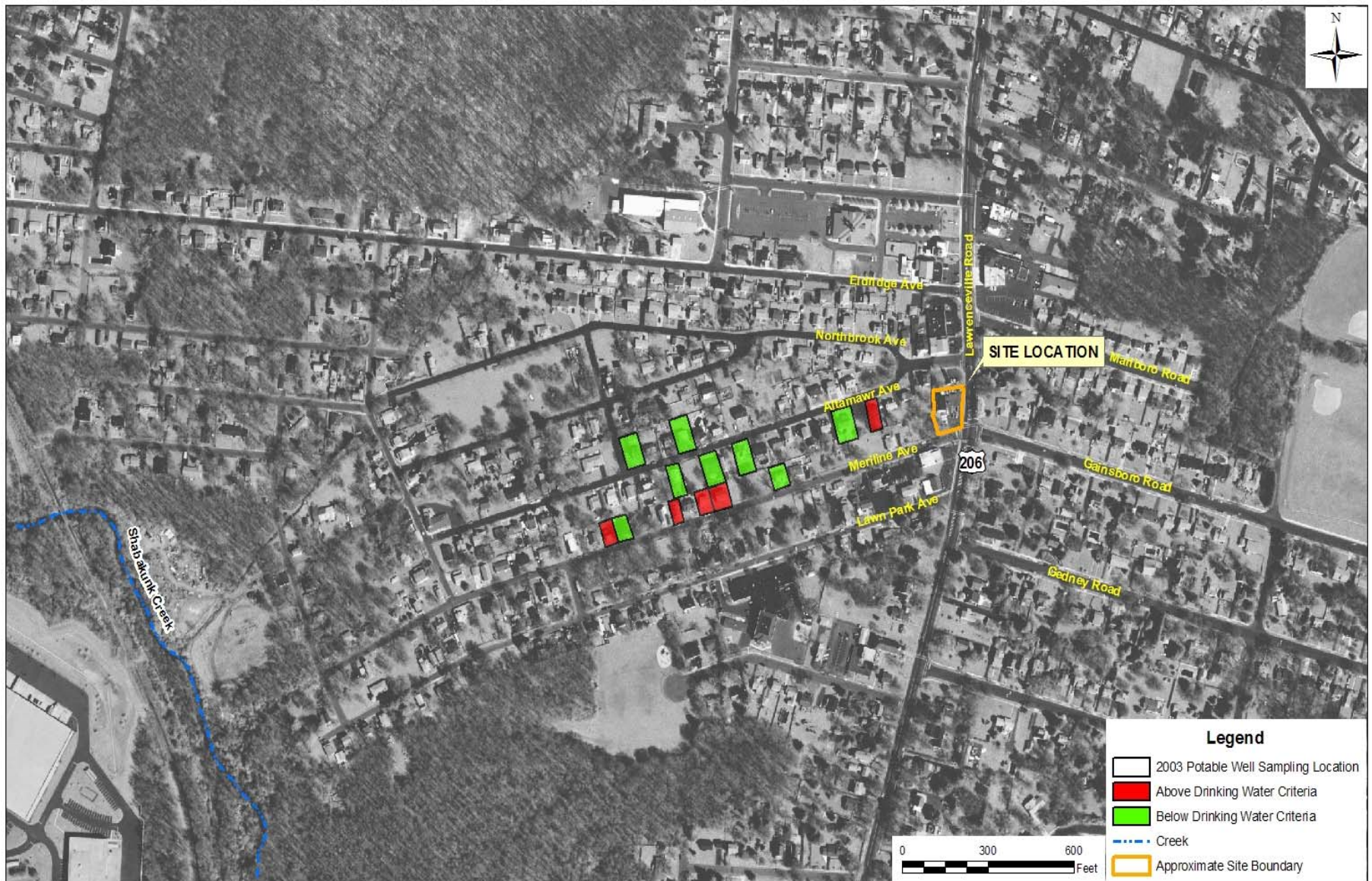
- Located at 1175 Lawrence Road, Lawrence Township, New Jersey.
  - Formerly known as:
    - Lawrence Road Service Station (Sunoco)
    - Pit Stop Service Center
- 1997 and 1998 - NJDEP Spill hotline was notified of multiple releases.
  - Owner was ordered to stop selling gasoline and begin investigations.
  - Owner stopped retail sale of gasoline; however no investigations were undertaken.



# Site Location and History

- 2003 - Residents complained of odors in the drinking water.
  - Lawrence Township sampled 13 potable wells in the vicinity of the Site.
    - Of the 13 residences sampled, 5 exhibited concentrations of MTBE above the drinking water criteria.
    - Those 5 homes were connected to municipal water.
    - Eight homes still utilize potable wells.





Potable Wells Sampled in 2003

# Site Location and History

- October 2003 - NJDEP issued directive to [former] Site owner to remove the onsite USTs and sample additional potable wells in the vicinity.
  - Owner did not comply; instead went into bankruptcy/foreclosure.
  - Lawrence Road LLC. acquired the Site in July 2005 and removed 7 USTs and 2,000 tons of petroleum-impacted soil in early 2006.
  - Petroleum impacted soil remains onsite.
  - Additional Investigation is warranted at the adjacent lots.



# Site Location and History

- 2006 & 2007 – NJDEP performed VI sampling
  - Indoor air samples (basement and first floor) were collected from 2 residences which had elevated potable well concentrations.
  - Air samples collected did not exhibit elevated concentrations for contaminants of concern.





# Nature and Extent of Contamination

- Likely source is the former leaking USTs at the Site.
  - UST leaked product that flowed vertically through soil to the shallow water table and then flowed with groundwater.
  - Product dissolves, but maintained high concentrations of contaminants.
  - Contaminants migrated horizontally and vertically with the shallow groundwater to deep ground water through fractures within the bedrock.
  - Previous pumping of wells helped draw contamination into bedrock (i.e. deep groundwater).



# Remedial Investigation Activities

- Public Notification
- Existing Monitoring Well Assessment, Repair and Sampling
  - Geophysical Investigation
  - Onsite Soil Investigation
  - Groundwater Investigation
- Surface Water and Sediment Investigation



# Remedial Investigation Activities

## ➤ Public Notification

- Sign at Site
- Letter and Fact Sheet to Residents

## ➤ Existing Monitoring Well Assessment, Repair and Sampling

- 5 Onsite Shallow Monitoring Wells



# Remedial Investigation Activities

## ➤ Geophysical Investigation

- Locate Potential USTs and Piping.
- Clear Proposed Soil Boring and Monitoring Well Locations.



# Remedial Investigation Activities

## ➤ Onsite Soil Investigation

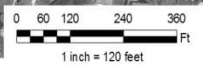
- Approximately 25 soil borings across the Site.
- Soil Samples collected for Full TCL/TAL analysis.
  - VOCs, SVOCs, Pesticides, PCBs, Metals and TPH.



# Remedial Investigation Activities

- Groundwater Investigation
  - Monitoring Well Installation
  - Initially 6 locations for well pairs.
    - Six Shallow Monitoring Wells.
    - Six Deep Monitoring Wells.
    - All locations will be in the street.





# Remedial Investigation Activities

- Shallow Monitoring Wells
  - Constructed to bridge first encountered water
- Deep Monitoring Wells
  - Borehole Drilling to 150 ft bgs.
  - Downhole Geophysics
  - Packer Testing (analysis includes: VOC, MTBE, TBA)
  - Well Construction









# Remedial Investigation Activities

- Groundwater Sampling
  - Two rounds – approximately 60 days apart.
  - 1st round approximately 14 days after well completion.
  - Sampling of all existing and new monitoring wells.
  - Analysis for VOC, MTBE and TBA.



# Remedial Investigation Activities

## ➤ Surface Water and Sediment Investigation

- Three Locations within Shabakunk Creek
  - Stream Gauge Installations
  - Surface Water Grab Samples
  - Sediment Grab Samples
  - Porewater PDB Samples
  - Analysis for VOC, MTBE and TBA

## ➤ Receptor Evaluation

- Well Search
- Ecological Evaluation



# Remedial Investigation Activities

## ➤ Reporting

- Final Reports will be made available the Township Clerk following NJDEP Review.

## ➤ Approximate Timeframe

- Well Assessment and Sampling = 1 week
- Surficial Geophysics = 1 week
- Onsite Soil Investigation = 1 week
- Initial Monitoring Well Installations = 1 1/2 months
- Monitoring Well Sampling & SW/SED Sampling = 1 week/event
- Site Survey = 1 week



# Remedial Investigation Activities

## ➤ Questions, Concerns and Inquiries

- NJDEP Bureau of Investigation, Design and Construction

- Gary Lipsius, Site Manager

609-984-0955

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- NJDEP Office of Community Relations

- Mindy Mumford

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