Bowman Gray Environmental Remediation Project

Community Meeting

12/15/2016
Presentation Outline

• Overview
• Landfill Background/History
• Pollutants of Concern
• Landfill Gas Remediation Strategy
• Materials Handling (Asbestos)
• Construction Schedule
• Post Construction Monitoring
• Questions
Overview

• WSSU and the City have partnered to conduct an environmental study.

• The environmental study examined groundwater, soil vapor and other environmental parameters on the 92 acre site surrounding Bowman Gray Stadium.

• The NCDENR Brownfields group is the regulatory oversight agency for the state.
Overview

- The site contains two closed landfills that were operated on the property in the past, and three other primarily construction debris waste areas.

- The southwest parking lot was the location for a Municipal Solid Waste (MSW) landfill in the 1950’s and 1960’s (unpermitted).

- The east lot was the location for a permitted construction and demolition debris landfill in the 1980’s.
Pollutants of Concern

Methane Gas:

• Methane is a Flammable Gas.
• Methane can be explosive at levels between 5 percent and 15 percent.
• Although it is non-toxic, methane is a "simple asphyxiant" because it can displace oxygen. Oxygen levels below 16 percent can be dangerous and levels below 10 percent can be deadly.
• From a Landfill Source, Methane Smells Like Trash (Methane only colorless and odorless when pure).

Hydrogen Sulfide:

• Also occurs with Landfill Gas.
• Has Rotten Egg odor.
• It is Toxic.
Pollutants of Concern

How can methane affect me in my home?

- Methane Can Move Underground Both in the Soil and in Utility Conduits.
- Methane Can Enter Structures Through Foundation Cracks or Utility Openings (Plumbing Lines, Electrical Conduits, Etc.)
- Methane Can Accumulate in Low Areas

Source: www.hicap.com
Subsurface Soil Gas Testing

- Soil Gas Probes around Southwest Parking Lot and East Parking Lot Have Greater than 5% Methane

- Soil Gas Probes in Right of Way on Gholson Avenue and Fitch Street Have Greater than 5% Methane.
Methane Detection Activities

Soil Vapor Detection Efforts.
Methane Detection Activities

Surface Emission Testing For Methane
Methane Surface Emission Testing

• **Surface emission testing of Bowman Gray Stadium and surrounding ~94 Acres was conducted.**

• **One surface crack in southwest parking lot was found with 5% methane emissions.**

• **Remainder of area and all buildings at Bowman Gray had no methane.**

• **Homes that have been scanned were found to be free of methane.**
Ongoing Activities
Treatment of Crack Releasing Methane
Methane Gas Remediation
Remediation System Components
(Interception Trench)
Remediation System Components
(Flare Station)
Remediation System Components
(Flare)
Southwest Lot Remediation
East Lot Remediation
Materials Handling

- Overall, waste will be sorted and placed in roll off containers (segregated into MSW waste, C&D waste, asbestos both friable and non-friable.

- The Hanes Mill Road Landfill will accept all of the waste (with exception of any hazardous materials found).

- Certified asbestos inspector will be onsite during excavation.
Methane Gas Remediation

- Contractor: SCS Field Services
- Consultant: Smith/Gardner
- City of Winston-Salem oversight.
- Work start date: January 2, 2017.
- Working Hours: Monday –Saturday (7:00am-5:30pm).
- Access through Williamson Street entrance until Diggs Blvd is completed.
- Sequence: contractor to start at the southwest lot and proceed to the east lot when complete.
Post Construction Monitoring

- After construction of the remediation systems is complete, the methane concentrations will be monitored.

- The system will be operated and maintained until methane is removed.
Acknowledgments

• Smith Gardner Inc. Raleigh N.C.
• USEPA (Vapor Intrusion Diagram)
• Duncklee and Dunham Cary N.C.
• Griffith Enterprises Inc. (Onsite images courtesy of Alan Griffith)

This presentation will be posted to:
http://www.cityofws.org/Departments/Stormwater-Erosion-Control