

# FINAL PLAN OF REMEDIAL ACTION



## Limestone Road Shopping Center Site Operable Unit (OU)-2

2060 Limestone Road  
Marshallton, New Castle County, Delaware

DNREC Project No. DE-1418

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This Final Plan of Remedial Action (Final Plan) for Operable Unit (OU-2) of the Site presents the Department of Natural Resources and Environmental Control's (DNREC's) determination that the cumulative groundwater risk to human health due to the contaminants is above DNREC's restricted use standard.

DNREC issued public notice of the Proposed Plan for Operable Unit (OU-2) of the Site on September 10, 2008 and opened a 20-day public comment period. The Proposed Plan requires:

- Placing an Environmental Covenant (EC), consistent with the Uniform Environmental Covenants Act (UECA) (Title 7, Del. Code Chapter 79, Subtitle II), on the property. The environmental covenant will include: limiting its use only to non-residential purposes; and prohibiting the installation of groundwater wells for drinking water purposes through implementation of a groundwater management zone (GMZ).
- Prohibiting any digging, drilling, excavating, grading, constructing, earth moving, or any other land disturbing activities on OU-2 at depths greater than two (2) feet including any repair, renovation or demolition of existing structures, except for work that addresses emergency and routine maintenance of utilities, without the prior written approval of the DNREC.
- Placing a groundwater management zone (GMZ) on the Site prohibiting the installation of any water wells or use of groundwater at the site without the prior written approval of DNREC.
- Developing an operation and maintenance (O&M) plan to monitor groundwater for a period of 3 years, at which time the GMZ may be removed or extended based on the groundwater sampling results.

The Proposed Plan also includes the location of additional information found on the DNREC web page and at the DNREC office on Lukens Drive in New Castle.

There were no comments or questions from the public regarding the proposed plan. Therefore, the Proposed Plan was adopted as the Final Plan (see attached).

**Approval:**

**This Final Plan meets the requirements of the Hazardous Substance Cleanup Act.**

  
Kathleen Stiller-Banning  
Division of Air and Waste Management

10/3/08  
Date



**PROPOSED PLAN OF REMEDIAL ACTION**  
Limestone Road Shopping Center Site  
Operable Unit (OU)-2  
Marshallton, New Castle County, Delaware  
DNREC Project No. DE-1418



September, 2008

Delaware Department of Natural Resources and Environmental Control  
Division of Air and Waste Management  
Site Investigation & Restoration Branch  
391 Lukens Drive  
New Castle, Delaware 19720

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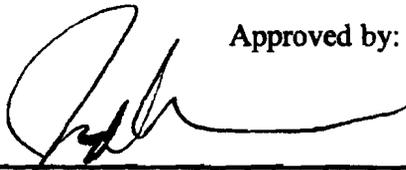
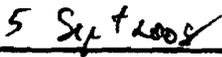
# PROPOSED PLAN OF REMEDIAL ACTION

Limestone Road Shopping Center Site  
Operable Unit (OU)-2  
Marshallton, New Castle County, Delaware  
DNREC Project No. DE-1418

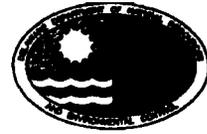


**Approval:**

This Proposed Plan meets the requirements of the Hazardous Substance Cleanup Act.

|   |              |
|---|--------------|
|  | Approved by: |
| <hr/>   |              |
| James D. Werner, Director<br>Division of Air & Waste Management                     |              |
|  | Date         |

Limestone Road Shopping  
Center Site Operable Unit (OU)-2



**What is the Limestone Road Shopping Center Site?** The Site is a certified Brownfield site which is currently a retail shopping center. The Site is located at 2060 Limestone Road in Marshallton, New Castle County, Delaware.

**What is Limestone Road Shopping Center Site Operable Unit (OU)-2?** OU-2 addresses the shallow and deep soil on the developed northern portion of the Site as well as the groundwater beneath both OU-1 and OU-2. OU-2 consists of a 10,644 square-foot building with seven (7) retail stores with current street addresses from 2070 Limestone Road through 2082 Limestone Road, which has operated a retail shopping center since 1958. A 1,008 square foot building, 2060 Limestone Road, was added to the central portion of the site in 1983 and demolished in 2008. Limestone Land Holdings LLC has constructed a 14,300 square-foot steel framed retail and office building and a 5,589 square-foot convenience store on OU-1. The location of the site and the existing retail center are depicted on Figures 1 and 2.

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| <p><b>Tax Parcel Numbers:</b> 08-044.30-072<br/><b>Address:</b> 2060 Limestone Road, Wilmington, Delaware 19802<br/><b>Nearest major intersection:</b> Limestone Road and Kirkwood Highway<br/><b>Area:</b> 4.67 acres<br/><b>Surrounding Property:</b> Surrounding land use is primarily commercial with some residential use.<br/><b>Zoning:</b> Commercial/Retail<br/><b>Site Utilities:</b> Water and sewer are provided to the property by Artesian Water Company. There are no known private or public wells within the vicinity of the site.<br/><b>Surface water:</b> The Calf Run Creek is located approximately 0.4 miles east of the site.<br/><b>Topography:</b> The site is approximately 80 feet above mean sea level and is relatively flat.<br/><b>Groundwater:</b> Shallow groundwater at the site flows in a south-southeast direction.</p> |
|---|

**What happened at the Limestone Road Shopping Center Site?** The northern portion of the site, which is being addressed as OU-2, has operated a retail shopping center since 1958. It is paved and is covered by a 10,644 square-foot building with several retail stores. A 1,008 square foot building was added to the central portion of the site in 1983 and demolished in 2008. Previous occupants of

the retail center included a dry cleaner, delicatessen, liquor store and a lawn mower repair shop. The southern and central portion of the Site, which has been previously addressed as OU-1, is currently undergoing additional commercial development. Limestone Holdings LLC has constructed a 14,300 square-foot steel framed retail and office building in the central portion of the site and plans to construct a 5,589 square-foot convenience store on the undeveloped southern portion of the site.

Previous assessments reported that Wampler's Dry Cleaners was located at 2082 Limestone Road between 1995 and 2003 at the northern end of the retail center. Contaminants of concern (COC) typically associated with this type of business include chlorinated solvents such as tetrachloroethene (PCE). PCE was found in the groundwater beneath the southern portion of the site during a Phase II assessment above applicable standards.

As part of the Brownfield Investigation, soil and groundwater samples were collected on OU-1 and OU-2. The soil samples on OU-1 contained only low levels of polycyclic aromatic hydrocarbons (PAHs) while the groundwater samples collected across the site contained elevated concentrations of PCE and trichloroethylene (TCE).

**What is the environmental problem at the 2060 Limestone Road Shopping Center Site OU-2?** Due to the historical use of the adjacent property as a dry cleaner, soil and groundwater were suspected to contain elevated concentrations of PCE. No volatile organic compounds (VOCs) were detected in soil above the laboratory detection limits. However, elevated concentrations of PCE and TCE were detected in groundwater beneath the OU-2, with lower concentrations detected in OU-1 groundwater. Based on the groundwater flow direction and on the groundwater concentrations, the source of the PCE and TCE appears to be upgradient. Vapor intrusion calculations indicated that the VOC concentrations do not exceed the screening criteria and no vapor intrusion risks are anticipated.

A Phase II Environmental Site Assessment (Phase II ESA) was performed at the site in June 2007. No compounds were detected above the laboratory detection limit in soil, but VOCs were detected in the groundwater at levels exceeding their respective DNREC Uniform Risk-Based Remediation Standards (URS) values.

A supplemental Brownfield Investigation (BFI) was performed at the site in April 2008. No VOCs were detected in the soil samples that were analyzed. Only benzo(a)pyrene was found to exceed the URS at one location in OU-1, which will be located under a future building. The cumulative groundwater risk to human health due to the contaminants is above DNREC's restricted use standard.

**What does the owner want to do at the Limestone Road Shopping Center Site?** Limestone Holdings, LLC has constructed a 14,300 square-foot steel-framed retail and office building and plans to construct a 5,580 square-foot convenience store on the OU-1 portion of the Site. The new buildings will consist of slab-on-grade construction and include asphalt-paved parking areas. There are currently no redevelopment plans for the existing retail shopping center. Upon completion of the construction on OU-1, the majority of the Site will remain covered by concrete slab and asphalt.

**What clean-up actions have been taken at the 2060 Limestone Road Shopping Center Site OU-2?** To date, no cleanup actions have been deemed necessary for OU-2.

**What additional clean-up actions are needed at the 2060 Limestone Road Shopping Center Site OU-2?** DNREC's Proposed Plan includes limiting the site use for non-residential purposes, prohibiting the use of groundwater at the site through implementation of a groundwater management zone (GMZ), and conducting groundwater monitoring for 3 years.

DNREC recommends the following remedial actions for OU-2:

1. Placing an Environmental Covenant (EC), consistent with the Uniform Environmental Covenants Act (UECA), on the property limiting its use only to non-residential purposes.
2. Prohibiting any digging, drilling, excavating, grading, constructing, earth moving, or any other land disturbing activities on OU-2 at depths greater than two (2) feet including any repair, renovation or demolition of existing structures, except for work that addresses emergency and routine maintenance of utilities, without the prior written approval of the DNREC.
3. Placing a groundwater management zone (GMZ) on the Site prohibiting the installation of any water wells or use of groundwater at the site without the prior written approval of DNREC.
4. Developing an operation and maintenance (O&M) plan to monitor groundwater for a period of 3 years, at which time the GMZ may be removed or extended based on the groundwater sampling results.

**What are the long term plans for the Limestone Road Shopping Center Site?** The future commercial use of the site will include a 2-story retail building, a 1-story convenience center and associated parking areas in addition to the existing

retail center. Preserving the coverage of the site with the building and pavement as well as maintaining the integrity of the parking area are the requirements for the site.

**What are the long term plans for the Site after the cleanup?** Limestone Land Holdings LLC has constructed a 14,300 square foot steel framed retail and office building on OU-1, the central portion of the site and plans to construct a 5,589 square foot convenience store on the undeveloped southern portion of the site.

DNREC plans to issue a Certificate of Completion of Remedy for the OU-2 after the completion of the proposed remedial action and the redevelopment of the property.

**How can I find additional information or comment on the Proposed Plan?**

The complete file on the site, including the Brownfields Investigation Report, is available at the DNREC office, 391 Lukens Drive in New Castle. Most documents are also found on:

<http://www.dnrec.state.de.us/dnrec2000/Divisions/AWM/sirb/>

The 20-day public comment period begins on Wednesday, September 10, 2008 and ends at close of business (4:30 pm) on Tuesday, September 30, 2008. Please send written comments to the DNREC office or call Mr. Robert Asreen, Project Manager, at 302-395-2600.

**Glossary of Terms  
Used in this Proposed Plan**

|   |   |
|---|---|
| <b>Brownfield</b>                       | Property that is vacant or underutilized because of the perception or presence of an environmental problem.   |
| <b>Certified Brownfield</b>             | A Brownfield that DNREC has determined is eligible for partial funding through the Delaware Brownfields Program.                                    |
| <b>Contaminant of Concern (COC)</b>     | These are potentially harmful substances at concentrations above acceptable levels (e.g., metals and PAH).  |
| <b>*Exposure</b>                        | Contact with a substance through inhalation, ingestion, or direct contact with the skin. Exposure may be short term (acute) or long term (chronic). |
| <b>Final Plan of Remedial Action</b>    | DNREC's proposal for cleaning up a hazardous site after it has been reviewed by the public and finalized.   |
| <b>Proposed Plan of Remedial Action</b> | A plan for cleaning up a hazardous site submitted by DNREC and subject to public comments.  |
| <b>Risk</b>                             | Likelihood or probability of injury, disease, or death.   |

## **What is a *Proposed Plan*?**

A Proposed Plan of Remedial Action (Proposed Plan) is a summary of how DNREC plans to clean up a contaminated site. A Final Plan of Remedial Action (Final Plan) is the adoption of the Proposed Plan, after all comments made by the public within the comment period of twenty days have been considered and addressed by DNREC.

The Delaware State Legislature passed the Hazardous Substance Cleanup Act (HSCA) in 1990. The Legislature made sure that members of the public would be informed about environmental problems in their own neighborhoods and have a chance to express their opinion concerning the clean up of those environmental problems before DNREC takes action.

After DNREC studies a site, it summarizes the problems there and proposes one or more possible solutions in a Proposed Plan. The Proposed Plan contains enough information to allow lay persons to understand the site. More detailed information can be found in the reports and documents approved by DNREC. All of the documents and reports created by DNREC or consultants during the course of the investigation of the site are available to the public at the offices of DNREC-SIRB or at DNREC's website:

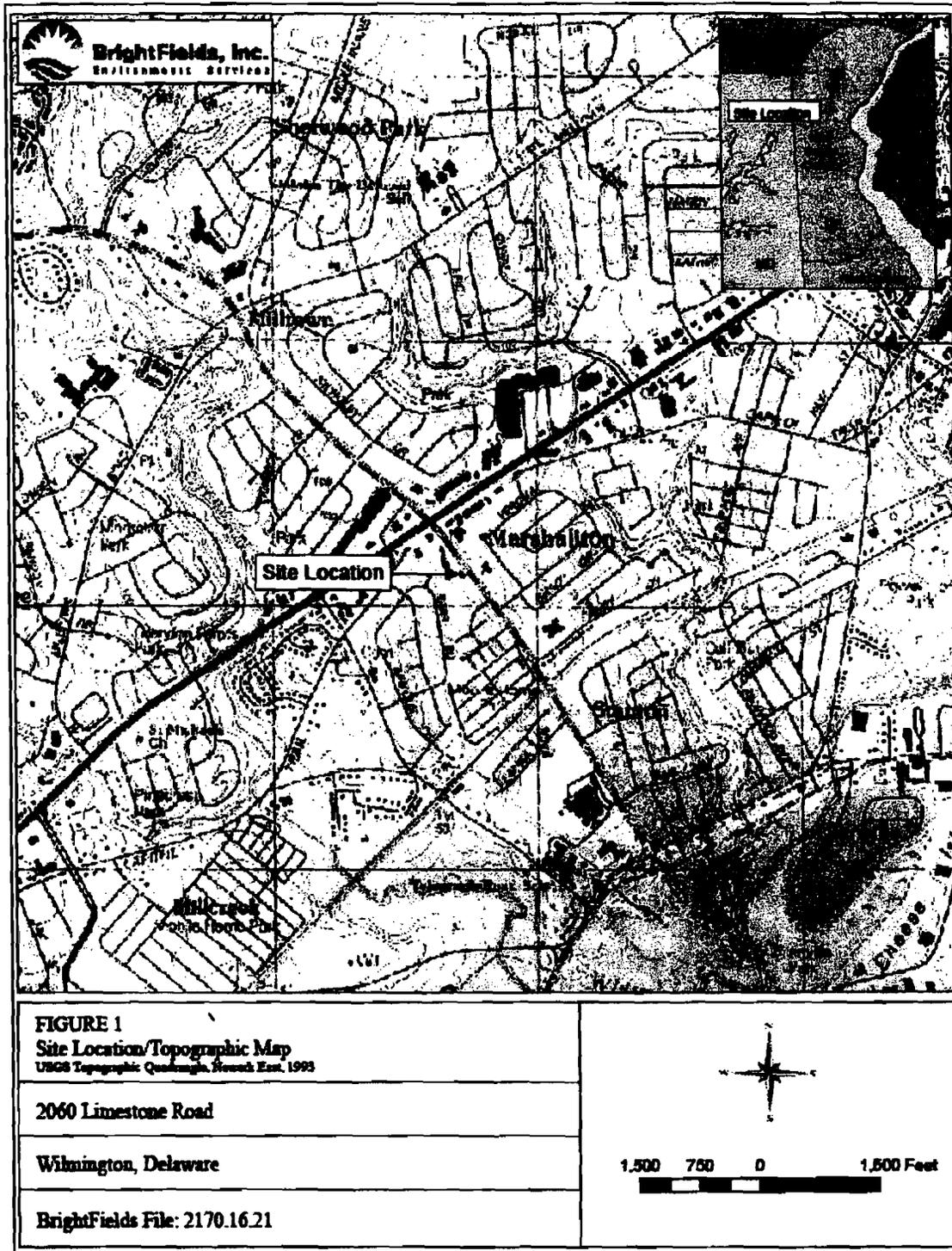
<http://www.dnrec.state.de.us/dnrec2000/Divisions/AWM/sirb/sitefiles.asp> .

DNREC issues the Proposed Plan by advertising it in at least one newspaper in the county where the site is located. The legal notices for the Proposed Plans and the Final Plans usually run on Wednesdays or Sundays in the legal classified section of the News Journal and/or the Delaware State News. The public comment period begins on the day (Wednesday), or the day after (Sunday) the newspaper publishes the legal notice for the Proposed Plan.

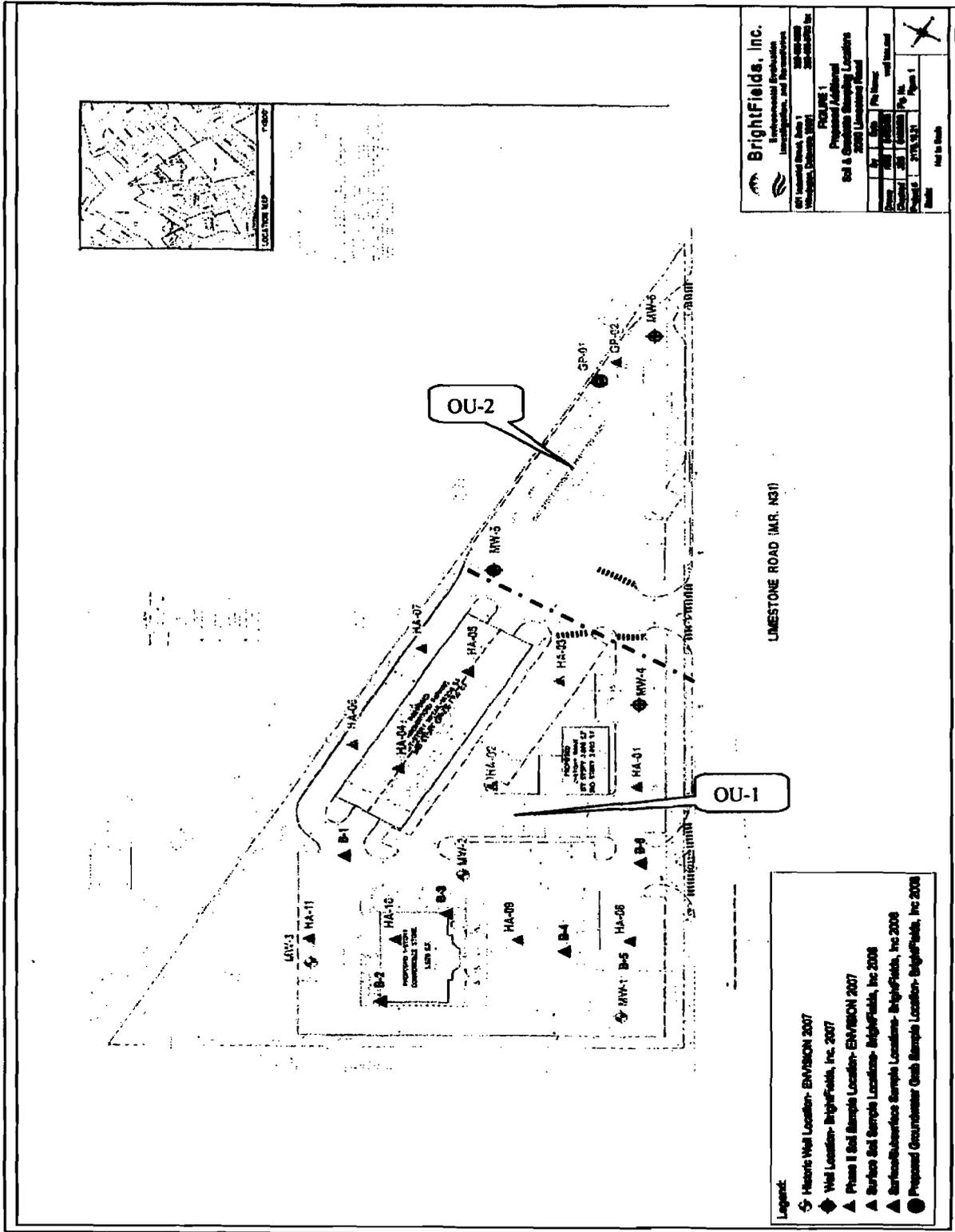
DNREC frequently holds public meetings during the comment period. Those meetings are usually held near the site in the evening. Citizens can request a public meeting if DNREC did not already schedule one.

Comments are collected at the public meetings, by phone or in writing. DNREC considers all comments and questions from the public before the Proposed Plan is finalized and adopted as a Final Plan.

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**Figure 1: Site Location Map**



**Figure 2: Sample Location Map**