PROPOSED PLAN OF REMEDIAL ACTION

Donovan Site
Sussex County, Delaware
DNREC Project No. DE-0151

March 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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Sussex County, Delaware
DNREC Project No. DE-0151

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

Approved by:

James D. Werner, Director
Division of Air & Waste Management

14 MAR 2008
Date

Donovan Site

What is the Donovan Site? The Donovan site is located on Old Orchard Road, southwest of Lewes, Sussex County, Delaware (Figure 1). It is currently a residential lot with stockpiles of solid wastes in their backyard (Figure 2). The site is a Certified Brownfield property, with a plan for residential townhome redevelopment. The current owner is Old Orchards Ventures, LLC (Old Orchard Ventures).

Tax Parcel Number: 3-35-8-25
Address: 16773 Old Orchard Road
Nearest major intersection: New Road
Area: 8 Acres
Surrounding Property: Surrounding land use is residential and agricultural. Railroad tracks are located near the southern property boundary.
Zoning: Residential
Site Utilities: On-site water and wastewater on a portion of the Site. Potable water is currently provided by an on-site supply well, screened in the Beaverdam Formation (60 to 70 feet below the ground surface). Redevelopment plans anticipates that public water and sewer services will be provided by the City of Lewes.
Surface water: Northeast property boundary abuts an unnamed tributary of Black Hog Gut.
Topography: Irregular due to historic stockpiling of soils and yard wastes.
Groundwater: Shallow groundwater flows toward north-northeast, toward the tributary of Black Hog Gut.

What happened at the Donovan Site? Aerial photograph and file review have indicated that the Donovan site was a former borrow pit historically utilized as a solid waste disposal area as early as 1961. Environmental investigations performed in 1986 indicated that the Site was also utilized as a wash-out pond for concrete trucks. Materials disposed at the Site included transformers, household appliances, junk cars and scrap metal. The transformers were removed from the Site and a portion of the Site was filled and graded for building a house. Stockpiles of yard wastes are currently present on major portion of the Site (Figure 3). Some scrap metals and junk cars remain on the northeast portion of the Site. Prior to 1961, the land use appeared to be for agricultural purposes.

What is the environmental problem at the Donovan Site? The solid waste disposal activities likely resulted in elevated concentrations of organic and metals compounds above the DNREC screening standard. However, the findings of the Brownfield Investigation and the risk assessment indicated that the limited extent of the impacted soil and groundwater at the Site do not pose an unacceptable risk to human health and the environment.

Duffield Associates, a HSCA certified consulting firm, conducted a Brownfield Investigation at the Donovan Site in December 2006 and January 2007. Groundwater, sediment, and soil were evaluated for indications of environmental concerns.

A limited number of organic compounds (mainly PAHs) and metals were detected at the Site surface soil at concentrations above the DNREC's Uniform Risk-based Standard (URS). PCBs were detected above the standard in a limited number of samples at the subsurface soil (between 8 and 18 feet below ground surface). A limited number of organic compounds (acetone, dieldrin, PCBs) and metals (aluminum, iron and manganese) were detected in the groundwater above the standard. However, PCBs and dieldrin in the groundwater were not detected in a second confirmatory sampling event. Arsenic was detected above the standard in sediments in the creek adjacent to the Site. Laboratory analysis of the soil samples did not detect arsenic above the standard; therefore, the Site does not appear to be contributing to the elevated arsenic concentrations in the sediment.

A human health risk assessment in accordance with HSCA was performed for the contaminants detected in the soil. Risk scenarios for residential use and construction worker exposure were evaluated. Calculations using reasonable maximum exposure concentrations derived using 95% upper confidence level of the arithmetic mean have indicated that the risks associated with the detected substances did not exceed DNREC's cleanup standard.

What does the owner want to do at the Donovan Site? The owner of the property, Old Orchard Ventures, plans to redevelop the Site for the construction of town homes (future residential use, Figure 4). Redevelopment is planned for the spring/summer of 2009. Until fall 2008, Old Orchard Ventures plans to use the Property as a field office and storage yard to support their construction operations in the area (interim commercial use) upon completion of the proposed remedial actions. Old Orchard Ventures will obtain all the applicable permits before proceeding with any construction work.

What clean-up actions are needed at the former Donovan Site?

Analytical results have indicated that shallow groundwater may not be suitable for future use as a source of potable water. Therefore, the use of the groundwater from the Site will be prevented. In addition, Old Orchard Ventures will prepare a plan to properly manage soil and groundwater at the Site during construction.

The following cleanup actions are proposed for the site:

1. Implementation of a groundwater management zone (GMZ) that prevents groundwater withdrawals at the property.
2. Implement action of a groundwater monitoring program to evaluate presence of detected contaminants and changes in their concentrations through time. After one year of the monitoring period, the groundwater results will be assessed and recommendations will be made for the monitoring program and the necessity of the GMZ.
3. Implementation of an environmental covenant consistent with Delaware's Uniform

Environmental Covenants Act (Title 7, Del. Code Chapter 79, Subtitle II) by the site owner. The covenant will prohibit potable use of the groundwater in accordance with the GMZ.

4. Implementation of a DNREC approved Contaminated Material Management Plan to properly manage subsurface soil and groundwater during construction.

What are the long term plans for the Site after the cleanup? The long-term plan for the Site includes residential development. After the cleanup actions are completed, the site will be eligible for obtaining a Certificate of Completion of Remedy. Current and future owners of the property, as well as any owner of the subsequent sub-parcels, will be responsible for implementing and maintaining all aspects and cost associated with the approved remedy.

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

The complete file on the Site including the Brownfields Investigation 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 March 19, 2008 and ends at close of business (4:30 pm) on April 7, 2008. Please send written comments to the DNREC office or call Wilmer Reyes, Project Manager, at 302-395-2600.

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Glossary of Terms
Used in this Proposed Plan

Brownfield	Property that is vacant or underutilized because of the perception or presence of an environmental problem.
Certified Brownfield	A brownfield that DNREC has determined is eligible for partial funding through the Delaware Brownfields Program.
Contaminant of Concern (COC)	These are potentially harmful substances at concentrations above acceptable levels (e.g., metals and PAH).
Certificate of Completion of Remedy (COCR)	A formal determination by the Secretary of DNREC that remedial activities required by the Final Plan of Remedial Action have been completed.
***Exposure**	Contact with a substance through inhalation, ingestion, or direct contact with the skin. Exposure may be short term (acute) or long term (chronic).
Final Plan of Remedial Action	DNREC's proposal for cleaning up a hazardous site after it has been reviewed by the public and finalized.
Hazardous Substance Cleanup Act (HSCA)	Delaware Code Title 7, Chapter 91. The law that enables DNREC to identify parties responsible for hazardous substances releases and requires cleanup with oversight of the Department.
Human Health Risk Assessment (HHRA)	An assessment done to characterize the potential human health risk associated with exposure* to site related chemicals.
PAHs	Polycyclic aromatic hydrocarbons are chemical organic compounds primarily formed by incomplete combustion of carbon-containing fuels that are widely spread as an organic contaminant.
PCBs	Polychlorinated biphenyls are a class of organic compounds heavily produced in response to the electrical industry (transformers and capacitors). PCBs are very persistent and can bioaccumulate in animals.
Proposed Plan of Remedial Action	A plan for cleaning up a hazardous site submitted by DNREC and subject to public comments.
Risk	Likelihood or probability of injury, disease, or death.
Risk Assessment Guidance for Superfund (RAGS)	An EPA guidance document for superfund sites
Site Specific Assessment (SSA) and Site Inspection (SI)	Environmental studies of a site including sampling of soils, groundwater, surface water, sediment and/or wastes on the property.

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.

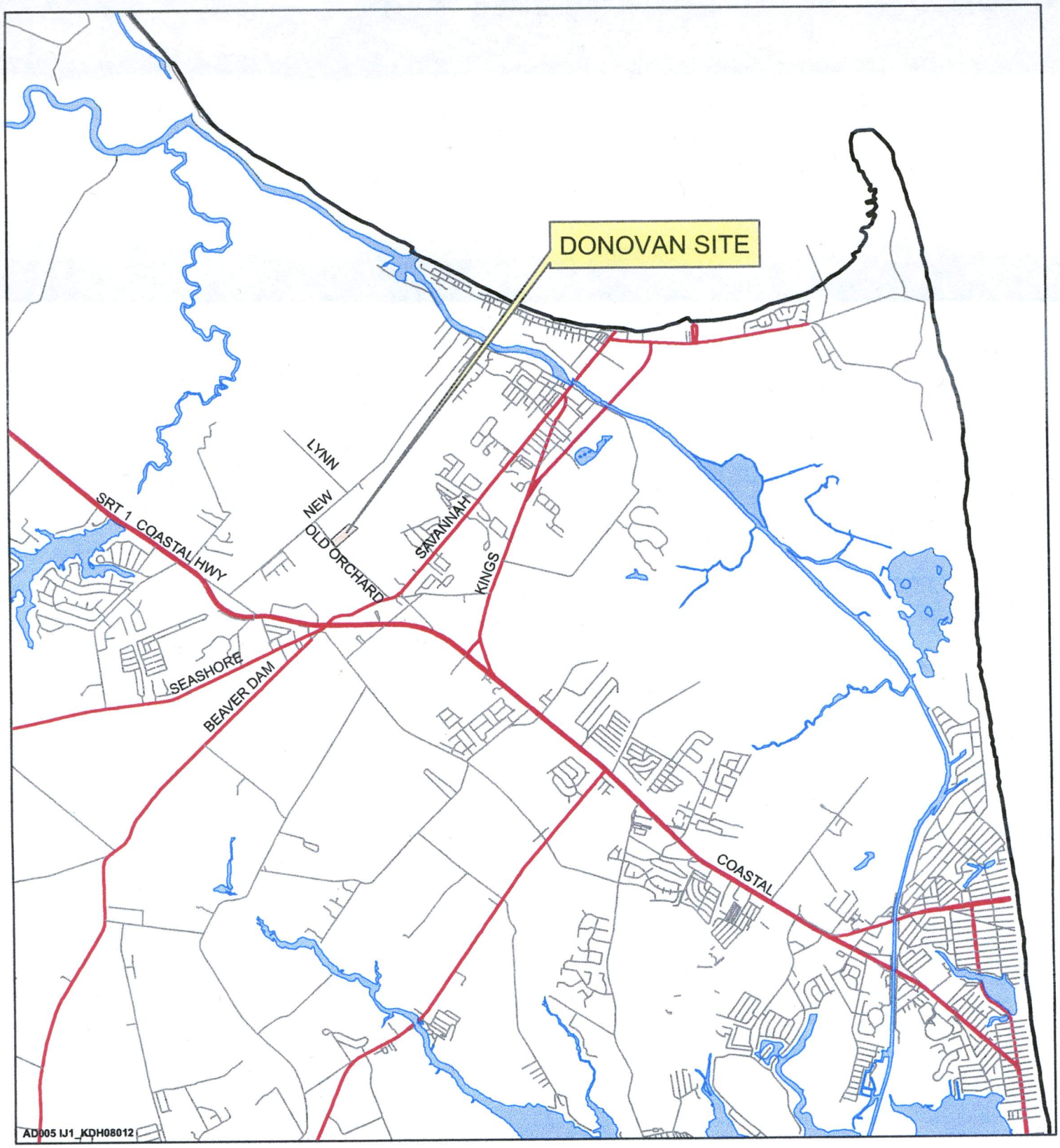
After DNREC studies a site, it summarizes the problems there and proposes one or more possible solutions in a Proposed Plan. The Proposed Plan contains enough information to allow lay persons to understand the site. More detailed information can be found in the reports and documents approved by DNREC. 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.



1 inch equals 1 miles

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DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

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391 Lukens Dr.,
New Castle, DE 19720
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FIGURE 1
DONOVAN
SITE LOCATION MAP

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February 2008

1 inch equals 250 feet

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FIGURE 2
DONOVAN SITE
2007 AERIAL

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FIGURE 3. PHOTOGRAPH OF STOCKPILE YARD WASTES

BAKER / LEWES PROPERTY
LEWES, DE
2006165.00 / 07.09.07

BECKER MORGAN GROUP
ARCHITECTURE ENGINEERING

FIGURE 4. PROPOSED REDEVELOPMENT SKETCH.