FINAL PLAN OF REMEDIAL ACTION

FORMER GREENWOOD SERVICE STATION

12313 Sussex Highway *April 2016*
Greenwood, Delaware *DNREC Project No. DE-1619*

This Final Plan of Remedial Action (Final Plan) presents clean-up actions required by the Department of Natural Resources and Environmental Control (DNREC) to address environmental contamination at the Former Greenwood Service Station.

DNREC issued public notice of the Proposed Plan of Remedial Action (Proposed Plan) for the Site on March 20, 2016 and opened a 20-day public comment period. The Proposed Plan is attached. There were no comments from the public; therefore, the Proposed Plan is adopted as the Final Plan.

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

Timothy T. Ratsep, Program Administrator
Site Investigation and Restoration Section

April 13, 2016
Date

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PROPOSED PLAN OF REMEDIAL ACTION

Former Greenwood Service Station
Greenwood, Delaware
DNREC Project No. DE-1619

March 2016

Delaware Department of Natural Resources and Environmental Control
Division of Waste and Hazardous Substances
Site Investigation & Restoration Section
391 Lukens Drive
New Castle, Delaware 19720

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PROPOSED PLAN OF REMEDIAL ACTION

Former Greenwood Service Station
Greenwood, Delaware
DNREC Project No. DE-1619

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

Approved by:

Timothy Ratsep, Environmental Program Administrator
Site Investigation & Restoration Section

March 15, 2016
Date

What is the Proposed Plan of Remedial Action?

The Proposed Plan of Remedial Action (Proposed Plan) summarizes the clean-up (remedial) actions that are being proposed to address contamination found at the Site for public comment. A legal notice is published in the newspaper for a 20-day comment period. DNREC considers and addresses all public comments received and publishes a Final Plan of Remedial Action (Final Plan) for the Site.

What is the Former Greenwood Service Center?

The Former Greenwood Service Center site is located at 12313 Sussex Highway in Greenwood, Delaware and consists of one approximately 4.65- acre tax parcel (Figure 1). The Site consists of one commercial building, one trailer residence, and a shed. The commercial building was formerly an automotive service center and gas station. The ground cover is asphalt paving, gravel, or grass.

The Site is surrounded by residences/commercial properties and farmland (Figure 2).

What happened at the Former Greenwood Service Center?

Former Greenwood Service Station operated as a filling station and service center from the late 1950s to 1997. From 1997 to 2015, the property was used as parking lot and furniture store/flea market. Petroleum contamination has occurred due to releases from underground storage tanks (USTs).

What is the environmental problem at the Former Greenwood Service Center?

Petroleum contamination, which impacted the soil and groundwater at the Site, was discovered in 1990 from UST releases. Since the release occurred from a UST, the DNREC Tank Management Section (TMS) was responsible for investigating and remediating the Site at that time. Numerous investigation and remedial actions (see discussion below) were implemented. Following four (4) quarters of groundwater monitoring, which demonstrated that the contamination was decreasing, DNREC-TMS issued a No Further Action (NFA) letter for the Site in July 2002.

In October 2015, a Brownfield Investigation was conducted. Surface soil was not impacted. Subsurface soil was impacted by ethylbenzene, xylenes, 2-methylnaphthalene, and cyanide but did not present a risk under residential, construction or commercial use scenarios.

Groundwater was impacted by benzene, ethylbenzene, isopropylbenzene, tetrachloroethene, toluene, xylenes, 1,1'-biphenyl, 2-methylnaphthalene, naphthalene, iron and manganese.

Indoor air had elevated levels of benzene, carbon tetrachloride and naphthalene. Benzene was detected in the outside air at the same concentration as the inside air while carbon tetrachloride was not detected in soil or groundwater at the Site. Naphthalene was the only compound in the indoor air that was determined to be site related. There was no risk to the indoor air.

Drinking the Site unconfined (or shallow) groundwater does present a risk for a potential resident. However the on-Site drinking water well is screened in a confined drinking water aquifer which is not contaminated so there is no risk to drinking this well water. In addition, a comparison of the groundwater data from 2002 to the 2015 data indicates that the groundwater contamination has decreased and it is not moving offsite.

What clean-up actions have been taken at the Former Greenwood Service Center?

In 1993, a pump and treat groundwater system and a soil vapor extraction system (SVE) were installed. In 1999, contaminated soil was excavated from the Site to accelerate the cleanup and air sparging was added to the SVE system. A double-cased drinking water well was installed into a confined drinking water aquifer to replace the shallow drinking water well.

What does the owner want to do at the Former Greenwood Service Center?

The developer is planning to re-develop the property into an auto repair center.

What additional clean-up actions are needed at the Former Greenwood Service Center?

DNREC proposes the following remedial actions for the Site, which need to be completed before a Certificate of Completion of Remedy (COCR) can be issued.

1) A Remedial Action Work Plan to remove an out of service heating fuel underground storage tank must be submitted to DNREC for approval within 60 days of the issuance of the Final Plan of Remedial Action.

2) An Environmental Covenant, consistent with Delaware's Uniform Environmental Covenants Act (7 Del.C. Chapter 79, Subchapter II) must be recorded in the Office of the Sussex County Recorder of Deeds within 60 days of the issuance of the Final Plan of Remedial Action. The Environmental Covenant must include the following activity and/or use restrictions:

    [a.] Limitation of Groundwater Withdrawal. No shallow groundwater wells shall be installed in the unconfined aquifer and no shallow groundwater shall be withdrawn from any well screened within the unconfined aquifer on the Property without the prior written approval of DNREC-SIRS and DNREC Division of Water;

    [b.] Compliance with the Long Term Stewardship Plan. All work required by the Long Term Stewardship Plan must be performed to DNREC's satisfaction in accordance with the Plan.

3) A Long-Term Stewardship (LTS) Plan shall be submitted to DNREC for approval in accordance with the schedule set forth in the approved Remedial Action Work Plan. The LTS plan will detail: 1) Semi-annual groundwater sampling of wells MW01, MW03 and MW04 for two years; and 2) collection of one additional indoor air samples during the heating season to confirm the BRI. The remedy will be re-evaluated based on the results of the LTS monitoring.

4) The LTS Plan must be implemented within 60 days of its approval by DNREC.

5) Remedial Action Completion Report must be submitted to DNREC within 60 days of the completion of the remedial actions required in this Proposed Plan.

6) A request for a Certification of Completion of Remedy (COCR) must be submitted to DNREC within 60 days of approval of the Remedial Action Completion Report.

What are the long term plans for the Site after the cleanup?

DNREC will establish restrictions at the Site to control well installation and shallow groundwater use without DNREC approval. Consultant will monitor the groundwater to ensure that the contamination does not move offsite and monitor the indoor air to confirm the results of the Brownfield Investigation.

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

The complete file on the Site including the Brownfield Investigation Report and the various reports are available at the DNREC office, 391 Lukens Drive in New Castle, 19720. Most documents are also found on:

http://www.nav.dnrec.delaware.gov/DEN3/

The 20-day public comment period begins on March 20, 2016 and ends at close of business (4:30 pm) on April 8, 2016. Please send written comments to the DNREC office at 391 Lukens Drive, New Castle, DE 19720 to Rick Galloway, Project Officer or Robert Newsome, Public Information Officer.

Figure 1: Site Location Map
Figure 2: Site Map

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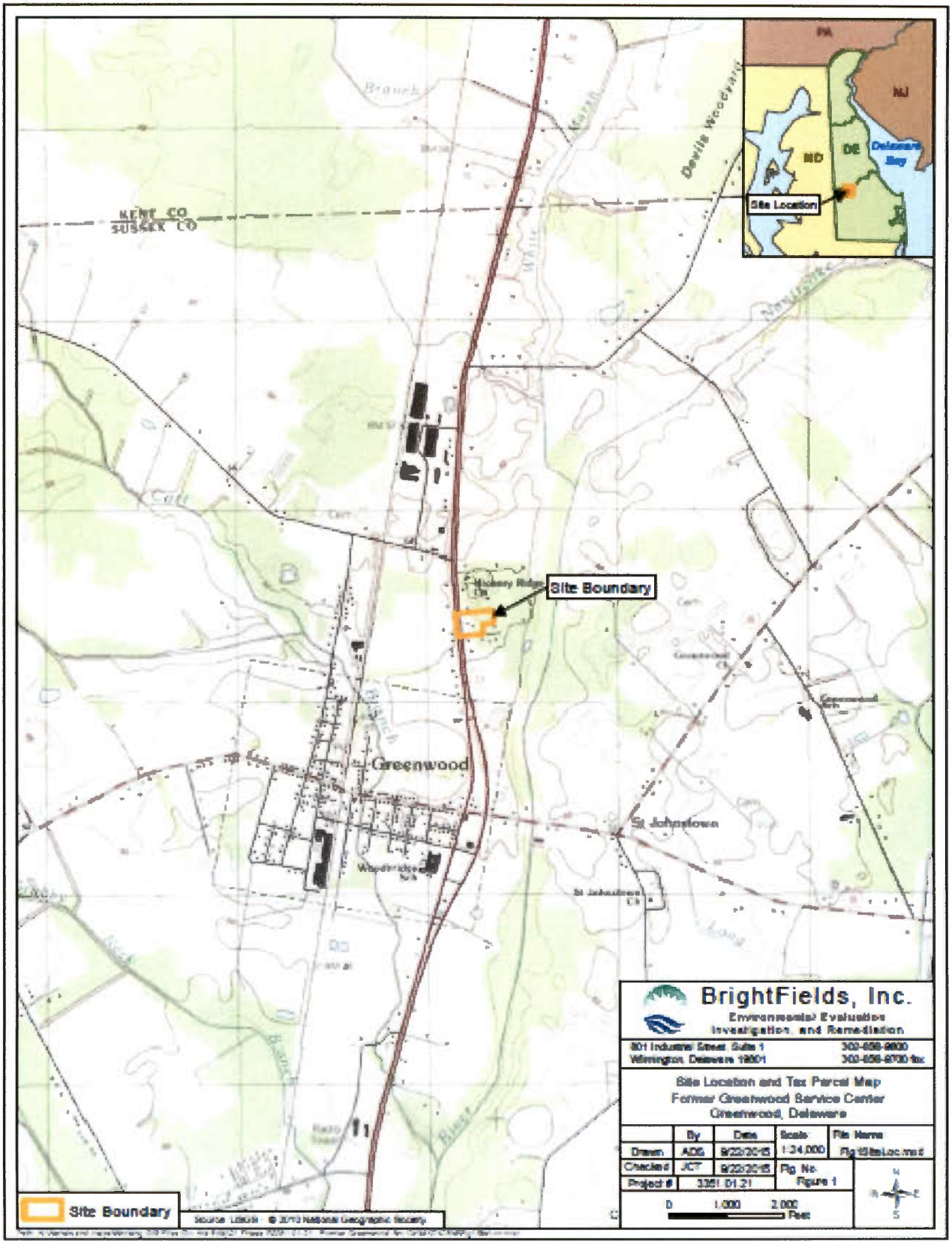

Figure 1: Site Location Map

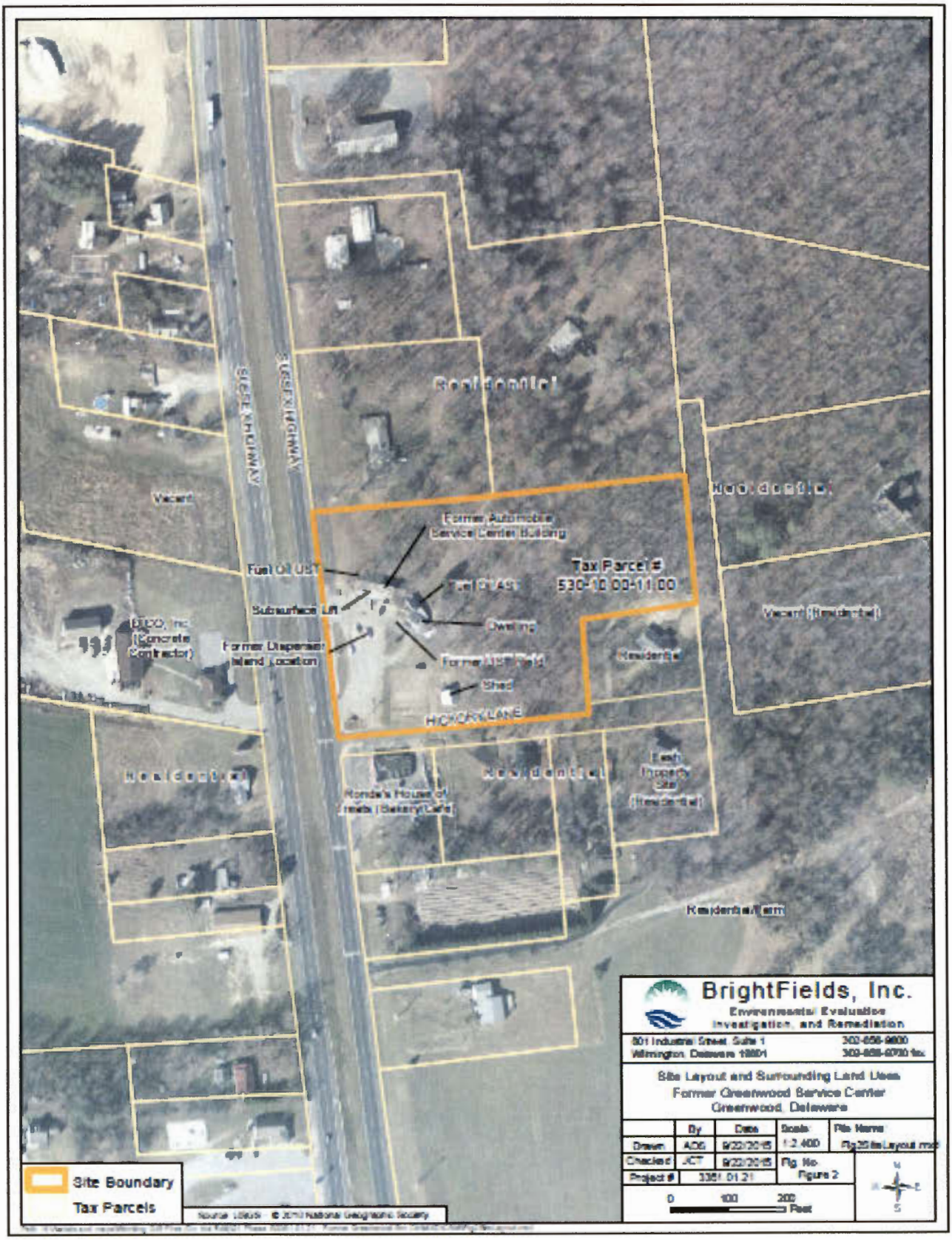

Figure 2: Site Map

Glossary of Terms Used in this Proposed Plan

Air Sparging	The subsurface contaminant remediation technique involves the injection of pressurized air into contaminated groundwater causing petroleum hydrocarbons in the groundwater to change into vapors. The vapors are then sent to the vacuum extraction systems to remove the contaminants.
Certification 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.
Contaminant of Concern (COC)	Potentially harmful substances at concentrations above acceptable levels.
Environmental Covenant	A document added to a deed to restrict use of the property due to environmental contamination to protect human health or the environment.
Final Plan of Remedial Action	DNREC's adopted plan for cleaning up a hazardous site.
Restricted Use	Commercial or Industrial setting
SIRS	Site Investigation Restoration Section of DNREC, which oversees cleanup of sites that were contaminated as a result of past use, from dry cleaners to chemical companies
Soil Vapor Extraction System	Removal of soil vapors from below the ground using vacuum pumps to clean up soil.
Long-Term Stewardship Plan	A plan to monitor Site conditions to ensure that environmental cleanup remedies remain effective.