

# Exhibit F

## Phase I Environmental Site Assessment

# **Shanahan Consulting**

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**PHASE I  
ENVIRONMENTAL SITE ASSESSMENT  
OF  
1 WILLIAMS CROSSING ROAD  
Lebanon & Franklin, Connecticut**

**OCTOBER 2013**

Prepared for:

Northeast Wood Products, LLC  
c/o Rome McGuigan  
Hartford, Connecticut

Prepared by:

Shanahan Consulting  
Farmington, Connecticut  
Document No. 1325R01.WPD

## SIGNATURE OF ASSESSOR

This assessment was performed by the individual whose signature appears below. Questions regarding this report should be directed to this person.



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Edward W. [Ned] Shanahan, LEP  
Senior Scientist

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## QUALIFICATIONS OF ASSESSOR

Edward W. Shanahan has over 30 years experience as an environmental consultant, including more than 20 years focusing on site assessments and related studies in Connecticut. Mr. Shanahan has evaluated environmental conditions on hundreds of properties, ranging from undeveloped lots to complex industrial facilities. For six years, he managed the completion of site assessments at Haley & Aldrich Inc. (1986-89) and Ground Water, Inc. (1989-92). In December 1992, he founded Shanahan Consulting, a firm specializing in site assessments and reviews of site assessments.

Mr. Shanahan received a Bachelor of Science degree with distinction in Civil & Environmental Engineering from Cornell University in 1973 and a Master of Science degree in Environmental Earth Sciences from Stanford University in 1974.

Mr. Shanahan is a Licensed Environmental Professional [LEP] in the State of Connecticut.

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## AAI DECLARATIONS

Shanahan Consulting declares that, to the best of our professional knowledge and belief, Edward W. Shanahan meets the definition of Environmental Professional as defined in Part 312.10 of this part [40 CFR Part 312 (the federal CERCLA specifications for All Appropriate Inquiries)].

Edward W. Shanahan has the specific qualifications based on education, training, and experience to assess properties of the nature, history, and setting of the subject properties. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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## **FIGURES**

**Figure 1 - Site Location Map**

**Figure 2 - Site Plan**

## **APPENDICES**

**Appendix A - DEEP Policy on the Development of Former Agricultural Lands**

## I. SUMMARY

Our assessment of 1 Williams Crossing Road in the Towns of Lebanon and Franklin did not encounter evidence of spills of petroleum products or hazardous substances on site.

We recommend the excavation and removal of an inactive underground heating oil tank outside the residence. Soil samples collected in the grave of the tank should be tested in a laboratory to evaluate whether the tank has leaked. If soil contamination is detected, then we recommend the excavation and removal of contaminated soils with the goal of meeting remediation criteria established in the Connecticut Remediation Standard Regulations [RSR].

We recommend the testing of surficial soil samples in a former orchard area on the site to evaluate whether residues of persistent pesticides are present in soil. Connecticut Department of Energy & Environmental Protection guidelines provide for various methods to address the presence of pesticides on former agricultural land being developed including the placement of contaminated soil under buildings and parking lots or the mixing of contaminated soil with "clean" soils to reduce pesticide concentrations.

We recommend the testing of water samples collected from the two site supply wells for standard potability parameters and for VOCs [volatile organic compounds].

The site has been occupied by a farm/residence since at least 1860. Farming operations have included an egg farm, an orchard, and row crops. The site does not appear to be regulated as an "establishment" under the Connecticut Transfer Act [CGS 22a-134].

Ground water is classified "GA" (regulated as meeting drinking water quality criteria). Public water is not available on Williams Crossing Road adjacent to the site and the site uses two supply wells for water supply purposes. Public water is reportedly present on Route 32 in the Town of Windham to the north.

We did not identify reports of spills or contamination on off-site properties that appeared to pose a significant risk of ground water contamination on site.

The work scope completed for this assessment included: a review of historical maps, city directories, and aerial photographs; a review of municipal records; a review of the files of the Connecticut Department of Energy & Environmental Protection; a review of environmental databases; an interview with the site owner; and a visit to the site to view surface conditions.

## II. INTRODUCTION

### A. Purpose

The purpose of this Phase I Environmental Site Assessment is to evaluate the likelihood of subsurface contamination involving petroleum products or hazardous substances on site in connection with the proposed transfer of the site.

### B. Location

The site is located in the Towns of Lebanon and Franklin near the southern border of the Town of Windham. Refer to Figure 1 for site location. Due to constraints of scale, Figure 1 does not delineate a narrow railroad property that is not part of the site, but is bordered on the west and east by site land.

### C. Scope of Work

The following tasks were performed for this assessment:

1. A review of aerial photographs, historical maps, and city directories.
2. A review of several Federal and State environmental databases listing known or suspected sources of subsurface contamination.
3. A review of selected files at the Connecticut Department of Energy & Environmental Protection [DEEP].
4. Contacts with several offices of the Towns of Lebanon and Franklin.
5. An interview with the site owner.
6. A review of hydrogeologic data for the area.
7. A visit to the site to view surface conditions.

The work scope did not include the chemical testing of soil or water samples. Shanahan Consulting did not encounter previous environmental assessment reports concerning the site.

### III. SITE CONDITIONS

#### A. Land and Buildings

The approximately 44-acre site includes the following parcels of land: (1) Lot 19 on assessor's maps 218 & 232 in the Town of Lebanon and using an address of 1 Williams Crossing Road and (2) Lots 1 & 2 on Map 3 in the Town of Franklin. We have elected to refer to the three parcels as 1 Williams Crossing Road in Lebanon and Franklin in this report.

Lot 19 in Lebanon includes a residence (erected in circa 1860), a garage with upstairs apartment (apparently erected in the 1950s), and a chicken coop (apparently erected in the 1950s or 1960s with an addition in 1987).

Former buildings on Lot 19 have included: (1) a small chicken coop located west of the residence (erected between 1934 and 1951 and collapsed in the mid 2000s) and (2) two former barns southwest of the residence (both erected before 1934 with the barn closer to residence torn down in the late 1990s and the one farther from residence torn down in the 1980s).

We identified no current or former buildings on the two Franklin lots.

The ground surface on site generally slopes downward from west to east.

#### B. Abutting Properties

Nearby properties exhibit a mix of residential, commercial, and undeveloped uses. The site is bordered as follows: (1) on the west by a residence on Williams Crossing Road and by undeveloped land; (2) on the south by Uncas Gas at 906 Route 32 in Franklin and by undeveloped land; (3) on the east by Route 32 (and across Route 32 by Franklin Mushroom Farms at 931 Route 32 in Franklin); and (4) on the northeast by Williams Crossing Road (and across the road by Route 32, a residence at 4 Windham Road in Lebanon, and by residences on Williams Crossing Road).

New England Central Railroad owns an approximately 40-foot-wide corridor including active railroad tracks on the eastern part of the site in the Town of Franklin.

#### C. Utilities

Public water and public sanitary sewer are reportedly not available on Williams Crossing Road and the site uses two supply wells (one at the residence and a second at the chicken coop) and two septic systems (one at the residence and one at the garage).

The site owner reported that public water is available on Route 32 in Windham at a location several hundred feet north of the site.

The bedrock supply well at the chicken coop is reported to be 325 feet deep (according to a note seen on the wall near the well water tank). The well serving the residence is reported to be a bedrock well of unknown depth.

We encountered no data on the wells or septic systems in files at Lebanon Town Hall. We visited the offices of Depot Pump & Supply of Franklin, a business that had reportedly serviced the supply well at the residence, but an employee provided no data on the well.

The residence and the garage are heated by heating oil stored in separate aboveground tanks in each building. The chicken coop was heated by propane gas when it operated.

#### **D. Observations During Site Visit**

Ned Shanahan of Shanahan Consulting visited the site on 15 October 2013 accompanied by David Mieczynski of DSD Cedar Hill LLC [site owner] and by Bruno Hayn [an agent for the potential site purchaser].

##### **1. Interior Observations**

The basement of the residence included a 275-gallon aboveground heating oil tank. No spills were noted from the tank. A filter at one end of the tank had apparently been leaking as marked by the presence of oil in a plastic bucket below the filter. Oil was not observed on the dirt floor near the filter or tank. A well water storage tank was present in the basement and was connected to the well located west of the building under a wooden board.

A 275-gallon aboveground heating oil tank was observed on the ground floor of the garage. No leakage was seen from the tank. Ned Shanahan did not observe petroleum products, chemicals, or floor drains in the garage.

The chicken coop was not in use. A well water tank was reportedly connected to a supply well located a short distance west of the building in an overgrown area. Numerous floor drains were seen in the coop. The site owner reported that the drains had discharged to a depression located east of the coop.

With the exception of the two aboveground heating oil tanks, Ned Shanahan did not observe petroleum products or chemicals in the site buildings.

##### **2. Outdoor Conditions**

The site is occupied by the three buildings, a gravel driveway, corn fields, woods, and overgrown land. Trees had reportedly been removed from the southern end of the site as a source of wood.

Ned Shanahan observed no remnant fruit trees in the area of an old orchard seen on 1951 aerial photographs south of the residence.

The fill pipe for the inactive underground heating oil tank was visible above the ground surface east of the residence. No oil stains were seen on the unpaved ground at the fill pipe.

A one or two-gallon plastic container of possible gasoline or kerosene was seen west of the house. No sign of leakage was seen at the container location.

Ned Shanahan walked on numerous paths on the site, along the railroad tracks that run through the eastern part of the site (the railroad track corridor is off site), and around the exteriors of the site buildings. Some portions of the site were heavily overgrown with vegetation which hindered observations of the ground surface.

Ned Shanahan did not observe evidence of spills of petroleum products or hazardous substances on the site. The underground tank fill pipe outside the house was the only evidence of underground tanks seen on site.

#### **E. Geology**

The published Surficial Materials Map of Connecticut shows the eastern edge of the site to be covered by sand and gravel, while the bulk of the site is covered with glacial till.

The published Bedrock Geological Map of Connecticut maps bedrock under the site as a mixture of schist and gneiss.

#### **F. Ground Water**

Ground water beneath the site is classified "GA", indicating that the DEEP regulates ground water as meeting drinking water standards. The cleanup of spills in "GA" areas is governed by more stringent requirements than are used in areas where ground water is regulated as degraded ("GB" areas).

Surface topography suggests that shallow ground water on the site may flow toward the east. Our evaluation of ground water flow is based on surface topography alone and may be inaccurate.

We were not provided with any well water test data for the site supply wells. The site owner reported that the well at the residence had passed a standard potability test, but he did not have the laboratory report.

A 1984 DEEP map of community water systems in Connecticut shows no public supply wells within approximately one mile of the site. The site is not included in Aquifer Protection Areas mapped by the DEEP.

**G. Surface Water**

Cold Brook, which flows through the southern part of the site, is classified “GA” by the DEEP, indicating that the DEEP regulates discharges to the brook with the goal of maintaining all beneficial uses of the water.

#### IV. HISTORY OF SITE USE

##### A. Site Occupants/Activities

Historical maps, aerial photographs, city directories, personal interviews, and records at municipal offices were used to compile the history of site use which is tabulated below. A lack of Sanborn Fire Insurance Maps and a limited number of city directories for the site area hindered our ability to research site occupants.

The site has been used for residential purposes since at least 1860. An 1868 county atlas shows the residence of S. Downer on the site. The site has been used for farming during most of its history, including: an apparent fruit orchard (as seen on a 1951 aerial photograph), the production of eggs (from at least the 1960s to the early 1990s), and the growing of crops. Egg production was performed by the Orbuch family (as documented via a 1964 building permit for an egg room) and by Arbor Acres (which reportedly leased and renovated the coop in 1987).

##### B. Site Owners and Environmental Liens

###### 1. Site Owners

Owners of the site, as taken from Lebanon and Franklin land records are tabulated below.

SITE OWNERS	
YEARS	OWNER(S)
Since 2004	DSD Cedar Hill LLC
1995 to 2004	Sabina Orbuch
1955 to 1995	Eli & Sabina Orbuch
1955	Celia Belman
1948 to 1955	Eli Orbuch
1948	Eli Orbuch & Jacob Biber
1933 to 1948	Brana Starr
1931 to 1933	Silverio Vitiello & Luigi Conti
1931	Abraham Halpern

###### 2. Environmental Liens

We reviewed land records at the offices of the Lebanon and Franklin town clerks and found no environmental liens or orders concerning the site. The review was performed using computer databases in both towns and covered the period from 1955 to present.

**C. Review of Aerial Photographs**

Our assessment included a review of aerial photographs dated 1934, 1951, 1965, 1970, 1975, 1980, 1986, 1990, and 1995.

The residence is visible on each of the nine sets of photographs covering the period from 1934 to 1995. The garage building and the chicken coop on the northwestern corner of the site are visible on photographs from 1965 to present.

The 1951 photograph shows an orchard south of the residence covering an area estimated at 500 feet by 120 feet. The orchard is not present in the next earlier available photograph dated 1934 and appears to be overgrown in the subsequent photograph dated 1965. In 1951, a barn is visible near the northwest corner of the orchard. The orchard is missing numerous trees on the 1951 photograph.

We observed no evidence of waste disposal activities on the site on the aerial photographs.

We observed no environmental concerns on properties near the site on the aerial photographs.

## V. OIL AND CHEMICAL USAGE AND REPORTED SPILLS

### A. Underground Petroleum Storage Tanks

An inactive underground heating oil tank of unknown size and age is located east of the residence. The site owner reported that the tank had not been used during the period of his ownership (since 2004). Ned Shanahan contacted Danielson Oil Company concerning the tank (a Danielson Oil label was seen on an old furnace in the basement of the home), but Sean of the service department had no record of the underground tank.

David Mieczynski of DSD Cedar Hill LLC [site owner] reported no knowledge of other former or current underground tanks on site.

### B. Use and Disposal of Petroleum Products and Hazardous Chemicals

A 275-gallon aboveground heating oil tank is located in the basement of the residence and a second 275-gallon aboveground heating oil tank is located on the ground floor of the garage.

An apparent fruit orchard was seen on a 1951 aerial photograph of the site. The orchard was not present on a 1934 photograph and appears to be abandoned in 1965. During the period when the orchard operated (an unknown period between 1935 and 1964), pesticides used in orchards included lead arsenate (used from circa 1892 to 1940) and DDT (used from circa 1940 to 1972). Arsenic, lead, and DDT can persist in shallow soils for a very long time.

Runoff containing chicken manure from the site coops may lead to elevated concentrations of nitrogen compounds in soils. We do not consider nitrogen compounds to be hazardous substances, but they may affect the potability of local ground water.

### C. Reported Spills and Contamination

We encountered no records of spills or contamination concerning the site. The DEEP files did not contain spill reports for the site.

David Mieczynski reported no knowledge of spills or contamination involving petroleum products or hazardous substances on site.

## **VI. REVIEW OF REGULATORY DATA**

### **A. Review of Connecticut DEEP Files**

On 8 October 2013, Ned Shanahan of Shanahan Consulting reviewed information on file with the Bureau of Water Management, the Oil & Chemical Spills Unit, the Waste Engineering & Enforcement Division, and the Underground Storage Tank Unit of the Connecticut DEEP. The file review included the following specific resources:

1. the correspondence files and P-5 inspection reports of the Bureau of Water Management.
2. the correspondence files of the Hazardous Waste Unit.
3. a computer database of underground storage tank [UST] registrations and leaking underground storage tank [LUST] incidents.
4. spills records including: (1) a computer database of spill reports covering the period from 7-1-1996 to present, (2) original spill reports in the period from 1970 to 1996, and (3) spills correspondence files in the period from the 1970 to 2006 (the entire period of record available for public review). The review of spill records included the Towns of Lebanon and Franklin.
5. a computer database of hazardous waste manifests (for the period from 1-1-1984 through 12-31-2008) for the site address. No manifests were found for the site.

We encountered no references to the site in our DEEP file search.

### **B. Review of Environmental Inventories**

The following 16 environmental inventories or databases of known or suspected locations of contamination or oil/chemical usage were reviewed: (1) the State of Connecticut hazardous waste disposal site list; (2) the State of Connecticut Superfund Priority List; (3) the U.S. EPA Superfund National Priority Site List; (4) the U.S. EPA CERCLIS hazardous waste site inventory; (5) the U.S. EPA list of CERCLIS properties where no further remedial action is planned [NFRAP]; (6) the U.S. EPA list of RCRA Treatment, Storage, and Disposal Facilities (TSDFs); (7) the U.S. EPA list of RCRA Hazardous Waste Generators; (8) the U.S. EPA Emergency Response Notification System (ERNS) list of spills; (9) the U.S. EPA list of federal Brownfield Sites; (10) the DEEP list of active solid waste landfills; (11) the DEEP database of registered underground storage tanks [USTs] and leaking underground storage tanks [LUSTs]; (12) the DEEP Leachate and Wastewater Discharges Map (which show the locations of landfills, leaking underground tanks, wastewater lagoons, road salt piles, and other contaminant sources known to the DEEP); (13) the DEEP list of Contaminated and Potentially Contaminated Sites [C&PC Sites] including properties with Environmental Land Use Restrictions [ELURs] and properties where engineering controls were instituted to address subsurface

contamination; (14) the DEEP list of state Brownfield Sites; (15) the DEEP list of Notifications of Significant Environmental Hazards; and (16) the DEEP Draft Engineered Controls Database.

The site was not included in the 16 databases or inventories reviewed.

### C. Review of Municipal Records

Ned Shanahan reviewed records at the town halls of Lebanon and Franklin and contacted the fire marshals of both towns as described below.

**Lebanon offices** - (1) **assessor** - reviewed 2003 and current field cards and assessor's maps; (2) **town clerk** - reviewed deeds and property maps and searched for environmental liens; (3) **building-health-zoning**- reviewed combined file for these departments, file included several building permits in the period from 1963 to 2009, no data on septic systems or supply wells found; and (4) **fire marshal** - contacted Fire Marshal Scott Schuett via email and he reported no records concerning the site.

**Franklin offices** - (1) **assessor** - reviewed current field cards and assessor's maps; (2) **town clerk** - reviewed deeds and property maps and searched for environmental liens; and (3) **fire marshal** - Fire Marshal Eric Deschamps reported no records concerning the site.

Our review of municipal records did not encounter reports of spills or contamination on site.

## VII. POTENTIAL OFF-SITE ENVIRONMENTAL CONCERNS

The results of our review of known or suspected sources of contamination at properties near the site are tabulated below. The research included the following data sources:

1. the EPA National Priority Site List for locations within approximately one mile of the site.
2. the EPA list of RCRA Treatment, Storage, and Disposal Facilities (TSDFs) for locations within approximately one mile of the site.
3. the EPA CERCLIS list of hazardous waste disposal areas for locations within approximately one-half mile of the site.
4. the Connecticut Superfund Priority List of high priority hazardous waste disposal sites for locations within approximately one mile of the site.
5. the Connecticut hazardous waste disposal site list for locations within approximately one-half mile of the site.
6. the DEEP Leachate and Wastewater Discharges Map for locations within approximately one-half mile of the site.
7. the DEEP list of active solid waste landfills for locations within approximately one-half mile of the site.
8. DEEP inventories of LUST sites (leaking underground storage tanks) for locations within approximately one-half mile of the site.
9. the EPA list of CERCLIS properties where no further remedial action is planned [NFRAP] for locations within approximately one-half mile of the site.
10. the DEEP list of sites where engineered controls have been instituted to address contamination within approximately one-half mile of the site.
11. the EPA list of federal Brownfield Sites for locations within approximately one-half mile of the site.
12. the DEEP list of state Brownfield Sites for locations within approximately one-half mile of the site.
13. the DEEP Oil & Chemical Spills Unit files of spill incidents for locations adjoining the site (referred to as "Spill Reports" in table below).

14. the DEEP database of registered underground tanks for locations adjoining the site (referred to as "Tank Registration" below).
15. the EPA Emergency Response Notification System (ERNS) list of spills for locations adjoining the site.
16. the EPA list of RCRA Hazardous Waste Generators for locations adjoining the site.
17. the DEEP list of Contaminated and Potentially Contaminated Sites for locations adjoining the site.
18. the DEEP list of properties subject to Environmental Land Use Restrictions [ELURs] (as included on the DEEP list of Contaminated & Potentially Contaminated Sites) for locations adjoining the site.
19. the DEEP list of Notifications of Significant Environmental Hazards for locations adjoining the site.
20. potential concerns identified in the immediate vicinity of the site during our historical research, site visit, or review of DEEP files.

<b>TABLE 1</b>			
<b>POTENTIAL OFF-SITE ENVIRONMENTAL CONCERNS</b>			
1 Williams Crossing Road, Lebanon & Franklin			
Off-Site Property	Approximate Distance From Site	Where Concern Was Reported	Incident(s)
Uncas Gas 906 Route 32 Franklin	Adjacent to south	Site Visit Spill Reports	Propane gas dealership including two aboveground fuel tanks (gasoline or diesel fuel). Fuel tanks include containment structure. 6-7-2003 report of the demolition of a building allowing possible asbestos releases. Demolition halted. 6-9-2011 report of power washing discharge to catch basin. No report of action taken by DEEP. 12-9-2012 spill of motor oil due to motor vehicle accident. Spill sanded.
Intersection of Route 32 & Williams Crossing Road Franklin	Adjacent to east	Spill Reports	10-10-1990 report of the presence of 30 to 40 drums near Route 32 bridge over railroad tracks. Drums contained paint dust generated during ongoing work on bridge by the Department of Transportation. 4-5-2002 spill of less than 1 gal. of oil due to CL&P equipment failure. Spill cleaned. 2-6-2013 spill of antifreeze due to motor vehicle accident. Spill sanded.

**TABLE 1**  
**POTENTIAL OFF-SITE ENVIRONMENTAL CONCERNS**  
 1 Williams Crossing Road, Lebanon & Franklin

Off-Site Property	Approximate Distance From Site	Where Concern Was Reported	Incident(s)
Former Gas Station 4 Windham Road [Route 32] Lebanon	Across Route 32 and east of site	General Research	1933 highway right of way map shows a gasoline filling station with gasoline pumps. 1947 highway right of way map shows a service station, garage, and house with apparent fuel pump island.
Franklin Mushroom Farm 931 Route 32 Franklin	Across Route 32 and east of site	Tank Registration Spill Reports	Registered underground gasoline, diesel fuel, and heating oil tanks. All tanks removed in 1998. 8-18-1980 spill of 1 gal. of transformer fluid from pad unit. CL&P will clean. 7-29-1987 spill of No. 2 heating oil in boiler room and into wet well. Oil recovered. 3-5-1996 spill of 30 gal. of No. 4 heating oil due to overfill. Cleanup contractor addressed spill. 6-24-2001 report of chlorine gas release. 12-27-2005 spill of 5 gal. of No. 6 heating oil due to overfill. Cleanup contractor recovered oil. 6-4-2010 spill of less than 1 quart of transformer fluid. CL&P to clean spill. 5-31-2011 spill of antifreeze from one vehicle. Spill sanded.

We reviewed the possible impact of the off-site concerns on site ground water based on the magnitude and nature of the spills and ground water flow patterns as inferred from surface topography. Surface topography suggests that properties located to the west may be upgradient of the site.

We identified no potential off-site concerns within the inferred upgradient zone and have concluded that spills or contamination at off-site properties do not pose a significant threat of contamination to site ground water.

## VIII. CONCLUSIONS AND RECOMMENDATIONS

### A. Potential Environmental Concerns

We did not identify spills or contamination involving petroleum products or hazardous substances on the site.

We did identify the following three potential environmental concerns:

1. An inactive underground heating oil tank of unknown size and age outside the residence. The site owner reported that the tank was empty and had not been used during the period of his ownership since 2004. The tank poses a risk of subsurface contamination.
2. The apparent operation of a fruit orchard as observed on a 1951 aerial photograph. The orchard operated for an unknown period between 1935 and 1964, a time when pesticides containing arsenic, lead, and DDT may have been applied to orchards. DEEP guidance on the development of former agricultural land (see Appendix A) provides a number of actions that can be taken to address pesticide residues in soils including placement of the contaminated soil under buildings or parking lots or the mixing of contaminated soil with unaffected soils to reduce pesticide concentrations.
3. The absence of water test data for the two bedrock supply wells. Potential impacts on ground water from the former egg farm operation and from the underground heating oil tank could be evaluated in part by testing the well waters.

### B. Other Issues

The site does not appear to be an "establishment" under the Connecticut Transfer Act [C.G.S. 22a-134 through 134e].

Local ground water is classified "GA" (regulated as meeting drinking water quality criteria). The site includes an active supply well at the residence and an inactive well at the chicken coop. Public water is reportedly available along Route 32 in the Town of Windham just north of the site, but is not available on roads adjoining the property.

We did not identify reports of spills or contamination on off-site properties that appeared to pose a significant risk of ground water contamination on site.

### C. Data Gaps

We found no data concerning the size and age of the underground heating oil tank.

We do not know the period of operation of the fruit orchard and whether pesticides were used in the orchard.

**D. Recommendations**

We recommend the following actions:

1. Excavate and remove the underground heating oil tank. The tank removal should include the collection of soil samples from the tank grave and laboratory testing of the samples to evaluate whether the tank leaked.

**Estimated cost: \$2000 to \$3000** (work to be performed by tank removal contractor with the assistance of an environmental consultant).

If removal of the tank is not practical prior to site transfer, then the excavation of one or more test pits around the tank with a backhoe and the collection and analysis of soil samples from the test pits could be performed as an interim measure to assess the tank for leakage.

2. Collect six shallow soil samples in the former orchard area and test the samples for arsenic, lead, and organochlorine pesticides (including DDT) to screen for the possible presence of soil contamination. Depending on the concentrations of total contaminants detected, testing for leachable contaminant levels may be appropriate.
3. Collect water samples from the two supply wells and test the water for standard potability parameters and for VOCs. The well water tests will provide more data on the quality of site ground water and the viability of using ground water for future site development plans.

**Estimated Cost of Items 2 & 3: \$2200 to \$2500** (including consultant labor [approximately \$1100] and laboratory testing fees [approximately \$1100 to \$1400]).

## **IX. LIMITATIONS**

The conclusions provided in this report are based on the scope of work conducted and the sources of information used in the course of this investigation. If additional pertinent information becomes available, it should be provided to Shanahan Consulting so that we may alter this report as necessary.

This assessment was performed to evaluate whether subsurface contamination involving petroleum products or hazardous substances might be present on site. The report should not be used for any other purpose. We did not inspect site buildings for asbestos-containing materials, lead paint, mold, or other interior contamination.

We cannot guarantee that the work performed for this assessment will meet the requirements of the Connecticut Department of Energy & Environmental Protection.

The work was undertaken in accordance with generally accepted environmental consulting practices. No other warranty, express or implied, is made.

## SOURCES OF INFORMATION

- Aerial photographs of Connecticut; dated 1934, 1951, 1965, 1970, 1975, 1980, 1985/86, 1990, and 1995/96; reviewed at the Connecticut State Library.
- Assessor's Maps of Franklin, reviewed at Franklin Town Hall.
- Assessor's Maps of Lebanon, reviewed at Lebanon Town Hall.
- Beers, F.W., Ellis, A.D. and Soule, G.G., "Atlas of New London County, Connecticut", 1868, reviewed at the Connecticut State Library.
- "Boundary Survey Prepared for DSD Cedar Hill, Rte. 32 & Williams Crossing Rd., Lebanon/Franklin, CT", map prepared by Towne Engineering, Inc., dated 6-21-2005, Lebanon Town Clerk Map No. 1493.
- CERCLA Regulations, 40 CFR Part 312, "Innocent Landowners, Standards for Conducting All Appropriate Inquiries", Federal Register Volume 70, No. 210, 11-1-2005.
- City Directories for Norwich (including Lebanon), Connecticut, 1992 to 2013, at the Connecticut State Library.
- Connecticut Department of Energy & Environmental Protection, "Connecticut Brownfields", dated 11-30-2004, viewed online at [www.ct.gov/dep](http://www.ct.gov/dep).
- Connecticut Department of Energy & Environmental Protection, "Connecticut Aquifer Protection Areas", updated May 2010, viewed online at [www.ct.gov/dep](http://www.ct.gov/dep).
- Connecticut Department of Energy & Environmental Protection, "Community Water Systems in Connecticut, A 1984 Inventory", 1986.
- Connecticut Department of Energy & Environmental Protection, Contaminated & Potentially Contaminated Sites list, updated 7-12-2013, viewed online at [www.ct.gov/dep](http://www.ct.gov/dep).
- Connecticut Department of Energy & Environmental Protection, database of Leaking Underground Tanks [LUST] and registered underground tanks [USTs], viewed at the DEEP public records center 10-8-2013.
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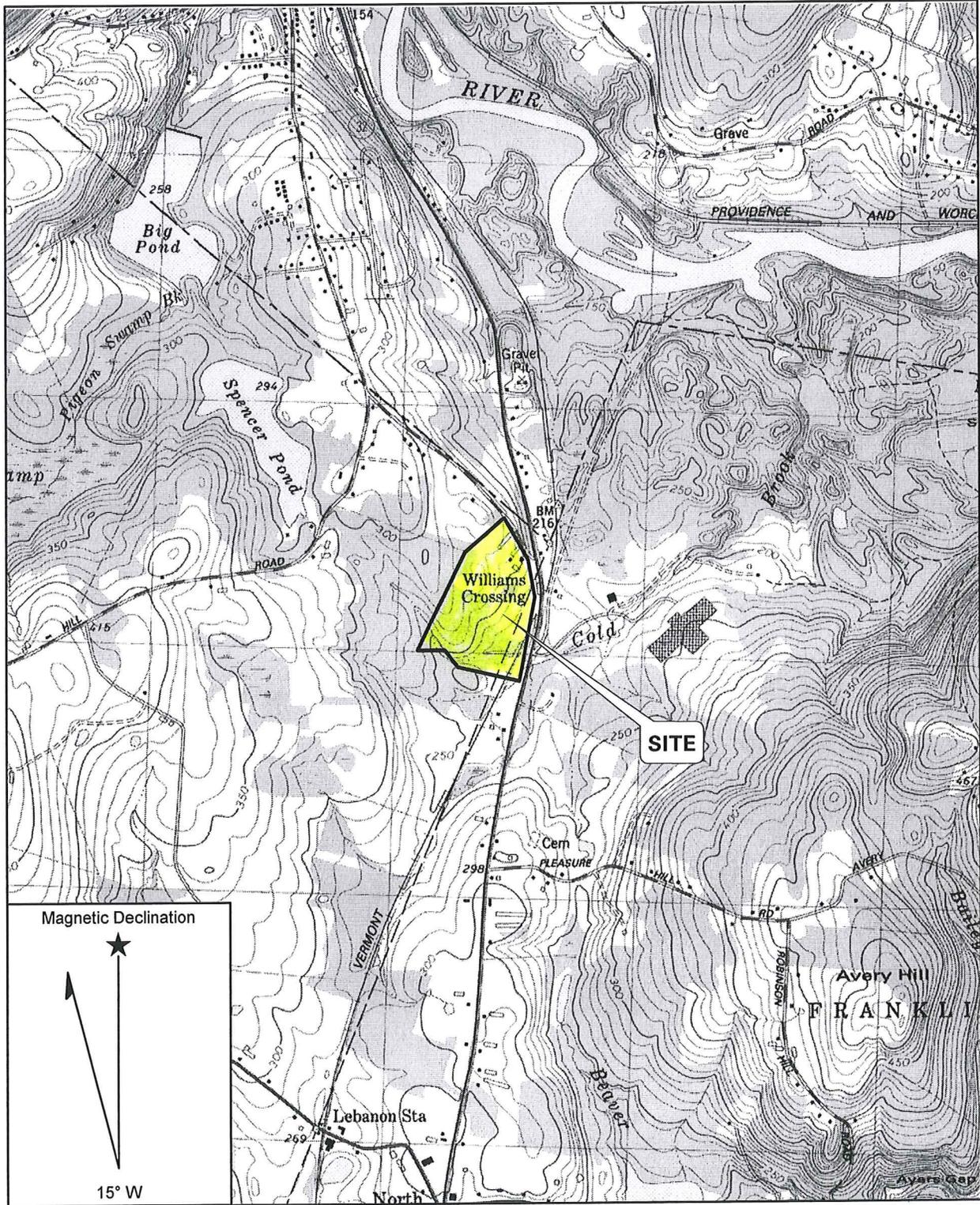
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## FIGURES



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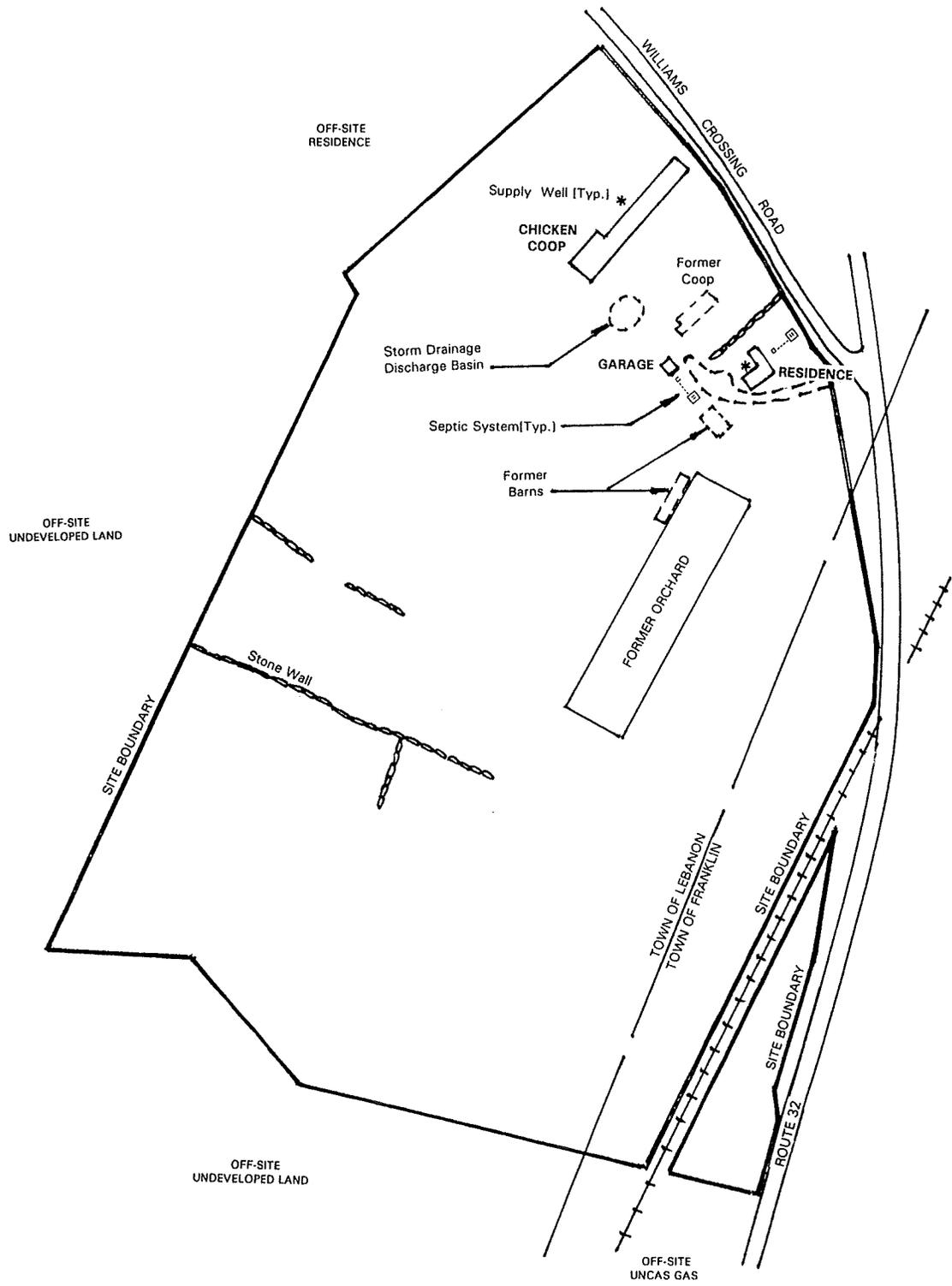
**1 WILLIAMS CROSSING ROAD  
LEBANON & FRANKLIN, CONNECTICUT**

**SITE LOCATION MAP  
FIGURE 1**

Scale 1"=2000'

Job 13-25

Shanahan Consulting, Farmington, Connecticut



Notes: 1. Locations of features are approximate. 2. Based on 2005 site plan by Towne Engineering.

**1 WILLIAMS CROSSING ROAD  
LEBANON & FRANKLIN, CONNECTICUT**

**SITE PLAN  
FIGURE 2**

Approximate Scale 1"=300'

Job 13-25

Shanahan Consulting, Farmington, Connecticut

## **Appendix A**

DEEP Policy on Development of Former Agricultural Lands

## Connecticut Department of Energy & Environmental Protection

### General Guidance on Development of Former Agricultural Properties

(March 1999)

The Department of Public Health and the Department of Energy & Environmental Protection have become aware of a number of site development projects on former agricultural land in which persistent pesticides (primarily dieldrin, DDT and breakdown products, chlordane, arsenic) remain in soil at concentrations that approach or exceed the Connecticut Remediation Standard Regulations (RSRs). While such development projects do not specifically fall under the RSRs, concerns have been raised that the residual pesticides constitute a health risk. In light of this, DPH and DEEP offer general guidance for such sites as described below. This guidance is meant to provide an approach that is protective of public health and that also leaves a degree of flexibility. We expect municipal officials and site developers to consider our input together with other factors in deciding how best to handle site re-development projects.

- Evaluate site history and sample surface soil (ideally 0-3 inches depth) in areas where pesticides were applied, handled, and stored. A limited number of deeper samples are also recommended, particularly in areas where there is evidence of substantial surficial contamination. Total mass concentrations and leaching tests should be performed, with consideration given to analyses for newer pesticides if the site is currently agricultural.
- Evaluate detected pesticide concentrations against RSR values. If the concentrations are below the RSR values in all cases, there is no need for further consideration of pesticide contaminant issues at the site. If some concentrations are above the RSRs, the following options for managing the affected soil should be considered:
  1. Keep affected soil separate from other soils and use it on-site as fill under buildings, parking lots, or access roads or dispose of the soil in an approved landfill off-site.
  2. Mix it with unaffected soils to decrease the effective soil concentration. In this case, representative samples should be taken from the mixed soil piles following RCRA protocols regarding the number and location of samples from soil piles. If the mixed concentrations are below the RSRs, the soil pile can then be used anywhere on-site. If the mixed concentrations are still above RSR values, then the soil pile could be used as fill material below grade (but not topsoil) in parts of the site where digging will not occur (i.e., areas where children will not play; non-residential areas; uses as described under Option 1).
  3. Depending upon the degree of RSR exceedance, consideration should be given, in consultation with DPH and DEEP, to removal of specific hot spot areas.
  4. If affected soils are in some manner kept on-site, an additional precautionary step would be post-construction surface soil sampling to ensure that the practices described above have successfully reduced the potential for direct exposure.
  5. If any soils containing pesticides above RSR values remain on-site, the location of these affected soils should be recorded on a site map which is on file at the local health department.

Site-specific data can be provided to DPH (860-509-7742) and DEEP (860-424-3705) to make sure that a particular site does not present unique risks and that the data are suitable for comparing against RSR values.

#### Remediation Programs and Information

Content Last Updated: November 2006