

Phase I Environmental Site Assessment

King Court Housing Complex

5-81 King Court
East Hartford, Connecticut

January 2013



FUSS & O'NEILL

Fuss & O'Neill
146 Hartford Road
Manchester, Connecticut 06040



FUSS & O'NEILL

January 30, 2013

Mr. Andre Dumas
East Hartford Housing Authority
546 Burnside Avenue
East Hartford, Connecticut, 06108

RE: Phase I Environmental Site Assessment
King Court Housing Complex
5-81 King Court, East Hartford, Connecticut

Dear Mr. Dumas:

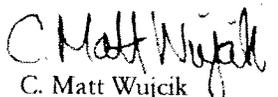
We are pleased to submit the enclosed report of the Phase I Environmental Site Assessment (Phase I ESA) for the above-referenced site. The assessment was conducted in conformance with Standard Practice E 1527-05 for Environmental Site Assessments published by the American Society for Testing and Materials.

ASTM 1527-05 requires that certain elements of a Phase I ESA be updated if the data for the report are more than six months old. Therefore, if this report is to be relied on after August 2013, we recommend you contact us to discuss options for such an update. We have identified five, abandoned 1,000-gallon heating oil underground storage tanks and one former 1,000-gallon heating oil underground storage tank as recognized environmental conditions associated with the site. These are discussed in the conclusions of our report (*Section 8*).

In accordance with the requirements of the ASTM 1527-05 Standard, we declare that to the best of our professional knowledge and belief, we meet the definition of an environmental professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess the nature, history, and setting of the subject property. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Thank you for the opportunity to conduct this work. Please contact us if we can be of further assistance.

Sincerely,


C. Matt Wujcik
Environmental Analyst


for John B. Hankins, LEP, CPG
Senior Vice President

Enclosure

146 Hartford Road
Manchester, CT
06104
1.860.646.2469
800.256.2469
1.860.533.5143

www.fandoo.com

1.860.646.2469

800.256.2469

1.860.533.5143

www.fandoo.com

Table of Contents

King Court Housing Complex

5-81 King Court, East Hartford, Connecticut

1	Introduction	1
	1.1 Objective.....	1
	1.2 Scope of Services	1
2	Site Overview	2
	2.1 Site Information.....	2
	2.1.1 Property Location, Size of Parcel, and Site Plan.....	2
	2.1.2 Utilities.....	2
	2.1.3 Adjoining Land Use.....	2
	2.2 Environmental Setting	3
	2.2.1 Physical Setting.....	3
	2.2.2 Wetlands & Flood Zone Mapping.....	4
	2.2.3 Location of Public Water Supply Sources	4
	2.3 Previous Environmental Investigations	4
3	Site History	4
4	Federal, State, and Local File Review	5
	4.1 Summary of Regulatory Database Information	7
	4.2 State File Review	8
	4.3 Wastewater and Leachate Discharge Sources.....	8
	4.4 Local File Review	9
5	User-Provided Information	9
	5.1 Record of Environmental Liens or Activity and Use Limitations.....	10
	5.2 Specialized Knowledge or Experience of the User	10
	5.3 Commonly Known or Reasonably Ascertainable Knowledge.....	10
	5.4 Property Valuation, Reduction for Environmental Issues	10
6	Site Reconnaissance and Interviews	11
	6.1 Interviews	11
	6.2 Site Reconnaissance	11
	6.3 Radon	12
	6.4 Vapor Encroachment Tier I Screening	12
7	Connecticut Transfer Law Status.....	13
8	Data Gaps, Findings and Conclusions.....	14
	8.1 Data Gaps.....	14
	8.2 Findings and Conclusions.....	15
9	References.....	17

Table of Contents
King Court Housing Complex
5-81 King Court, East Hartford, Connecticut

10 **Limitations of Work Product..... 18**

List of Figures **End of Text**

- Figure 1 Site Location Map
- Figure 2 Site Plan

List of Appendices **End of Text**

- Appendix A Scope of Work and Restrictions
- Appendix B Town File Information
- Appendix C Environmental Database Search (Environmental Data Resources, Inc. (EDR))
- Appendix D Completed Questionnaires
- Appendix E Site Photographs
- Appendix F Qualifications of Environmental Professionals and Staff

1 Introduction

Fuss & O'Neill, Inc. has been retained by the East Hartford Housing Authority to conduct a Phase I Environmental Site Assessment (Phase I ESA) of the King Court Housing Complex located at 5-81 King Court in East Hartford, Connecticut (the "Site"). We understand that the East Hartford Housing Authority requested this Phase I ESA in anticipation of Site redevelopment.

1.1 Objective

The objective of this Phase I ESA was to identify recognized environmental conditions (RECs) present at the Site. As defined by Standard Practice for Environmental Site Assessments E 1527-05 developed by the American Society for Testing and Materials (ASTM, 2005), REC means:

...the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

In portions of this report we refer to the Connecticut Department of Energy and Environmental Protection (DEEP). The Connecticut Department of Environmental Protection (CTDEP) was re-named the Department of Energy and Environmental Protection (DEEP) in July 2011. For convenience and consistency, we refer to the agency as the DEEP throughout this report, including the timeframe prior to July 2011.

1.2 Scope of Services

Our Phase I ESA was performed in conformance with Standard Practice E 1527-05 for Environmental Site Assessments by the American Society for Testing and Materials (ASTM, 2005).

Assessments for asbestos-containing materials, PCB-containing building materials, lead-based paint or plumbing materials, and mold were not conducted as part of this Phase I ESA. However, Fuss and O'Neill Envirosience, LLC will be providing a Hazardous Materials Inspection Report that assesses the Site for several additional components related to the buildings (i.e. lead-based paint, asbestos, radon, formaldehyde, mercury, and PCBs). Furthermore, we did not investigate the potential for the Site to contain endangered species, ecological resources or historic/cultural resources. Additionally, environmental compliance or permitting issues were not considered during this investigation.

It is our understanding that this work is not being conducted under a United States Environmental Protection Agency (USEPA) Brownfield Assessment and Characterization Program grant awarded under CERCLA 9604(k)(2)(b); therefore, our investigation did not include an assessment of controlled

substances. Refer to *Appendix A* for the scope of work and restrictions of this ESA and to *Section 10* of this report for limitations on this work product.

2 Site Overview

2.1 Site Information

2.1.1 Property Location, Size of Parcel, and Site Plan

The Site, the King Court Housing Complex, is located west of Main Street and north of Ensign Street in a residential zone (R-4) of East Hartford, Connecticut (Hartford County). A map consisting of portions of several United States Geological Survey (USGS) topographic maps showing the Site location is provided as *Figure 1* (USGS, 1992 & USGS, 1992).

According to Town records, the Site consists of 34 contiguous parcels totaling 8.8 acres that have been owned by the Town of East Hartford since 1950. The Site includes 33 two-story, multi-family residential buildings containing a total of 80 units and a one-story storage shed. A Site plan is provided as *Figure 2*. Copies of the property description cards and assessor's map available at the Town of East Hartford Tax Assessor's office are attached in *Appendix B*. A description of the Site developed during the site inspection is presented in *Section 6*.

2.1.2 Utilities

According to personnel at the Metropolitan District (MDC), the Site has been served by municipal sanitary sewer and public water since its development in 1949.

The Site's buildings are currently heated by natural gas, which has been provided by Connecticut Natural Gas since the mid-1990s. According to Mr. Andre Dumas, Asset Coordinator for the East Hartford Housing Authority, the duplexes (26 of the 33 buildings) were previously heated by heating oil stored in aboveground storage tanks (ASTs) located in the basements of each duplex. Mr. Dumas indicated that the ASTs and associated piping were removed from the basements in 1993. Mr. Dumas also indicated that the remaining four-family apartment buildings previously relied on heating oil stored in seven 1,000-gallon underground storage tanks that were abandoned in-place at the Site in 1998. Based on records obtained at the Town of East Hartford Fire Marshal's office, two of the abandoned USTs, which were associated with the 30 King Court Building and the 49 King Court Building, were removed from the ground in 2003.

The one-story storage shed, which is located on the southwest corner of the Site adjacent to the 48 King Court Building, is connected to no utilities, with the exception of electricity.

2.1.3 Adjoining Land Use

Based on observations made during the site inspection and available mapping, properties adjoining the Site include the following:

Address	Description	Direction from Site
21-51 Crosby Street	Residences	North
2 King Court	East Hartford Youth Services	Northeast
393-397 Main Street	Madison Motor Inn	Northeast
36-84 Ensign Street	Residences	South
385 Main Street	Narcotics Anonymous Shelter	East
No Address	Memorial Highway – Route 2	West

2.2 Environmental Setting

2.2.1 Physical Setting

Topography and Geology

The topography of the Site is generally flat (USGS, 1992). The regional topography generally slopes gradually down to the west, towards the Connecticut River.

Surficial material at the Site is mapped as sand overlying fines (DEEP, 2011). Bedrock beneath the Site is mapped as the Portland Arkose, a reddish-brown sedimentary rock locally known as brownstone (Rodgers, 1985).

Hydrology and Hydrogeology

The quality of groundwater beneath the Site is classified by the Connecticut Department of Energy and Environmental Protection as GB (DEEP, 2011). Such groundwater is presumed not to be suitable for human consumption without treatment and is used for industrial process water and cooling waters (CTDEP, 2011)

The direction of groundwater flow within the surficial geological unit is influenced by a number of factors, including the physical characteristics of the geological unit (such as particle size), the local topography, the presence of surface water bodies, the depth to bedrock, and the type of aquifer. For an unconsolidated, unconfined aquifer, groundwater generally flows in the direction of the greatest topographic gradient. Based on USGS mapping and field observations of the local topography, the inferred groundwater flow direction is to the west.

The nearest surface water body, the Connecticut River, is located approximately 550 feet west-southwest of the Site (USGS, 1992). The Connecticut River is classified by the State of Connecticut as SB (CTDEP, 2011). Designated uses of such coastal and marine surface waters are for marine fish, shellfish and wildlife habitat, shellfish harvesting for transfer to approved areas for purification prior to human consumption, recreation, industrial and other legitimate uses including navigation (CTDEP, 2011).

2.2.2 Wetlands & Flood Zone Mapping

Based on the National Wetlands Inventory Map provided in the Environmental Data Resources (EDR) report, the Site is not located within an area of mapped wetlands. The National Wetlands Inventory Map also shows no mapped floodplains on the Site. A copy of the map is included in *Appendix B*.

2.2.3 Location of Public Water Supply Sources

The DEEP's 2011 Connecticut Environmental Conditions Online (DEEP, 2011) and the Atlas of Public Water Supply Sources and Drainage Basins of Connecticut (CTDEP, 1982) show no public water-supply wells or aquifer protection areas within a one-half mile radius of the Site.

2.3 Previous Environmental Investigations

Mr. Andre Dumas, Asset Coordinator for the East Hartford Housing Authority, is unaware of any previous environmental investigations having been performed on the Site.

3 Site History

The following sources were used to develop the history of the Site and, to the extent required by ASTM Practice E 1527-05, the nearby sites:

- City street directories (available at the Connecticut State Library) reviewed at approximately five-year intervals dating back to the year 1956
- Sanborn Fire Insurance Maps (obtained electronically from Environmental Data Resources, Inc.) for the years 1908, 1913, 1920, 1927, 1949, and 1968
- Aerial photographs (obtained electronically from Environmental Data Resources, Inc.) for the years 1934, 1952, 1957, 1962, 1967, 1970, 1977, 1986, 1989, 1990, 1995, 2005, 2006, and 2008
- Aerial photographs (obtained electronically from the DEEP's 2011 Connecticut Environmental Conditions Online (DEEP, 2011) for the years 2004 and 2010
- Historical USGS Topographic Maps for the years 1893, 1906, 1944, and 1952, available on-line from the Documents Department and Data Center of the University of New Hampshire (<http://docs.unh.edu/nhtopos/nhtopos.htm>)
- An interview with Mr. Andre Dumas, Asset Coordinator for the East Hartford Housing Authority, who has been associated with the Site since 1999

- Files and personnel at the Town of East Hartford offices of the Town Clerk, Building Department, Engineering Department, Planning and Zoning Department, Health Department, and Fire Marshal

The past uses of the Site and nearby properties based on the sources above are summarized below.

Site

The Site appears to have been used for agricultural purposes prior to its development in 1949. Topographic mapping from 1893 and 1906 show no structures associated with the Site. The 1920 and 1927 Sanborn maps identify tobacco sheds located along the eastern portion of the Site. The 1949 Sanborn map and 1952 aerial photograph show that the tobacco sheds have been removed and replaced with the existing buildings identified as Edward E. King Court. Based on street directories, the Site has been occupied by King Court Housing Complex, since the Site's development. No changes to the Site were observed in the 1968 Sanborn map and the 1957, 1962, 1967, 1970, 1977, 1986, 1989, 1990, 1995, 2004, 2005, 2006, 2008, and 2010 aerial photographs. The Site is currently owned by the Town of East Hartford Housing Authority. Because the Site appears to have been used for tobacco cultivation prior to 1949, there is the potential for pesticides to have been applied to shallow soils; however, the Site has since been fully developed. Therefore, it is likely that the original shallow soils have been significantly re-worked and/or removed.

Identification of the Site's history back to first development was not possible using the reasonably ascertainable historical sources identified above resulting in a "data failure" as defined by ASTM Practice 1527-05. The significance of this data failure is discussed in *Section 8.1 (Data Gaps)*.

Nearby Properties

Based on historical aerial photographs and street directories, properties surrounding the parcel have been occupied by residences and/or agricultural fields since at least the early 1910s. Commercial buildings (restaurants and motel) have occupied the properties to the west since the 1950s. In addition, Pratt and Whitney Aircraft Company (manufacturers of aircraft engines and turbines), a Division of the United Technologies Corporation, has occupied the properties approximately 350 feet east of the Site, across Main Street, since the mid-1920s.

Due to the activities on nearby properties, such as agricultural uses and manufacturing, there is the potential for agricultural chemicals or other contaminants to have been released that could adversely affect groundwater quality at the Site. However, the DEEP does not generally hold property owners liable for releases due solely to off-site sources. In addition, groundwater is not used as a resource on the Site or surrounding sites.

4 Federal, State, and Local File Review

Files of Federal, State and local agencies were reviewed for environmentally-related issues pertinent to the Site and nearby parcels, such as permits, inspection reports, enforcement history or documented releases of hazardous materials. The sources of information listed in the following table were researched to identify properties of concern within distances of the Site specified by ASTM Practice E. 1527-05.

Information Source*	Search Distance
Federal Files	
National Priorities List (NPL)	1 mile
Delisted NPL Sites	1 mile
Resource Conservation and Recovery Act (RCRA) CORRACTS list (RCRA Site Subject to Corrective Action)	1 mile
Resource Conservation and Recovery Act (RCRA) Treatment, Storage or Disposal Facility (TSDF) List	0.5 mile
Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) List, including No Further Remedial Action Planned (NFRAP) sites	0.5 mile
RCRA Generators List	property and adjoining
RCRA No Longer Regulated (NLR) List	property and adjoining
Federal Institutional / Engineered Control List	0.5 mile
Emergency Response and Notification (ERNS) List	property only
State Files	
Hazardous Waste Site List (State sites equivalent to NPL)	1 mile
Hazardous Waste Site List (State sites equivalent to CERCLIS)	1 mile
Landfill and Solid Waste Site	0.5 mile
Leaking Underground Storage Tank (LUST) List	0.5 mile
State Voluntary Clean-up or Brownfield Sites	0.5 mile
Oil & Chemical Spills Database	property and adjoining
Registered Underground Storage Tank (UST) List	0.25 mile
State Institutional / Engineered Control List	0.5 mile

*Fuss & O'Neill used Environmental Data Resources, Inc. (EDR), an environmental database search service, to obtain the information referenced in the above table. EDR provides access to publicly available environmental databases maintained by various Federal, State, and local agencies. A copy of the information provided by EDR relative to the Site and nearby properties is included in *Appendix C*. The listed information sources are defined and described in detail in the EDR report.

4.1 Summary of Regulatory Database Information

Site

The environmental databases provide the following information for the Site:

- *71 King Court:* An incident on May 7, 2000, resulted in the release of one gallon of gasoline. The spill was sanded and cleaned up (status is closed). Based on the minimal amount of gasoline released and the current regulatory status, no further action is warranted.

Nearby Properties

As reported in the EDR Report in *Appendix C*, several properties were identified in the environmental databases within the minimum search radii required by ASTM Practice 1527-05. Based on distance from the Site and the local hydrogeology, these parcels are not anticipated to have a negative affect on the subject property, with the following exceptions:

- *16 Crosby Street:* A leaking 2,000-gallon fuel oil UST was reported for the address on August 29, 2006. The UST was removed along with contaminated soil (status is closed). The property is located approximately 150 feet north of the Site and is inferred to be hydraulically side-gradient.
- *82 Ensign Street – Residence:* On December 27, 2004, a release of 50 gallons of fuel oil caused by a 275-gallon aboveground tank failure was reported inside the residence. No additional information is provided by the EDR Report regarding this issue, with the exception that the status is classified by the DEEP as “closed”.
- *400 Main Street – Pratt & Whitney:* Pratt & Whitney, manufacturers of aircraft parts, equipment, and engines, is listed in the LUST database as well as the RCRA Corrective Action, RCRA Treatment, Storage and Disposal facility and RCRA Hazardous Waste Generator databases. In addition, a large number of spills have been reported at this property. Pratt & Whitney is located approximately 350 feet to the east of the Site and is inferred to be hydraulically upgradient.

Due to the inferred groundwater flow direction and/or the proximity of these properties to the Site, the potential exists for releases that occur at these sites to have an adverse impact on groundwater quality at the Site. However, the DEEP’s policy on upgradient sources of contamination is that a downgradient property owner is not responsible for remediating groundwater contamination flowing onto his or her property from another site, as long as the contamination is present solely as a result of the off-site sources (Policy on Upgradient Contamination, Michael Harder, Director of Permitting, Enforcement, and Remediation Division, August 28, 1997).

4.2 State File Review

As part of our records review, correspondence files for the following were requested on January 24, 2013 from the DEEP Records Center and PCB Programs Department:

- King Court Housing Complex
- 5-81 King Court
- Miscellaneous Town Files

Files requested include the following:

- Property Transfer Program filings
- UST files
- Leaking UST files
- P-5 inspection reports
- Water Industrial/Remediation files
- Pre-1990 Spill files
- PCB files
- Hazardous waste/RCRA files
- Environmental Land Use Restrictions
- Air files

No correspondence files for the Site were available at the DEEP Records Center or the PCB Programs Department. In addition, the DEEP Hazardous Waste Manifests Database, which summarizes manifests submitted from 1984 through 2008, was reviewed. No hazardous waste manifests were listed for the Site.

4.3 Wastewater and Leachate Discharge Sources

The Connecticut Leachate and Wastewater Discharge Sources Map (CTDEP, 1997) was reviewed to determine if any historical discharges to the ground in the area of the Site have been reported. The historical discharges listed below are located within a one half-mile radius of the Site.

Facility-Discharge	Distance / Direction from Site
Texaco – Riverside Drive – 1,500-gallon fuel oil spill (inactive)	300 feet / Southwest
Pratt & Whitney – Silver Lane– industrial discharge (active)	500 feet / North
Pratt & Whitney – Silver Lane – former metal hydroxide sludge lagoons (active)	1,300 feet / West-northwest
Automatic Comfort Oil Company – oil spill (inactive)	1,300 feet / West
Pratt & Whitney – Silver Lane – former concentrated waste sludge lagoons (active)	2,100 feet / Northeast

Due to distance from the Site and/or the inferred groundwater flow direction, Pratt & Whitney discharges are inferred to have a significant potential to adversely impact the Site.

4.4 Local File Review

The Town Clerk's office provided a record of ownership of the Site, as summarized below. Note that this review does not constitute a full title search.

Date(s)	Owner
5/18/1950 - Present	Town of East Hartford Housing Authority

Files and personnel at the Town of East Hartford offices of the Town Clerk, Tax Assessor, Building Department, Planning and Zoning Department, Health Department, and Fire Marshal were queried regarding environmental concerns at the Site and surrounding sites. The information discussed below was found at the Town offices to assist in developing the historical use of the Site or identifying RECs. Copies of these files are included in *Appendix B*.

According to Tankworks Removal & Replacement, LLC's tank removal report obtained at the Fire Marshal's office and provided in *Appendix B*, an abandoned 1,000-gallon heating oil UST associated with the 49 King Court Building was removed from the ground in July 2003. The report indicated that the tank grave showed no signs of contamination. One confirmatory soil sample was collected and analyzed for total petroleum hydrocarbons (TPH) by IR Method 418.1. No TPH was detected in the sample.

A permit obtained at the Town of East Hartford Building Department for the 30 King Court parcel indicated that the building's abandoned 1,000-gallon heating oil UST was removed from the ground in April 2003. The permit also indicated that soil samples were collected from the tank grave; however, no additional information with regards to these activities was found, so it is unknown whether there was a release of oil from this tank.

As part of this assessment, Kevin McNally of Fuss & O'Neill interviewed personnel from the East Hartford Health Department on January 25, 2013. The Health Department office has no knowledge of releases or threatened releases of hazardous substances at the Site.

5 User-Provided Information

ASTM Practice 1527-05 describes certain tasks to be performed by the user of this assessment that will help to identify RECs at the parcel if they exist. ASTM Practice 1527-05 defines the user as "the party seeking to use Practice E 1527 to complete an environmental site assessment of the property." Users can include a potential purchaser or tenant of the property, a lender, a property manager, or a property owner.

As part of our agreement to conduct this work, we provided Mr. Andre Dumas, Asset Coordinator for the East Hartford Housing Authority, with a User Questionnaire. A copy of this questionnaire with his responses is provided in *Appendix D*.

The responses to this questionnaire were used to address the items in the subsections below.

5.1 Record of Environmental Liens or Activity and Use Limitations

Chain of title and title restriction records filed under federal, tribal, state or local law contain records of environmental liens or activity and use limitations (AULs), such as environmental land use restrictions in the State of Connecticut.

Mr. Dumas was unaware of a chain of title and title restrictions records review having been performed for the Site. In addition, Mr. Dumas reported that he has no actual knowledge of an environmental lien or ELURs recorded against the property. Fuss & O'Neill reviewed the Connecticut database of recorded environmental land use restrictions on file at the DEEP. No environmental land use restrictions were identified for the Site.

5.2 Specialized Knowledge or Experience of the User

Mr. Dumas reported that the following specialized knowledge may assist with the identification of RECs:

- Five of the seven USTs formerly used to store heating oil for the four-family apartment buildings remain abandoned on the Site
- Two abandoned 1,000-gallon USTs located at 30 King Court and 49 King Court were removed from the ground in 2003

5.3 Commonly Known or Reasonably Ascertainable Knowledge

Mr. Dumas indicated that routine janitorial and maintenance supplies are stored and used at the Site

5.4 Property Valuation, Reduction for Environmental Issues

Mr. Dumas reported that he believes that the purchase price of the Site reflects the fair market value of the Site, and that the price has not been adjusted for any real or perceived environmental condition.

6 Site Reconnaissance and Interviews

6.1 Interviews

Owner/Key Site Manager

As part of this investigation, Kevin McNally of Fuss & O'Neill interviewed Mr. Andre Dumas, who has worked for the East Hartford Housing Authority since 1999 and is currently the Asset Coordinator for the Housing Authority. During the interview, Mr. Dumas was asked to complete a Phase I Questionnaire regarding current and historical Site conditions. A completed copy of the questionnaire is provided in *Appendix D*. Information provided by him is presented below and in previous sections of this report. Mr. Dumas responded with, "Yes" to the following question:

8. Are there currently or has there previously been any registered or unregistered storage tanks (above or underground) located on the property? Mr. Dumas indicated that the Site buildings were formerly heated by fuel oil stored in ASTs and USTs located on the Site. According to Mr. Dumas, the ASTs were removed from the Site in 1993 and the USTs were abandoned in 1998. In addition, two of the abandoned USTs were removed from the ground in 2003.

6.2 Site Reconnaissance

The site reconnaissance was conducted on January 25, 2013 by Kevin McNally of Fuss & O'Neill, accompanied by Mr. Andre Dumas. The inspection included the physical observation of grounds, one typical duplex building (62-64 King Court), and one typical four-family apartment building (48 King Court), maintenance storage areas, and a one-story storage shed. Photographs taken during the site inspection are presented in *Appendix E*.

Site Description

The Site consists of 34 contiguous parcels totaling 8.8 acres and is improved with 33 two-story, multi-family residential buildings and a one-story storage shed. Paved parking areas are situated throughout the complex. The remaining portions of the Site consist of landscaped areas, lawn space with some large trees, and a basketball court. Access to the Site is via King Court. Refer to *Figure 2* for a site plan.

The buildings were constructed in 1949 and include 26 duplexes and 7 four-family apartments consisting of a family room, one to three bedrooms, one bathroom, and a kitchen. A natural gas-burning furnace and a water heater were observed in the basement of the duplex building at 62-64 King Court. The concrete floors appear to be in good condition and no staining or signs of a release were observed on the floors. In addition, Mr. Dumas indicated that there are no records of release associated with the former ASTs located in the basements of the duplexes. Floor drains were observed in the basement of the 62-64 King Court duplex.

The four-family apartments include a basement that is not available for use by the tenants. Each basement contains a boiler room with four natural gas-burning furnaces and four water heaters. The concrete floors appear to be in good condition and no significant staining or signs of a release were

observed on the floors. The basement of 48 King Court building also contained a maintenance storage area that consisted of a break-room, several work benches, and equipment storage. Chemicals observed in the maintenance area included paints and cleaning supplies. The storage area appeared to be well-maintained and no evidence of staining or other indication that supplies had been spilled. Fill and vent pipes associated with remaining 1,000-gallon fuel oil USTs were observed at five of the seven four-family apartments. The approximate location of these USTs is indicated on *Figure 2*.

A one-story, unheated storage shed was observed adjacent to the 48 King Court building and was used for storage of maintenance equipment including lawnmowers and a table saw. Minor surficial staining associated with this equipment was observed. It is our opinion that the degree of staining is not significant enough to suggest that oil could have penetrated through the concrete floor and impacted the soil beneath the shed; therefore, this area is not considered an REC. No floor drains were observed in the storage shed. According to Mr. Dumas, routine maintenance for all vehicles and maintenance equipment is conducted off-Site.

The grounds of the property generally consist of open lawn space. Miscellaneous debris including plastic containers, glass bottles, cardboard, and metal were observed along the perimeter of the Site boundary. In addition, areas of minor surficial staining associated with parked vehicles were observed in several of the paved driveways. No stained soil was observed on the Site.

6.3 Radon

According to US EPA Map of Radon Zones, the Site is located in a low radon propensity zone (less than 2 pCi/L (picocuries per liter)).

6.4 Vapor Encroachment Tier I Screening

A Vapor Encroachment Tier I Screening was conducted at the Site in conformance with ASTM Practice E 2600-10 and in conjunction with the Phase I ESA. The Phase I ESA portion of this report has provided Site information including the physical setting, environmental setting, Site history, and review of Federal, State and local files to assist in the determination of vapor encroachment at the Site. According to ASTM Practice E2600-10, the environmental professional can apply their professional judgment when determining the potential for vapor encroachment.

Additional screenings of specific chemicals of concern listed in the following table were researched to identify properties of concern within distances of the Site specified by ASTM Practice E 2600-10.

Direction and Type of Chemicals of Concern	Search Distance
Non-petroleum hydrocarbon/volatile hazardous substances	0.3 mile
Petroleum hydrocarbon/semi-volatile hazardous substances	0.1 mile

*Fuss & O'Neill used EDR, an environmental database search service, to obtain the information referenced in the above table. A copy of the information provided by EDR relative to the Site and nearby properties is included in *Appendix C*.

Records of potential environmental issues listed at the Site or within the search radii were as follows:

- *Site*: As previously discussed in Section 4.4, seven heating oil USTs associated with the four-family apartments were abandoned in-place at the Site in 1998. Two of the abandoned 1,000-gallon USTs located at 30 King Court and 49 King Court were removed from the ground in 2003. It is unknown whether oil releases have occurred from any of these USTs.
- *16 Crosby Street*: As previously discussed, a leaking 2,000-gallon fuel oil UST was reported at this off-site address on August 29, 2006. The UST was removed along with contaminated soil (status is closed). The property is located approximately 150 feet north of the Site and is inferred to be hydraulically side-gradient.
- *45 Riverside Drive – Goodwin College (formerly Atlas Oil Company)*: A leaking UST (LUST) containing waste oil was reported for the property on February 10, 2009. No additional information is provided by the EDR Report regarding this issue, with the exception that the status is classified by the DEEP as “LUST closed”. In addition, three gasoline USTs, ranging from 550-gallons to 3,000-gallons, are listed as “permanently closed-tanks removed from ground” at the property. Goodwin College is located approximately 250 feet west-northwest of the Site and is inferred to be hydraulically downgradient.
- *135-195 Riverside Drive – Texaco*: As previously discussed, an incident resulted in the release of 1,500-gallons of fuel oil to the ground surface at this property. This property is located approximately 300 feet southwest of the Site and is inferred to be hydraulically downgradient.
- *400 Main Street – Pratt & Whitney*: Pratt & Whitney is listed in the LUST database as well as the RCRA Corrective Action, RCRA Treatment, Storage and Disposal facility and RCRA Hazardous Waste Generator databases. In addition, a large number of spills have been reported at this property. Pratt & Whitney is located approximately 350 feet to the east of the Site and is inferred to be hydraulically upgradient.
- Several additional leaking USTs and spills are located within the search radius.

Based on the Vapor Encroachment Tier I Screening, it is our opinion that Vapor Encroachment Conditions could potentially exist at the Site associated with the abandoned USTs at the Site and potential or documented releases from the above-referenced nearby parcels. Groundwater at the Site would need to be fully assessed to determine the risk for vapor encroachment with regards to the existing Site buildings.

7 Connecticut Transfer Law Status

The State of Connecticut Property Transfer Law, described in Sections 22a-134a through 22a-134e of the Connecticut General Statutes, requires the disclosure of environmental conditions when certain real

properties and/or businesses are transferred. The law applies only to those properties that are deemed to be "establishments" as defined under the law. As defined by the Transfer Act (Sections 22a-134a et seq. of the Connecticut General Statutes, as amended), an establishment is:

...any real property at which or any business operation from which (A) on or after November 19, 1980, there was generated, except as the result of remediation of polluted soil, groundwater or sediment, more than one hundred kilograms of hazardous waste in any one month, (B) hazardous waste generated at a different location by another person or municipality was recycled, reclaimed, reused, stored, handled, treated, transported or disposed of, (C) the process of dry cleaning was conducted on or after May 1, 1967, (D) furniture stripping was conducted on or after May 1, 1967, or (E) a vehicle body repair facility is or was located on or after May 1, 1967.

If the Site is determined to be an establishment, DEEP reporting and involvement may be required in order to transfer the property, and DEEP will require identification, delineation, and remediation of all environmental concerns in accordance with Connecticut's Remediation Standard Regulations.

Activities that would qualify the facility as an "establishment" have not been identified. However, should a determination as to the regulatory status of the Site with regard to the Connecticut Transfer Law be desired, legal counsel should be consulted.

8 Data Gaps, Findings and Conclusions

8.1 Data Gaps

Standard Practice 1527-05 requires the identification and evaluation of data gaps or data failures, which are defined as a lack of or inability to obtain information required by the practice despite good faith efforts by the environmental professional to gather such information.

The following data gaps were identified during this investigation:

- It was not possible to identify past uses of the Site back to its first known development. Past uses were identified back to the 1910s, at which time the parcel was used for agricultural purposes. The potential for the presence of RECs resulting from activities conducted prior to the 1910s is mitigated by the known agricultural use of the parcel at this time and the less common use of hazardous substances or petroleum products in the United States prior to the mid-1800s.
- During the site visit, only 2 of the 33 buildings were inspected. Based on the fact that the Site's buildings are currently heated by natural gas and maintenance activities were not conducted by Site occupants, the potential for environmental concerns associated with these units is low. Therefore, we did not consider our inability to inspect the remaining units as a significant data gap.

8.2 Findings and Conclusions

Fuss & O'Neill, Inc. prepared this Phase I ESA report in general conformance with the scope and limitations of ASTM Practice E 1527-05. Any exceptions to, or deletions from, this practice are described in *Appendix A* of this report.

This assessment has revealed the following RECs in connection with the Site:

- **Abandoned USTs:** According to Mr. Andre Dumas, Asset Coordinator for the East Hartford Housing Authority, five, abandoned 1,000-gallon heating oil underground storage tanks associated with five four-family apartment buildings have remained in-place at the Site since 1998. No additional information with regards to these USTs was available during our assessment. As with any underground tank system, there is the potential for subsurface releases to have occurred due to leaks in the tank or piping.
- **Former Abandoned UST:** A permit obtained at the Town of East Hartford Building Department for the 30 King Court parcel indicated that the building's abandoned 1,000-gallon heating oil UST was removed from the ground in April 2003. The permit also indicated that soil samples were collected from the tank grave; however, no additional information with regards to these activities was found. As with any underground tank system, there is the potential for subsurface releases to have occurred due to leaks in the tank or piping.

ASTM 1527-05 defines historical RECs as conditions that in the past would have been considered RECs, but which might not be considered RECs currently. The following historical RECs associated with the Site were identified:

- **Former Abandoned UST:** An abandoned 1,000-gallon heating oil UST was removed from the 49 King Court parcel in July 2003. Subsequent to the removal of the tank, a confirmatory soil sample was collected from the tank grave. The sample result was below the laboratory detection limit. Therefore, no additional investigation or remediation of this REC is warranted.

As with any site that has been used for agriculture, residual concentrations of pesticides may exist in shallow soils. However, shallow soils at the Site have been disturbed since the period when tobacco farming occurred on the Site. This disturbance was associated with the development of the Site in 1949 during the construction of the Site's residential structures. Therefore, the potential that residual pesticides are present in the shallow soil is relatively low. There is a potential for pesticides or for contaminants from off-site sources to be present in the groundwater. However, public water is available to the Site; therefore, use of groundwater at the Site is not anticipated.

In addition, as with any building constructed prior to 1978 that contains painted exterior surfaces, there is some potential that lead-containing paint chips may have been introduced to the soil around the building foundation. Chipping of painted exterior surfaces was observed during our site inspection. We have not specifically identified this as an REC, but this factor should be considered if substantial building renovation or site work is planned.

Potential off-site concerns:

- Pratt & Whitney Aircraft is located at 400 Main Street, which is approximately 350 feet east of the Site across Main Street. This manufacturing facility is listed in the LUST database as well as the RCRA Corrective Action, RCRA Treatment, Storage and Disposal facility and RCRA Hazardous Waste Generator databases. Since the regional groundwater flow direction is to the west towards the Connecticut River, the potential exists for contaminants to have impacted the Site's groundwater as a result of this upgradient property. As stated in the body of this report, a property owner is not responsible for addressing contamination that has migrated onto their property from an upgradient source.

Fuss & O'Neill has followed the guidelines described in ASTM E1527-05 to identify the RECs at the Site in a manner consistent with standard practice in the industry. However, as indicated in the ASTM standard, "No environmental site assessment can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs in connection with a property, and the practice recognizes reasonable limits of time and cost."

9 References

American Society for Testing and Materials, 2005, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process: ASTM Practice E 1527-05.

Connecticut Department of Environmental Protection, 1982, The Atlas of Public Water Supply Sources and Drainage Basins of Connecticut; CTDEP Natural Resources Center.

Connecticut Department of Environmental Protection, 1993, Water Quality Classifications for the Connecticut River and South central Coastal Basins; CTDEP, Bureau of Water Management; adopted February 1993.

Connecticut Department of Environmental Protection, 1997, Leachate and Wastewater Discharge Sources for the Connecticut River and South-central Coastal Basins; CTDEP Water Management Bureau.

Connecticut Department of Environmental Protection, 2011, Water Quality Standards; CTDEP, Effective February 25, 2011.

Connecticut Department of Energy and Environmental Protection, 2011, Connecticut Environmental Conditions Online; prepared in cooperation with the University of Connecticut. Retrieved online from <http://ctecoapp1.uconn.edu/advancedviewer/>. Accessed on January 24, 2013.

Rodgers, J., 1985, Bedrock Geological Map of Connecticut; CTDEP, Natural Resources Center, Connecticut Geological and Natural History Survey, in cooperation with the United States Department of the Interior, U.S. Geological Survey.

United States Geological Survey, 1992, Hartford North Quadrangle Connecticut-Hartford County, 7.5-Minute Series Topographic Map; United States Department of the Interior, U.S. Geological Survey, 1964, Photorevised 1992.

United States Geological Survey, 1992, Hartford South Quadrangle Connecticut-Hartford County, 7.5-Minute Series Topographic Map; United States Department of the Interior, U.S. Geological Survey, 1964, Photorevised 1992.