

**PHASE I
ENVIRONMENTAL SITE ASSESSMENT
THE RAMBLE WATERFRONT REDEVELOPMENT AREA
LAUREL, DELAWARE**

Prepared For:

**Laurel Redevelopment Corporation
115 Delaware Avenue
Laurel, Delaware**

November 13, 2015

Prepared By:



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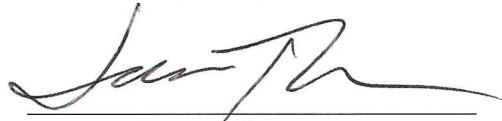
INTERNAL QUALITY CONTROL SHEET

This report has been prepared by BrightFields, Inc. (BrightFields) following standard practices and policies for the preparation of an environmental “due diligence” investigation more commonly known as a Phase I Environmental Site Assessment. These policies and practices include consideration of ASTM standard number E 1527-13 Environmental Site Assessments: Phase I Environmental Site Assessment Process. The EPA has determined that ASTM E 1527-13 is in full compliance with the requirements for conducting All Appropriate Inquiry (AAI) specified in EPA’s AAI rule (40 CFR Part 312). This report represents our knowledge of conditions on the subject site at the time of report preparation.

To assure accuracy and maintain a high level of quality, all BrightFields Environmental Site Assessments (ESAs) are subjected to an internal review procedure. This Phase I ESA was prepared and reviewed by the following BrightFields personnel. Biographical sketches of these personnel can be found in Appendix A. We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Subsection 312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the project area. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

PHASE I ENVIRONMENTAL SITE ASSESSMENT

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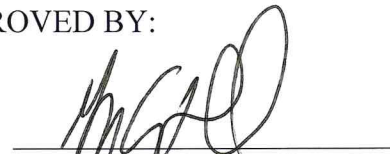


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PHASE I ENVIRONMENTAL SITE ASSESSMENT THE RAMBLE WATERFRONT REDEVELOPMENT AREA LAUREL, DELAWARE

1.0 BACKGROUND

This report presents the findings of a "due diligence" Phase I ESA of the Ramble Waterfront Redevelopment Area (project area), which is more fully described in Section 1.1 below. The Laurel Redevelopment Corporation (LRC) requested that BrightFields conduct this ESA for due diligence purposes associated with redeveloping the project area incorporating green infrastructure to manage stormwater along Broad Creek in Laurel, Delaware.

The purpose of the ESA was to: 1) identify existing and potential releases of hazardous substances on or around the site; 2) inquire into the previous ownership and uses of the property; and 3) identify other recognized environmental conditions (RECs) on the site. According to the Standard, a REC is defined as:

“The presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. 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.”

A historical REC (HREC) is a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A controlled REC (CREC) is a REC resulting from the past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action (NFA) letter or equivalent, or meeting risk-based criteria established by a regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

In order to assess the business environmental risk associated with the project area, additional non-scope considerations (not required in the ASTM Standard) may be evaluated. These may include: asbestos-containing materials, mold, radon, lead-based paint, lead in the drinking water, wetlands, and a cursory view of regulatory compliance. Based on the client's choice in our contract dated June 24, 2015, an ASTM-1527-13, AAI-compliant Phase I ESA (not including non-scope considerations) was completed.

This report has been prepared for the exclusive use of LRC, their assigns, their lender, and/or their legal representatives. The information contained herein may not be reproduced, used or relied upon by any other parties without the prior written consent of BrightFields.

1.1 SITE DESCRIPTION

The project area is approximately 24 acres and consists of 35 Sussex County tax parcels in Laurel, DE (Figure 1). A portion of Broad Creek is also present on the central portion of the project area. The tax parcels included in the project area currently consist of residential and commercial properties and vacant land. Buildings and other improvements are present on many of the parcels.

The area surrounding the project area is generally mixed residential and commercial. The project area is bordered by Growmark FS, Delaware Health and Social Services Center, a former Army National Guard facility (now Western Sussex Boys & Girls Club), The Insurance Market, Inc., a Shore Stop filling station, and residential properties to the north; a former ice cream/dairy distribution facility, residential dwellings, a former filling station, vacant commercial buildings, and commercial businesses to the south beyond Front Street; Records Pond handicap fishing area to the east beyond Cooper Branch (a tributary to Broad Creek) to the east; and railroad tracks to the west. A layout of the project area and surrounding properties is presented on Figure 3.

1.2 APPROACH

A number of sources were reviewed to assess whether environmental hazards were previously, or are currently, present on the project area. These include standard historical sources, environmental agency contacts, interviews and an on-site investigation.

Environmental agency site lists were reviewed to determine if a release of hazardous materials had been reported on or near the site. The agencies maintain files on sites which have been identified as having environmental contamination. The Federal, State and local agency lists were provided in a report prepared by:

- Environmental Data Resources, Inc. (EDR)
6 Armstrong Road
Shelton, Connecticut

In addition to the environmental agencies, BrightFields contacted, interviewed and/or received information from the following local agencies and/or individuals associated with the property:

- U. S. Natural Resource Conservation Service
Sussex County Conservation District
Georgetown, Delaware
- Sussex County Mapping Applications (www.sussexcountyde.gov)
- State of Delaware Department of Natural Resources and Environmental Control (DNREC) Delaware Environmental Navigator (DEN)
(<http://www.nav.dnrec.delaware.gov/DEN3/>)

- DNREC Division of Waste and Hazardous Substances
391 Lukens Drive
New Castle, Delaware
- Laurel Redevelopment Corporation
Contact: Don Phillips, LRC Board Member
- Town of Laurel
Contact: James Foskey, Public Works Director

As a final step in the Phase I Environmental Site Assessment, an on-site investigation was undertaken. No environmental samples were collected during the course of this Environmental Site Assessment. The following sections detail the findings of our data review, agency contacts, interviews and on-site investigation for the project area.

2.0 FINDINGS

2.1 HISTORICAL USES OF THE SITE

The historical use of the project area was investigated through a review of the following sources: Sanborn® maps, United States Geological Survey (USGS) topographic maps, local street directories, aerial photographs, land title records, previous reports, and interviews with knowledgeable site representatives.

Based on the sources reviewed and contacted, the project area has historically consisted of residential, commercial, and industrial properties. Sanborn® maps indicate that several lumber and coal yards, fertilizer warehouses, filling stations, automobile repair facilities, canning facilities, and a portion of the Marvil Package Company basket manufacturing facility were previously present within the project area. Additionally, Mr. Don Phillips of the LRC indicated that many industrial facilities were previously located along the north and south banks of Broad Creek within the project area. Mr. Phillips also indicated that a portion of the project area was historically used as a dump by Town of Laurel residents. These areas of past industrial use within the project area represent potential areas of concern because such industrial uses typically involved the use and/or disposal of hazardous or potential hazardous materials and improper use or disposal of such materials may have impacted subsurface conditions within the project area.

2.1.1 OWNERSHIP HISTORY

BrightFields obtained deeds for each of the 35 tax parcels included in the project area from the Delaware Land Records website (<https://de.uslandrecords.com>). BrightFields reviewed the deeds to determine the current and previous owners of the tax parcels and to determine if any environmental liens or activity and use limitation (AULs) are recorded on the deeds. No environmental liens or AULs are recorded on the deeds. Copies of the deeds reviewed and a tax parcel map are included in Appendix B. The following sections detail the review of the deeds for the project area parcels.

Tax Parcel 232-12.18-47.01

The Town of Laurel has owned tax parcel 232-12.18-47.01 since January 16, 2007. The previous owner was Growmark FS, LLC.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 232-12.18-60.00

The Mayor and Council of Laurel has owned tax parcel 232-12.18-60.00 since August 15, 1962. The previous owners were George and Helen Chandler.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 232-12.19-20.00

Long Pond Properties, LLC has owned tax parcel 232-12.19-20.00 since October 3, 2007. The previous owner was Bradford C. Baynum.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 232-12.19-21.00

LRC has owned tax parcel 232-12.19-21.00 since September 30, 1997. The previous owners were Charles and Cynthia Cole.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 232-12.19-23.00

The Town of Laurel has owned tax parcel 232-12.19-23.00 since March 10, 2005. The previous owner was William E. Hignutt.

No environmental liens or AULs are recorded on the deed. The deed does list restrictions pertaining to compatible uses and structures allowed on the property.

Tax Parcel 232-12.19-24.00

LRC has owned tax parcel 232-12.19-24.00 since March 8, 1999. The previous owners were Bobby L. Donovan et al.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 232-12.19-24.01

LRC has owned tax parcel 232-12.19-24.01 since May 19, 2000. The previous owner was JMB, Inc.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 232-12.19-25.00

LRC has owned tax parcel 232-12.19-25.00 since February 16, 1994. The previous owner was Margaret R. Taylor.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 232-12.19-25.01

LRC has owned tax parcel 232-12.19-25.01 since September 8, 1999. The previous owner was Margaret Taylor.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 232-12.19-27.00

LRC has owned tax parcel 232-12.19-27.00 since September 4, 1997. The previous owner was the George P. Volenik Trust.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 232-12.19-174.00

LRC has owned tax parcel 232-12.19-174.00 since May 15, 2003. The previous owners were Phillip and Patricia Hart.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 332-1.07-152.00

LRC has owned tax parcel 332-1.07-152.00 since December 13, 1995. The previous owner was Earl V. Whaley.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 332-1.07-153.00

LRC has owned tax parcel 332-1.07-153.00 since August 28, 2001. The previous owner was Venables Brothers II.

No environmental liens or AULs are recorded on the deed.

Tax Parcels 332-1.07-154.00, 332-1.07-156.00, 332-1.07-157.00, 332-1.07-158.00, 332-1.07-159.00, and 332-1.07-160.00

The Mayor and Council of Laurel have owned tax parcels 332-1.07-154.00, 332-1.07-156.00, 332-1.07-157.00, 332-1.07-158.00, 332-1.07-159.00, and 332-1.07-160.00 since November 25, 2003. The previous owner was LRC.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-42.00

The Mayor and Council of Laurel have owned tax parcel 432-8.06-42.00 since August 16, 2007. The previous owner was LRC.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-44.00

LRC has owned tax parcel 432-8.06-44.00 since October 8, 2007. The previous owner was the Mayor and Council of Laurel.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-45.00

LRC has owned tax parcel 432-8.06-45.00 since December 20, 2010. The previous owners were Katrina Kruger et al.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-46.00

LRC has owned tax parcel 432-8.06-46.00 since August 7, 1997. The previous owners were Gary and Kay Hearn.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-47.01

LRC has owned tax parcel 432-8.06-47.01 since February 8, 1996. The previous owner was Sharpgas, Inc.

No environmental liens or AULs are recorded on the deed.

Tax Parcels 432-8.06-48.00, 432-8.06-50.00, and 432-8.06-51.00

LRC has owned tax parcels 432-8.06-48.00, 432-8.06-50.00, and 432-8.06-51.00 since November 2, 1996. The previous owners were Ray and Patty Sisk.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-49.00

Preston J. Hudson II has owned tax parcel 432-8.06-49.00 since January 30, 2006. The previous owners were Dorothy L. Hudson and Preston J. Hudson II.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-51.01

Phillip Thompson (son of Jerry and Diane Thompson) has owned tax parcel 432-8.06-51.01 since February 4, 1977. The previous owners were Ray and Patty Sisk.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-52.00

LRC has owned tax parcel 432-8.06-52.00 since December 30, 1999. The previous owners were Stephen and Melissa Cox.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-53.00

Freddie T. Pusey has owned tax parcel 432-8.06-53.00 since September 23, 1997. The previous owners were Oby L. Gale and Elisabeth Arnold.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-53.01

LRC has owned tax parcel 432-8.06-53.01 since November 18, 1997. The previous owner was Freddie T. Pusey.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-54.00

Freddie T. Pusey has owned tax parcel 432-8.06-54.00 since January 27, 2012. The previous owner was Delmar Feed Mills, Inc.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-54.01

Littleton Trustee (formerly Lee and Faye Littleton) has owned tax parcel 432-8.06-54.01 since February 27, 2002. The previous owner was Delmar Feed Mills, Inc.

No environmental liens or AULs are recorded on the deed.

Tax Parcel 432-8.06-54.02

Benjamin K. Cochran has owned tax parcel 432-8.06-54.02 since November 7, 2008. The previous owner was Delmar Feed Mills, Inc.

No environmental liens or AULs are recorded on the deed.

2.1.2 HISTORICAL MAPS AND DIRECTORIES

BrightFields reviewed Sanborn[®] maps, USGS topographic maps, and a local directory search provided by EDR in an effort to determine the first developed uses of the project area. Copies of the Sanborn[®] maps, USGS topographic maps, and the local directory search are included in Appendix C and are described in the following paragraphs:

Sanborn Maps:

1885- The portion of the project area located to the south of Broad Creek between Poplar Street (present day Road 28A) and Delaware Avenue was depicted. Residential dwellings, several sheds, and a storage warehouse were present within the project area along Front Street and Central Avenue. Two granary buildings were present within the project area to the east of Central Avenue along Broad Creek (portion of present day Janosik Park area). Residential dwellings, sheds, and a grocery store were present to the south of the project area along Front Street.

- 1891-** The portions of the project area located to the south of Broad Creek were depicted. Residential dwellings, granary buildings, and other structures presumed to be storage buildings were present within the project area to the west of Central Avenue between Broad Creek and Front Street. Two vacant warehouse buildings and a granary building were located within the project area along Front Street between Central Avenue and Delaware Avenue (portion of present day Janosik Park area). A lumber, coal, and hay yard (Tilghman and More) was present within the project area to the east of Delaware Avenue (portion of present day Janosik Park area). A railroad was present adjacent to the west of the project area. The properties to the south of the project area along Front Street consisted of residential dwellings, storage buildings, and commercial storefronts. Cooper Branch (a tributary to Broad Creek) was depicted to the east of the project area, adjacent to the Tilghman and More lumber, coal, and hay yard. A second lumber, coal, and hay yard (J.C. Rodney) was depicted adjacent to the east of the project area (east of Delaware Avenue) to the north of Broad Creek.
- 1897-** No additional portions of the project area were depicted. Two fertilizer warehouse buildings were present within the project area to the east of Poplar Street along Broad Creek. No other significant changes were evident to the project area and no significant changes were evident to the adjacent properties.
- 1901-** An additional portion of the project area located along Delaware Avenue to the north of Broad Creek was depicted. Two fertilizer storage building were present within the project area to the west of Oak Street along Broad Creek. A canning facility (G.W. Stradley & Co. Canning Works) was present in the project area between Broad Creek and Front Street and east of Central Avenue where the existing A&K Enterprises building is located. A building located between Central Avenue and Delaware Avenue previously indicated as a granary was indicated as a fertilizer storage building. A coal shed and office building presumed to be associated with the J.C. Rodney lumber, coal, and hay yard were present in the project area to the west of Delaware Avenue along the northern bank of Broad Creek. Residential Dwellings and a grocery store were present in the project area to the north of Broad Creek along Delaware Avenue. No other significant changes were evident to the project area. Residential dwellings, a grocery store, and a general store were present along Delaware Avenue to the east of the project area and north of Broad Creek. No other significant changes were evident to the adjacent properties.
- 1907-** No additional portions of the project area were depicted. A gasoline UST was depicted on the G.W. Stradley & Co. Canning Works facility property. No significant changes were evident to the project area and no significant changes were evident to the adjacent properties.
- 1912** – Lumber storage buildings and a lumber loading dock were present on the western portion of the project along the northern bank of Broad Creek. The lumber storage buildings may have been associated with the Samuel Bacon's Sons & Company facility (building materials and box shooks) located to the north of the project area. A water pump house was present within the project

area to the east of the Laurel Canning Co. facility (previously known as G.W. Stradley & Co. Canning Works) along the southern bank of Broad Creek. A building located at the southeast corner of Front Street and Delaware Avenue previously indicated as a canned goods storage building was indicated as a garage (Marvil's Garage). No other significant changes were evident to the project area. A power plant (Sussex Light & Power Co. power house) was present to the north of the project area and east of the railroad tracks.

1922 – An additional portion of Poplar Street located to the north of Broad Creek was depicted. Several of the lumber storage buildings previously located on the western portion of the project along the northern bank of Broad Creek were no longer present. A concrete block manufacturing facility was present to the east of Poplar Street and south of the fertilizer storage buildings. Additional portions of Poplar Street were depicted in the project area to the north of Broad Creek. The gasoline UST previously depicted on the canning facility property was no longer depicted. A fertilizer storage/distribution facility (Valliant Fertilizer Co.) was present in the project area to the east of the pump house along the southern bank of Broad Creek where several storage buildings were previously located. Chipman Street was present in the northeastern portion of the project area and residential dwellings were present along Chipman Street. No other significant changes were evident to the project area. Buildings presumed to be associated with the Marvil Package Company facility (a crate and basket manufacturing company) were present adjacent to the north of the project area, between the Laurel Electric Light Works facility (formerly Sussex Light & Power Co. power house) and Poplar Street. Additional buildings presumed to be associated with the Laurel Electric Light Works facility were also present adjacent to the north of the project area and the buildings were indicated as a garage, machine shop, and pipe shop. No other significant changes were evident to the adjacent properties.

1931 – An additional portion of Central Avenue located to the north of Broad Creek was depicted. The lumber storage building previously located on the western portion of the project along the northern bank of Broad Creek was no longer present. An automobile service station with two gasoline USTs was present in the project area to the south of Broad Creek along the western side of Central Avenue. The former Laurel Canning Co (existing A&K Enterprises building) consisted of a gasoline filling station with three gasoline USTs, an automobile repair facility, and a storage building. The storage buildings located within the project area to the east of Delaware Avenue (formerly Tilghman and More lumber, coal, and hay yard) were no longer present and residential dwellings were present. No other significant changes were evident to the project area. Several of the Marvil Package Company facility buildings located adjacent to the north of the project area were expanded and were indicated as basket manufacturing buildings. A National Guard Armory building was present to the north of the project area between Poplar Street and Central Avenue. A canning facility (Oliphant Packing Co.) was present to the east of the project area, to the north of Broad Creek. A gasoline filling station with three USTs was present to the south of the project area at the southwest corner of Front

Street and Central Avenue. No other significant changes were evident to the adjacent properties.

1945 – A gasoline filling station with three gasoline USTs was present in the project area to the north of Broad Creek along the eastern side of Central Avenue. A fourth gasoline UST was depicted on the filling station/automobile repair facility (former Laurel Canning Co.) located at the northeast corner of Central Avenue and Front Street. An automobile repair facility was present in the project area along the northern bank of Broad Creek and adjacent to the west of Delaware Avenue. No other significant changes were evident to the project area and no significant changes were evident to the adjacent properties.

1959 – An equipment warehouse building was present partially within the project area to the south of the National Guard building. A welding building and an automobile repair building were present in the project area to the north of Broad Creek along Central Avenue, to the northeast and southeast of the filling station. The former poultry warehouse building in the project area to the south of Broad Creek along Poplar Street (present day Road 28A) was operating as an automobile and electric repair facility. The automobile service station facility previously located in the project area to the south of Broad Creek along the western side of Central Avenue was no longer present and a filling station building was present to the south of the former automobile repair facility location. Three of the four USTs on the filling station/automobile repair facility (former Laurel Canning Co.) located at the northeast corner of Central Avenue and Front Street were no longer depicted. No other significant changes were evident to the project area. The Valiant Fertilizer Company facility was expanded to the south outside of the project and included two fertilizer warehouse buildings. The filling station previously located at the southwest corner of Front Street and Central Avenue was no longer present and a restaurant was present. No other significant changes were evident to the adjacent properties.

Topographic Maps:

USGS 15 Minute Series Topographic Quadrangle, Seaford - 1915

A structure was present in the northwestern portion of the project area, to the north of Broad Creek and east of the railroad tracks, indicative of a lumber storage building depicted in the 1912 and 1922 Sanborn® maps. No other significant changes were evident to the project area. A building presumed to be industrial was present adjacent to the northwest of the project area, to the east of the railroad tracks. No other significant changes were evident to the adjacent properties.

USGS 15 Minute Series Topographic Quadrangle, Seaford - 1948

No significant changes were evident to the project area. Additional structures presumed to be industrial buildings were present to the northwest of the project area, to the east of the railroad tracks. No other significant changes were evident to the adjacent properties.

USGS 7.5 Minute Series Topographic Quadrangle, Laurel - 1955

A structure indicative of the Valliant Fertilizer Company building depicted on Sanborn® maps was present in the project area between Broad Creek and Front Street. Multiple other structures were present in the project area along Front Street and Delaware Avenue, indicative of the residential dwellings and commercial businesses depicted in the 1959 Sanborn® map. Structures were present in the project area to the north of Broad Creek along Central Avenue, indicative of the filling station, welding, and automobile repair buildings depicted on the 1959 Sanborn® map. Structures were present to the east of the filling station, welding, and automobile repair buildings along Chipman Street, indicative of the residential dwellings depicted on the 1959 Sanborn® map. No other significant changes were evident to the project area. A structure was present to the northeast of the project area indicative of the Phillips Packing Co. canning facility depicted on the 1959 Sanborn® map. Additional structures presumed to be industrial buildings associated with the Marvil Package Company facility were present to the north of the project area between the railroad tracks and Central Avenue. A structure was present to the south of the project area along Front Street indicative of the Valliant Fertilizer Co. fertilizer warehouse building depicted on the 1959 Sanborn® map. No other significant changes were evident to the adjacent properties.

USGS 7.5 Minute Series Topographic Quadrangle, Laurel - 1983

Two additional structures were present within the project area between Front Street and Broad Creek. No other significant changes were evident to the project area and no significant changes were evident to the adjacent properties.

USGS 7.5 Minute Series Topographic Quadrangle, Laurel - 1992

The filling station building previously depicted in the project area to the north of Broad Creek along Central Avenue was no longer present. No other significant changes were evident to the project area. Several of the presumed industrial buildings previously depicted to the northwest of the project area were no longer present. A structure indicative of the existing Shore Stop filling station building was present adjacent to the north of the project area along Central Avenue. No other significant changes were evident to the adjacent properties.

City Directory Search:

BrightFields subcontracted EDR to research local directories for occupants listed within the project area on North Poplar Street and North Central Avenue. EDR researched directories for the years of 1966, 1970, 1974, 1979, 1992, 1995, 1999, 2003, 2008, and 2013. A copy of the EDR City Directory Image Report is included in Appendix C.

A review of the EDR City Directory Image Report indicates that various residential occupants and commercial business were listed since 1966.

Herco Automotive Supplies was listed at 305 North Central Avenue in 1970 and 1974. BrightFields suspects that this listing applies to tax parcel 232-12.19-20.00 located within the

project area to the north of Broad Creek. A commercial storefront building and an automobile repair building were depicted on this parcel on a 1959 Sanborn[®] map for the project area.

No other commercial businesses listed within the project area indicated uses that would present a potential environmental concern for the project area.

2.1.3 INTERPRETATION OF AERIAL PHOTOGRAPHS

BrightFields reviewed aerial photographs of the project area and adjacent properties for the years of 1937, 1954, 1960, 1971, 1973, 1982, 1989, 1991, 1992, 1998 2006, 2009, and 2011. The following paragraphs summarize the photographs (see Appendix C):

1937– Several structures and materials presumed to be associated with the Marvil Package Co. facility were present within the northwestern portion of project area along Broad Creek between the railroad tracks and Poplar Street (Road 28A). Structures presumed to be residential dwellings, storage buildings, and commercial businesses were present in the project area to the south of Broad Creek between the railroad tracks and Poplar Street. Structures were present to the south of Broad Creek along Central Avenue indicative of the automobile repair building and filling station buildings depicted on the 1931 and 1945 Sanborn[®] maps. A structure was present in the project area to the north of Broad Creek along the east side of Central Avenue indicative of the filling station building depicted on the 1945 and 1959 Sanborn[®] maps. Structures indicative of the Laurel Waterworks pump house building and Valliant Fertilizer facility depicted on the 1922 and 1931 Sanborn[®] maps were present in the project area to the south of Broad Creek along Front Street. Structures presumed to be residential dwellings were present in the project area to the south of Broad Creek and east of Delaware Avenue and in the project area to the north of Broad Creek and west of Delaware Avenue along Chipman Street. Structures indicative of the Marvil Package Co. facility were present adjacent to the northwest of the project area. A structure indicative of the former National Guard Armory building was present to the north of the project area along Central Avenue. A structure indicative of the Oliphant Packing Co. canning facility was present to the northeast of the project area along Delaware Avenue. Structures presumed to be residential dwellings and commercial businesses were present to the south of the project area along Front Street.

1954– The structures and materials presumed to be associated with the Marvil Package Co. facility previously located within the northwestern portion of project area along Broad Creek were no longer present. Several of the buildings previously located in the project area to the south of Broad Creek between the railroad tracks and Poplar Street were no longer present. The structure indicative of the automobile service station building previously located in the project area to the south of Broad Creek along the western side of Central Avenue was no longer present and three smaller structures were present. Two additional structures were present in the project area to the north of Broad Creek on the eastern side of Central Avenue, indicative of the commercial storefront building and welding building depicted on the 1959 Sanborn[®] map. A structure was present in the project area to the north of Broad Creek on the western side of Delaware

Avenue indicative of the automobile repair facility depicted on the 1945 and 1959 Sanborn® maps. No other significant changes were evident to the project area and no significant changes were evident to the adjacent properties.

- 1960-** A structure was present in the project area to the south of Broad Creek on the western side of Central Avenue indicative of the filling station building depicted on the 1959 Sanborn® map. No other significant changes were evident to the project area or to the adjacent properties.
- 1973-** The filling station building previously located in the project area to the north of Broad Creek on the eastern side of Central Avenue was no longer present. No other significant changes were evident to the project area. Structures were present to the south of the project area between Central Avenue and Delaware Avenue indicative of fertilizer warehouse buildings depicted on the 1959® Sanborn map. Several of the industrial buildings previously located to the northwest of the project area were no longer present. A structure indicative of the existing Shore Stop filling station building was present to the north of the project area to the east of Central Avenue. No other significant changes were evident to the adjacent properties.
- 1982-** No significant changes were evident to the project area. Additional structures presumed to be industrial buildings were present to the northwest of the project area. One of the structures indicative of a fertilizer warehouse building previously located to the south of the project area along Front Street was no longer present. No other significant changes were evident to the adjacent properties.
- 1989-** No significant changes were evident to the project area or to the adjacent properties.
- 1991-** No significant changes were evident to the project area or to the adjacent properties.
- 1992-** No significant changes were evident to the project area. Additional structures presumed to be industrial buildings were present on the property to the northwest of the project area, possibly indicative of the existing Growmark FS site. No other significant changes were evident to the adjacent properties.
- 1998-** The structure indicative of the Valliant Fertilizer Co. facility previously located in the project area to the south of Broad Creek along Front Street, to the west of Delaware Avenue, was no longer present. The residential dwellings previously located in the project area along Chipman Street were no longer present. The residential dwellings previously located in the project area along Front Street to the east of Delaware Avenue were no longer present. No other significant changes were evident to the project area or to the adjacent properties.
- 2006-** No significant changes were evident to the project area. The former Oliphant Packing Co. canning facility building previously located to the northeast of the project area was no longer present. No other significant changes were evident to the adjacent properties.

2009- No significant changes were evident to the project area or to the adjacent properties.

2011- No significant changes were evident to the project area or to the adjacent properties.

2.1.4 INTERVIEWS

BrightFields interviewed LRC Board Member, and native of Laurel, DE, Don Phillips on October 8, 2015 regarding his knowledge of environmental conditions within the project area. Mr. Phillips indicated that he is one of the founding members of the LRC (founded in 1992). The LRC owns 18 of the 35 tax parcels included in the project area. Mr. Phillips believes that the purchase prices paid for the properties owned by the LRC represented fair market value and he does not believe that any of the properties were purchased at a lower value due to the presence of contamination. He indicated that a portion of the project area located to the east of the existing Pizza King restaurant was previously used as a dumping area for Town of Laurel residents. Mr. Phillips also confirmed that the Pizza King restaurant property, the A&K Enterprises property, the Former Thompson Gas Station Site property, and the property to the south of the Former Thompson Gas Station Site property beyond Front Street were previously used as filling stations. He does not know if any USTs have been removed from these properties. Mr. Phillips also indicated that the Valliant Fertilizer facility previously located within the project area where Janosik Park is located was used for storage and distribution of fertilizer and not fertilizer manufacturing. He believes it is possible that historic fill materials may be present within the project area to the south of the existing Growmark facility location where the Marvil Package Co. previously operated and along Broad Creek where other industrial facilities were previously located. Mr. Phillips provided historic photographs and postcards showing areas within the project area and adjacent to the project area obtained from the Laurel Historical Society and Museum. Mr. Phillips gave BrightFields permission to include copies of the images in this Phase I report and indicated that these images were not permitted to be used for any other purposes without obtaining permission from the Laurel Historical Society and Museum. Copies of some of the postcards and historic photographs are included in Appendix C.

BrightFields contacted the Town of Laurel to obtain information regarding utilities present within the project area. Mr. James Foskey, Public Works Director for the Town of Laurel, responded on October 2, 2015. Mr. Foskey indicated that the utilities present within the project area include the local water supply and sewer systems overseen by the Town of Laurel, natural gas provided by Chesapeake Utilities, and electricity provided by Delmarva Power.

2.1.5 REVIEW OF PREVIOUS REPORTS

BrightFields reviewed reports for sites located within the project area including the PJ Hudson site and the Former Thompson Gas Station site (DE-1472). BrightFields also reviewed reports for sites located adjacent to the project area including the Growmark FS site (also identified in Section 2.2 as the Valliant Fertilizer site and Milford Fertilizer Co. site), the Former Army National Guard site and the Shore Stop site. The locations of these sites are shown on Figure 3 and copies of the reports reviewed are included in Appendix E. The reports reviewed for these sites are summarized below:

PJ Hudson Site

The PJ Hudson site is located within the project area adjacent to the southern bank of Broad Creek along the eastern side of North Poplar Street. The site is identified as DNREC Tank Management Section (TMS) Facility #5-000573. BrightFields reviewed a no further action (NFA) letter from DNREC dated January 26, 1995 and associated tank management documents obtained from DNREC TMS. The documents indicate that a 550-gallon UST was removed from the site on November 22, 1994. The UST was located on the western side of the building on this site along Poplar Street. The tank was reportedly empty at the time it was removed. Soil samples were collected during the removal and were analyzed for total benzene-toluene-ethylbenzene-xylene (BTEX) and total petroleum hydrocarbons (TPH). Analytical results indicated that BTEX and TPH were not detected above the laboratory method detection limits (MDL). Based on this information, DNREC required no further action regarding this UST. Based on this information, adverse impacts within the project area in the vicinity of the PJ Hudson site are not anticipated.

Former Thompson Gas Station Site

The Former Thompson Gas Station site is located within the project area at the northwest corner of Front Street and Central Avenue. BrightFields reviewed a Brownfield Certification letter for the site dated June 22, 2009, prepared by DNREC. The Brownfield Certification letter indicates that the site was previously used as a gas station. No other reports for the Thompson Gas Station site were available for review. Based on the use of the site as a gas station and the location of the site within the project area, adverse impacts to subsurface conditions within the project area in the vicinity of the Former Thompson Gas Station site are possible and this represents a REC for the project area. The former Thompson Gas Station site (tax parcel #432-8.06-51.01) is owned by Phillip Thompson and a Brownfield Investigation of the site has not been completed.

Growmark FS Site

The Growmark FS site is located adjacent to the north and to the west of the project area border at 431 North Poplar Street (Road 28A). BrightFields reviewed the following previous reports for the Growmark FS site:

- *Preliminary Assessment*, dated March 1990, prepared by DNREC.
- *Phase I Environmental Site Assessment*, dated April 29, 2002, prepared by WIK Associates, Inc. (WIK).
- *Phase 2 Investigation*, dated January 9, 2003, prepared by BT², Inc. (BT²).
- *2004 Groundwater Investigation*, dated December 16, 2004, prepared by Environmental Resources Management, Inc. (ERM).
- *Remedial Action Work Plan*, dated June 5, 2009, prepared by ERM.
- *Subject: Remedial Action Work Plan Approval*, dated July 1, 2009, prepared by DNREC.

The *Preliminary Assessment* indicates that the southern portion of the Growmark FS site located within the project area was filled in the early 1970s. The presence of unknown fill materials within the project area represents a REC.

The *Phase I Environmental Site Assessment* indicates that two 2,000-gallon gasoline USTs were abandoned at the Growmark FS site in 1975, two 2,000-gallon gasoline USTs were removed from the site in 1988, and one 12,000-gallon diesel UST was removed from the site in 1988. The report indicates that no information regarding the method of abandonment, or if sampling was conducted, was available for the two 2,000-gallon USTs abandoned in 1975. The report indicates that a laboratory analysis report was reviewed for two soil samples collected during the removal of the three USTs in 1988. The samples were analyzed for BTEX and TPH. One of the soil samples was indicated as a composite sample collected from excavated material and the other sample was indicated as a grab sample collected from two feet below the tank bottoms. Analytical results indicated TPH present in the composite and grab samples at concentrations of 265 mg/kg and 160 mg/kg, respectively. BTEX was not detected above the laboratory method detection limits (MDL) in either sample. The Phase I report indicates that a letter from DNREC to Milford Fertilizer Co. dated December 17, 1991 was reviewed and that DNREC indicated that they had reviewed documentation regarding the proper disposal of contaminated soil excavated from the site and that based on the analytical results for the soil samples collected no further action was required regarding the removal of the three USTs. BrightFields also obtained and reviewed the TMS files for the Milford Fertilizer Co. for this Phase I ESA and copies of the files are included in Appendix E.

The *Phase 2 Investigation* report indicates that soil and groundwater sampling was conducted at the Growmark FS site in September 2002 based on potential concerns identified in the Phase I report prepared by WIK. The report indicates that eleven soil borings were advanced on the site and that samples were collected from each boring. Groundwater samples were collected from four of the soil borings and from two water supply wells on the site. Two soil samples and one groundwater sample collected from the vicinity of the former UST field were analyzed for petroleum compounds. The analytical results indicated that petroleum compounds were not detected above the laboratory MDL. Soil and groundwater samples were also analyzed for nitrate, ammonia, and pesticides. Analytical results indicated that nitrate, ammonia, and pesticides were not detected above Delaware standards or EPA Risk-Based Concentrations. Nitrate and several pesticides were detected in groundwater exceeding State and Federal standards.

The *2004 Groundwater Investigation* indicates that four monitoring wells were installed and sampled at the Growmark FS site in 2004 to further investigate the nitrate and pesticide impacts in groundwater. Analysis of the groundwater samples indicated the pesticide alachlor and nitrates are present at concentrations exceeding Delaware standards. Additionally, ammonia was detected in groundwater at concentrations exceeding the EPA Lifetime Health Advisory Limit. Evaluation of groundwater level measurements collected from the site indicated that groundwater beneath the Growmark FS site flows south towards Broad Creek.

The *Remedial Action Work Plan* indicates that following the 2004 groundwater sampling, further assessments (including surface water sampling at Broad Creek) were conducted to evaluate the potential impacts of ammonia, nitrates, and alachlor present in groundwater to the primary environmental receptor for the site, which was determined to be Broad Creek. The assessments indicated that the ammonia, nitrates, and alachlor present in groundwater at the Growmark FS site did not pose an unacceptable risk to Broad Creek. The report indicates that DNREC responded agreeing that it was unlikely that the ammonia,

nitrate, and alachlor present in groundwater at the Growmark FS site would result in exceedance of surface water quality standards in Broad Creek and requested remedial action to stabilize and/or reduce the concentrations of ammonia and nitrate in groundwater. ERM proposed phytoremediation as the remedial approach for the site. The phytoremediation proposed consisted of planting poplar trees along the southern boundary of the Growmark FS site.

The *Subject: Remedial Action Work Plan Approval* correspondence indicates that DNREC approved the Remedial Action Work Plan for the site consisting of phytoremediation. No information regarding the implementation of the phytoremediation was available for review, however, BrightFields observed a poplar tree planting area on the southern portion of the Growmark FS site during a site visit performed on September 21, 2015 (see Section 2.5.1).

2.2 AGENCY CONTACTS

Environmental Data Resources, Inc. (EDR) was subcontracted to search Federal, State, and/or local agency databases in order to obtain information, including investigations which may have performed, regarding the project as well as surrounding properties. Typically, agencies maintain lists of investigated sites which are then used to identify potential environmental concerns. These lists include the following:

<u>Database:</u>	<u>Search Radius:</u>
• National Priority List (of Superfund sites).....	1 mile
• Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS).....	0.5 mile
• CERCLIS No Further Remedial Action Planned (NFRAP) list.....	0.5 mile
• State Hazardous Waste Site (SHWS)- State of Delaware Superfund list.....	1 mile
• Delaware Registered Underground Storage Tank (UST) List.....	project area and adjoining properties
• State of Delaware Leaking Underground Storage Tank (LUST) list	0.5 mile
• Delaware Solid Waste Facilities list	0.5 mile
• Delaware Brownfields List	0.5 mile
• Resource Conservation and Recovery Act Information System (RCRA):	
- RCRA Treatment, Storage and Disposal Facility (TSDF) Sites	0.5 mile
- RCRA CORRACTS and non-CORRACTS (Corrective Action Sites)	1 mile
- RCRA generators.....	project area and adjoining properties
• Emergency Response Notification System (ERNS).....	project area only

A review of the EDR Radius Map™ Report indicates that one above-ground storage tank (AST) site and one LUST site were identified inside the project area.

The AST site is identified as Laurel BP and the LUST site is identified as D and D Investments (D&C Auto). Information obtained from the DNREC DEN indicates that the Laurel BP AST database listing and the D and D Investments LUST listings are for the same facility and that the facility was incorrectly mapped by EDR as being located inside the project area. The Laurel BP/D and D Investments (D&C Auto) site is located approximately 0.25 mile north of the project area at the intersection of Central Avenue and Georgetown Road.

BrightFields submitted a FOIA request to DNREC TMS to obtain additional information regarding the Laurel BP/D and D Investments (D&C Auto) site and based on a review of the information obtained from DNREC TMS, adverse impacts to subsurface conditions within the project area due to contaminant migration from the Laurel BP/D and D Investments (D&C Auto) site are not anticipated.

BrightFields identified one additional UST site located within the project area that was not identified in the EDR Radius Map™ Report. The site is identified as PJ Hudson-Laurel located adjacent to the southern bank of Broad Creek along the eastern side of North Poplar Street. BrightFields submitted a FOIA request for the PJ Hudson-Laurel site and based on a review of the information obtained from DNREC TMS, adverse impacts to subsurface conditions with the project area in the vicinity of the PJ Hudson site are not anticipated (see Section 2.1.5).

EDR found several other sites within the ASTM-required search radii for the project area including 1 CERCLIS NFRAP site, 1 SHWS site, 3 adjacent UST sites, 2 adjacent AST sites, 17 LUST sites, and one adjacent RCRA non-generator (NonGen) site.

CERCLIS NFRAP

The radius search found 1 CERC-NFRAP site located within a 0.5 mile radius of the project area and the site is identified as Valliant Fertilizer located adjacent to the north and northwest of the project area at 431 North Poplar Street (Road 28A). The Valliant Fertilizer site was also identified as a SHWS site and as Growmark FS, LLC (Laurel) on the AST database. The Growmark FS, LLC (Laurel) site is a fertilizer storage and distribution facility and information from the DNREC DEN indicates that 16 ASTs are registered as in service at the site. A review of historic maps indicated that the Growmark FS, LLC site is located where the Marvil Package Company facility (a crate and basket manufacturing company) was previously located. Historic maps also indicate that portions of the Marvil Package Company were formerly located in the project area to the north of Broad Creek on the southern portion of the Growmark FS site. Review of a Preliminary Assessment (PA) report for the site dated March 1990, prepared by DNREC, indicated that southern portion of the Growmark FS site (within the project area) was filled in the early 1970s.

The EDR Radius Map™ Report indicates that the Growmark FS site was also identified on the leaking above-ground storage tank (LAST) database as the Laurel Location site. BrightFields submitted a FOIA request to DNREC TMS to obtain additional information regarding the LAST listing of the Growmark FS, LLC (Laurel) site. The information obtained from DNREC TMS indicated that alachlor (an herbicide) and nitrogen compounds were detected in groundwater samples collected from a monitoring well located in the project area to the south of the Growmark FS, LLC (Laurel) site at concentrations exceeding regulatory criteria. Additionally, the information reviewed indicated that groundwater beneath the Growmark FS, LLC (Laurel) site flows towards the project area. Information from DNREC TMS and observations made during a site visit performed by BrightFields on September 21, 2015 indicate that the phytoremediation was performed at the Growmark FS site but no information pertaining to the results of the phytoremediation was available for review (see Section 2.1.5).

The presence of unknown fill materials within the project area represents a REC for the project area.

SHWS

The radius search found 1 SHWS site located within a one mile radius of project area and the site is identified as Valliant Fertilizer located adjacent to the north and northwest of the project area at 431 North Poplar Street. As previously indicated in this Section, the site is also identified as the Growmark FS, LLC (Laurel) site. Information obtained from the DNREC DEN indicates that the southern portion of the Growmark FS site (located within the project area) was filled in the early 1970s and this represents a REC for the project area.

UST

The radius search found 2 adjacent UST sites and the sites are identified as DEARNG Laurel located adjacent to the north of the project area at Central Avenue & Chestnut Street and Shore Stop located adjacent to the north at 405 N. Central Avenue.

The EDR Radius Map™ Report indicates that these sites were also identified on the LUST database. BrightFields submitted a FOIA request to DNREC TMS to obtain additional information regarding the LUST investigations conducted at the sites

Based on a review of the information obtained from DNREC TMS for the DEARNG Laurel site, adverse impacts to subsurface conditions within the project area due to contaminant migration from the DEARNG Laurel site are not anticipated.

The information obtained from DNREC TMS for the Shore Stop site indicates that several releases of petroleum have occurred at the site and that groundwater beneath the Shore Stop site flows south towards the project area. Based on this information, adverse impacts to subsurface conditions in the project area due to contaminant migration from the Shore Stop site are possible.

BrightFields identified one additional UST site located adjacent to the north of the project area that was not identified in the EDR Radius Map™ Report. The site is identified as Milford Fertilizer Co. This site was also identified as the Valliant Fertilizer site and the Growmark FS site. Based on a review of information obtained from DNREC, adverse impacts to subsurface conditions within the project area on the Growmark FS site are possible and this represents a REC for the project area.

AST

The radius search found 2 adjacent AST sites and the sites are identified as Growmark FS, LLC (Laurel) located adjacent to the north and northwest of the project area and Shore Stop located adjacent to the north of the project area.

As previously indicated, adverse impacts to subsurface conditions within the project area on the Growmark FS site are possible and this represents a REC for the project area.

As previously indicated, adverse impacts to subsurface conditions within the project area due to contaminant migration from the Shore Stop site are possible and this represents a REC for the project area.

LUST

The radius search found 16 LUST sites within a 0.5 mile radius of the project area and these sites are identified as follows:

Site	Address	Distance
Army National Guard	Central Avenue & Chestnut Street	Adjacent to north
Shore Stop	405 N. Central Avenue	Adjacent to north
Allen's Texaco	West Street and Townsends Street	0.107 mile south
Uncle Willies #4	104 West Street	0.125 mile south
Laurel Post Office	400 South Central Avenue	0.135 mile south
Russell Garage	US Route 13A & Maryland Ave.	0.160 mile north
C.C. Oliphant and Son	Brooklyn Avenue	0.178 mile north
Town of Laurel	Poplar Street and Mechanic Street	0.181 mile south
Laurel Sunoco	North Main Street	0.200 mile north
Collins Motor Co.	East 4 th Street	0.307 mile east

As previously indicated, adverse impacts to subsurface conditions in the project area due to contaminant migration from the Shore Stop site are possible and this represents a REC for the project area.

Based on information obtained from DNREC TMS and from the DNREC DEN, adverse impacts to subsurface conditions in the project area due to contaminant migration from the other 6 LUST sites listed above are not anticipated.

RCRA NonGen

The radius search found one adjacent RCRA NonGen site and the site is identified as Laurel Armory (AKA DEARNG Laurel site and Army National Guard site) located adjacent to the north of the project area at Central Avenue & Chestnut Street. The RCRA NonGen designation indicates that the site no longer generates hazardous waste but previously was a hazardous waste generator. The site was previously registered as a conditionally exempt small quantity generator and no violations of RCRA regulations were reported for the site. The site was also identified on the UST and LUST databases. As previously indicated, adverse impacts to subsurface conditions at the project area due to contaminant migration from the DEARNG Laurel site are not anticipated.

Orphan Summary

The EDR Radius Map™ Report also identified 3 orphan sites that could not be correctly mapped due to inadequate location information (see Appendix F) and the orphan sites are identified as Former Thompson Gas Station, Greene Dump, and Mt. Pleasant Church Dump.

Information obtained from the DNREC DEN indicates that the Former Thompson Gas Station site is located inside the project area at the northwest corner of Front Street and Central Avenue. Review of a Brownfield Certification Application obtained from the DNREC DEN and Sanborn® maps indicate that the Former Thompson Gas Station site was previously used as a filling station and automobile repair facility. Sanborn® maps indicate that the properties adjacent to the north, east, and south of the Former Thompson Gas Station site were also previously used as filling stations. No information regarding previous environmental investigations of these properties or removal of USTs from these properties was available for review on the DNREC DEN. Based on this information, adverse impacts to subsurface conditions in the project area due to the previous filling station and automobile repair

operations conducted on the Former Thompson Gas Station site and the adjacent properties are possible and this represents a REC for the project area.

Based on a review of information from the DNREC DEN, adverse impacts to subsurface conditions in the project area due to contaminant migration from the Greene Dump and Mt. Pleasant Church Dump sites are not anticipated.

Regulatory Records Review Conclusion

Based on a review of information obtained from DNREC, there is potential for adverse impacts to subsurface conditions within the project area. Specifically, there is potential for adverse impacts to be present in the portion of the study area located on the southern portion of the Growmark FS site and in the vicinities of the Former Thompson Gas Station and Shore Stop sites and these areas represent RECs for the project area.

2.3 VAPOR ENCROACHMENT SCREEN

BrightFields conducted a vapor encroachment screen in accordance with ASTM E2600-10 *Standard Guide for Vapor Encroachment Screening on Properties Involved in Real Estate Transactions* to determine if there is a Vapor Encroachment Condition (VEC) present for the project area. A VEC is defined as the presence or likely presence of vapors in the subsurface below existing and/or proposed on-site structures.

BrightFields utilized the EDR Vapor Encroachment Application (VEC App) to perform a vapor encroachment screen of sites surrounding the project area in order to determine if any nearby sites could present a VEC for the project area. The VEC App allows the Environmental Professional to review various data sources to perform a vapor encroachment screen for a site in accordance with ASTM E 2600-10. After completing the screen, the VEC App generates a report documenting the screening process. As previously indicated in Section 2.2, adverse impacts within the project area in the vicinities of the Former Thompson Gas Station and Shore Stop sites are possible and therefore VEC for these sites cannot be ruled out. This represents a REC for the project area, however, no new buildings are proposed for the project area. In the event that buildings are proposed to be constructed in the vicinities of the Former Thompson Gas Station and Shore Stop sites as part of the waterfront redevelopment project, further evaluation of the potential for vapor intrusion into the proposed buildings may be warranted. A copy of the report generated by the VEC App is included in Appendix F.

2.4 ENVIRONMENTAL SETTING

The potential for downward and horizontal migration of any subsurface contaminant is controlled by the environmental setting of a site. The environmental setting of the property was investigated through use of available data from: the U.S. Natural Resource Conservation Service and available resource and environmental maps of the project area.

2.4.1 GEOLOGY

A review of the *Geologic Map of the Sharptown, Laurel, Hebron, and Delmar Quadrangles, Geologic Map Series No. 22* prepared by the Delaware Geological Survey indicates that the project area is located in the Atlantic Coastal Plain Physiographic Province. At the project area, the Atlantic Coastal Plain consists of the Kent Island and Turtle Branch

Formations. The Beaverdam Formation is present beneath the Kent Island and Turtle Branch Formations

The Kent Island Formation consists of white to pale yellow medium to very coarse sand. In some areas, the sand overlies greenish gray silt to clayey silt with scattered pieces of wood. The silt layer grades downward into gray coarse to very coarse sand with pebbles and thin beds of organic woody sand. The Kent Island Formation ranges from 5-20 feet in thickness.

The Turtle Branch Formation consists of clean and well sorted white to pale yellow fine sand grading down to interlaminated fine to coarse sand with opaque heavy mineral laminae, granules, and pebbles at the base of the Formation. The Turtle Branch Formation is commonly less than 10 feet thick.

The Beaverdam Formation is a heterogeneous unit ranging from very coarse sand with pebbles to silty clay. In the subsurface, beds of finely laminated very fine sand and silty clay ranging from 2-20 feet in thickness are present. The overall thickness of the Beaverdam Formation ranges from 50-100 feet.

2.4.2 SOILS INFORMATION

The *Sussex County Soil Atlas* identified five (5) soil types for the project area (see Figure 2): EvD, HsA, LO, Ma, and UzC.

Map unit: EvD - Evesboro loamy sand, 5 to 15 percent slopes

Component: Evesboro

The Evesboro component makes up 75 percent of the EvD map unit and forms on 5 to 15 percent slopes on uplands and knolls. The parent material consists of sandy eolian deposits and/or fluvio-marine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This soil does not meet hydric criteria.

Map unit: HsA - Henlopen-Rosedale-Urban land complex, 0 to 2 percent slopes

Component: Henlopen

The Henlopen component makes up 40 percent of the HsA map unit and forms on 0 to 2 percent slopes on dunes and coastal plains. The parent material consists of sandy eolian deposits and loamy fluvio-marine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This soil does not meet hydric criteria.

Component: Rosedale

The Rosedale component makes up 30 percent of the HsA map unit and forms on 0 to 2 percent slopes on uplands and flats. The parent material consists of sandy eolian deposits

over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded or ponded. A seasonal zone of water saturation is at 45 inches during January. Organic matter content in the surface horizon is about 1 percent. This soil does not meet hydric criteria.

Component: Urban Land

Urban land consists of areas which have been filled with soil material, trash, or both, and it also consists of land which has been so altered or disturbed by urban works and structures that classifying the soils is no longer feasible. In many areas, the original soil has been covered by 18 inches to several feet of fill material which has been hauled in or graded from higher areas. Many areas are used mainly for buildings, sidewalks, and streets. Urban land is not found on the Sussex County Hydric Soils list and wetlands are not anticipated in areas mapped as urban land.

Map unit: LO - Longmarsh and Indiantown soils, frequently flooded

Component: Indiantown

The Indiantown component makes up 40 percent of the LO map unit and forms on 0 to 1 percent slopes on flood plains and coastal plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded and ponded. A zone of water saturation is at 5 inches throughout the year. Organic matter content in the surface horizon is about 13 percent. This soil meets hydric criteria.

Component: Longmarsh

The Longmarsh component makes up 40 percent of the LO map unit and forms on 0 to 1 percent slopes on flood plains and coastal plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded and frequently ponded. A zone of water saturation is at 5 inches throughout the year. Organic matter content in the surface horizon is about 68 percent. This soil meets hydric criteria.

Map unit: Ma - Manahawkin muck, frequently flooded

Component: Manahawkin

The Manahawkin component makes up 85 percent of the Ma map unit and forms on 0 to 1 percent slopes on swamps and coastal plains. The parent material consists of organic, woody material over sandy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded and frequently ponded. A seasonal zone of water

saturation is at 2 inches throughout the year. Organic matter content in the surface horizon is about 68 percent. This soil meets hydric criteria.

Map unit: UzC - Udorthents, 0 to 10 percent slopes

Component: Udorthents, loamy

The Udorthents, loamy component makes up 90 percent of the UzC map unit and forms on 0 to 10 percent slopes on uplands and flats. The parent material consists of fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded or ponded. A seasonal zone of water saturation is at 45 inches during January. Organic matter content in the surface horizon is about 2 percent. This soil does not meet hydric criteria.

2.4.3 MAPPING SOURCES

Several resource and environmental maps were reviewed, in addition to the on-site investigation, to identify the topographic and environmental features present on the project area. These maps included available site plans, topographic and resource maps of the area (see Figure 1). The following sections detail the findings of our review of available maps.

Topographic Maps

The project area is found in the Laurel, DE 7.5 minute series topographic map supplied by the United States Geological Survey (USGS). The map indicates that the project area slopes slightly towards Broad Creek located in the central portion of the project area.

Surface Water Runoff

Topographic maps suggest that surface water runoff from the northern portion of the project area would flow south towards Broad Creek and that surface water runoff from the southern portion of the project area would flow north towards Broad Creek.

Groundwater Flow

Topographic maps suggest that groundwater in the northern portion of the project area would flow south towards Broad Creek and that groundwater in the southern portion of the project area would flow north towards Broad Creek.

2.5 ON-SITE INVESTIGATION

An on-site survey of the project area was conducted by BrightFields, Inc. on September 21, 2015 and October 7, 2015. The investigation included a survey of the grounds of the subject, a visual inspection of the exterior portions of the buildings on the property, and a visual inspection of the surrounding land uses.

This investigation was undertaken to identify current project area land uses and potential environmental concerns that may be present in the project area. It includes such items as: the identification of hazardous materials storage and disposal practices, presence of potential PCB-containing equipment, above ground and underground storage tanks and other environmental concerns.

BrightFields did not have permission to access all of the properties included in the project area and this may have limited BrightFields' ability to identify potential environmental concerns within the project area. The following sections detail the findings of our on-site investigation of the project area.

2.5.1 SURVEY OF ASSOCIATED GROUNDS

The visual inspection of the grounds associated with the project area concentrated on the identification of soil discolorations, disruptions to vegetative cover, solid waste disposal areas and other indicators of potential environmental hazards. For those properties which BrightFields was not permitted access to, observations were made from the property boundary. The grounds associated with the project area consist of a combination of asphalt and concrete covered surfaces, grass covered areas, and wooded areas. Broad Creek is present in the central portion of the project area.

Underground Storage Tanks

A potential UST grave was observed next to a vacant commercial building located on the property located at the northwest corner of Poplar Street and Front Street (tax parcel #432-8.06-46.00).

No other evidence of USTs were observed on the grounds of the project area, however, Sanborn[®] maps indicate that USTs were previously located on other portions of the project area (see Section 2.1.2) and it is possible that USTs may remain in these portions of the project area.

Above Ground Storage Tanks

No ASTs were observed on the grounds of the project area.

Odors

No strong, pungent, or noxious odors were noted on the grounds of the project area.

Solid Waste Disposal Areas

No solid waste disposal areas were observed on the grounds of the project area.

Materials Storage

No material storage areas were observed on the grounds of the project area.

Wells

No wells were observed on the grounds of the project area.

Septic Systems

No evidence of septic systems was observed on the grounds of the project area.

Poplar Tree Planting Area

BrightFields observed an area of poplar trees on the southern portion of the Growmark FS site. The poplar trees were presumably planted as a form of phytoremediation in an effort to stabilize elevated concentrations of ammonia and nitrates in groundwater on the Growmark FS site (see Section 2.1.5).

Polychlorinated Biphenyls (PCBs)/PCB Containing Equipment

BrightFields observed pole-mounted transformers in multiple locations in the project area. The transformers were observed in good condition with no evidence of leakage. No labeling indicating PCB content was observed on the transformers. The transformers are owned by Chesapeake Utilities and Chesapeake Utilities would be responsible for any cleanup if the transformers were to leak. Based on this information the transformers do not represent a concern for the project area.

Stained Soils and Distressed Vegetation

No signs of stained soils or distressed vegetation were noted.

Ponds and Surface Waters

Broad Creek is located across the central portion of the project area. No other surface waters or ponds were observed within the project area.

2.5.2 BUILDING INSPECTION

BrightFields was not able to access the interiors of the existing buildings present within the project area and this represent a data gap for this Phase I ESA. Based on the other sources reviewed and contacted and the purpose for which this Phase I ESA was requested, it is BrightFields' opinion that this data gap is not likely to represent significant missing information.

2.5.3 SURROUNDING LAND USE

The general area surrounding the project area is mixed residential and commercial. The project area is bordered by Growmark FS, Delaware Health and Social Services Center, a former Army National Guard facility (now Western Sussex Boys & Girls Club), The Insurance Market, Inc., a Shore Stop filling station, and residential properties to the north; a former ice cream/dairy distribution facility, residential dwellings, a former filling station, vacant commercial buildings, and commercial businesses to the south beyond Front Street; Records Pond handicap fishing area to the east beyond Cooper Branch (a tributary to Broad Creek) to the east; and railroad tracks to the west. A layout of the project area and surrounding properties is presented on Figure 3.

3.0 DISCLAIMER

While every attempt is made to provide as thorough a review as possible it is not practical to provide a 100% survey of the surface and subsurface areas of any site. As such, the findings and recommendations are, by necessity, based on the information and specific locations reviewed, and the conditions of the parcel and facility at the time of the on-site survey. BrightFields does not warrant its findings or conclusions beyond this information and survey.

BrightFields was able to trace the history of the project area back 1885.

There were no deletions or deviations from ASTM E 1527-13 with the exception of the following:

- BrightFields was not able to access the interiors of the existing buildings on the project area.
- Property owner representatives for properties located within the project area other than those owned by LRC were not interviewed.

BrightFields does not believe these deviations have impacted the ability to render an opinion regarding potential recognized environmental conditions (RECs), historical RECs (HRECs), conditional RECs (CRECS) and *de minimis* conditions.

4.0 FINDINGS/OPINION

The following were identified as known or suspect environmental conditions for the project area. These may include recognized environmental conditions (RECs), controlled RECs (CRECs), historical RECs (HRECs) and *de minimis* conditions:

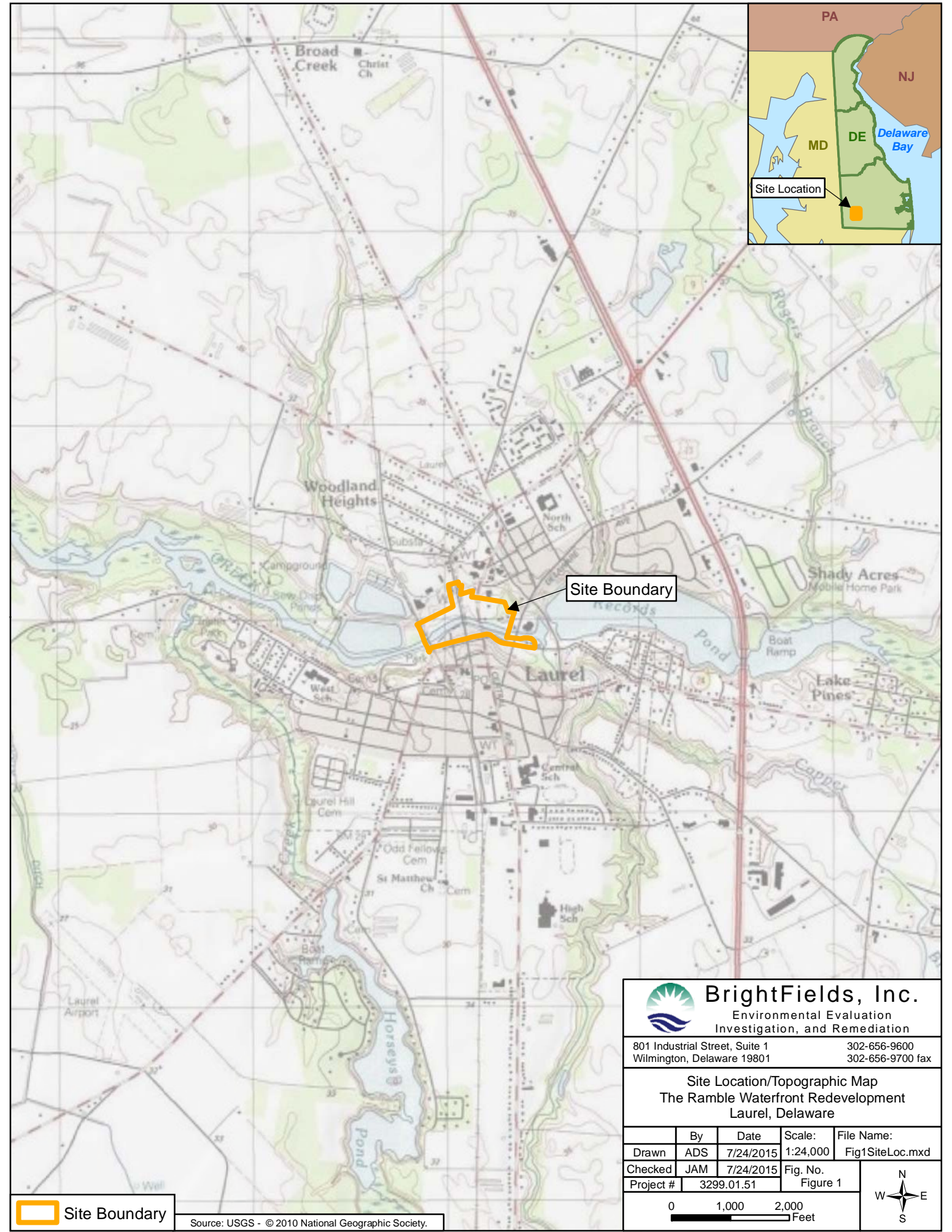
- 1) Sanborn[®] maps indicate the portion of the project area located to the north of Broad Creek and to the west of North Poplar Street was a portion of the Marvil Package Co. manufacturing facility. A previous report indicated that this portion of the project area was filled in the 1970s. Additionally, this portion of the project area is a portion of the existing Growmark FS facility and adverse impacts to groundwater beneath the Growmark FS facility have been documented in previous environmental investigations (see Section 2.1.5). The presence of fill materials within the project area represents a REC.
- 2) Sanborn[®] maps indicate that several properties within the project area and one property adjacent to the project area were previously used as filling stations and automobile repair facilities. A search of regulatory records did not identify any information pertaining to the removal of USTs from these properties and it is possible that USTs remain. Based on this information, adverse impacts within the study area are possible and these former filling station/automobile repair facilities represent RECs for the project area.
- 3) Sanborn[®] maps indicate that a canning factory, a fertilizer storage facility, and lumber and coal yards were previously located within the project area to the south of Broad Creek between Central Avenue and Delaware Avenue. Such industrial uses typically involve the use of hazardous or potential hazardous materials and improper use or disposal of such materials may have impacted subsurface conditions in the project area.
- 4) Sanborn[®] maps indicate that the property located at the northwest corner of Poplar Street and Front Street was previously used as a coal yard and a UST was depicted on the property. A potential UST grave was observed next to the existing building on the property during a site visit conducted on September 21, 2015. A review of regulatory records did not reveal any documentation of UST removals from the property. Based on this information it is possible that USTs could remain on the property. Additionally, based on the previous industrial use of the property, adverse impacts to subsurface conditions within the project area in the vicinity of the former coal yard are possible.

- 5) Mr. Don Phillips, a founding LRC board member and Town of Laurel native, indicated that the portion of the project area located to the east of the Pizza King Restaurant building was previously used as a dumping area by Town of Laurel residents. Based on this information, adverse impacts to subsurface conditions in the project area in the vicinity of the former dumping area are possible.
- 6) A certified Brownfield site (Former Thompson Gas Station site) is located within the project area and this site is subject to the requirements of the Delaware Brownfields Program. The Former Thompson Gas Station site is not owned by LRC and Don Phillips, a board member of the LRC, indicated that LRC does not plan to purchase the property at this time.

5.0 CONCLUSIONS/RECOMMENDATIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the Ramble Waterfront Redevelopment Area. Any exceptions to, or deletions from this practice are described in Sections 1.0 and 3.0 of this report. Time gaps of more than 5 years were noted in some of the historic research completed for this report (see Sections 2.2.1 and 2.1.3). Additionally, BrightFields was not able to inspect the interiors of any of the buildings located in the project area and property owner representatives for properties located within the project area other than those owned by LRC were not interviewed. These represent data gaps for this Phase I ESA. However, based on the other sources reviewed and contacted for this Phase I ESA, these data gaps are not likely to represent significant missing information that would alter the opinion of the environmental professional. This assessment has revealed RECs in connection with the project area and BrightFields offers the following recommendations:

- 1) Prior to any land disturbing activities along Broad Creek, in the vicinity of the former Town dumping area, or in the vicinities of the former gas station properties, soil sampling should be conducted to assess subsurface conditions.
- 2) Prior to any land disturbing activities, a Contaminated Materials Management Plan (CMMP) should be prepared. The CMMP should provide a summary of potential environmental hazards that may be encountered within the project area and guidance to safely handle and/or mitigate the potential hazards if encountered.
- 3) If redevelopment is planned for the Former Thompson Gas Station Brownfield site in the future, the site must be investigated and redeveloped according to the requirements of the Delaware Brownfields Program.



Site Boundary

 Site Boundary

Source: USGS - © 2010 National Geographic Society.



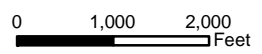
BrightFields, Inc.

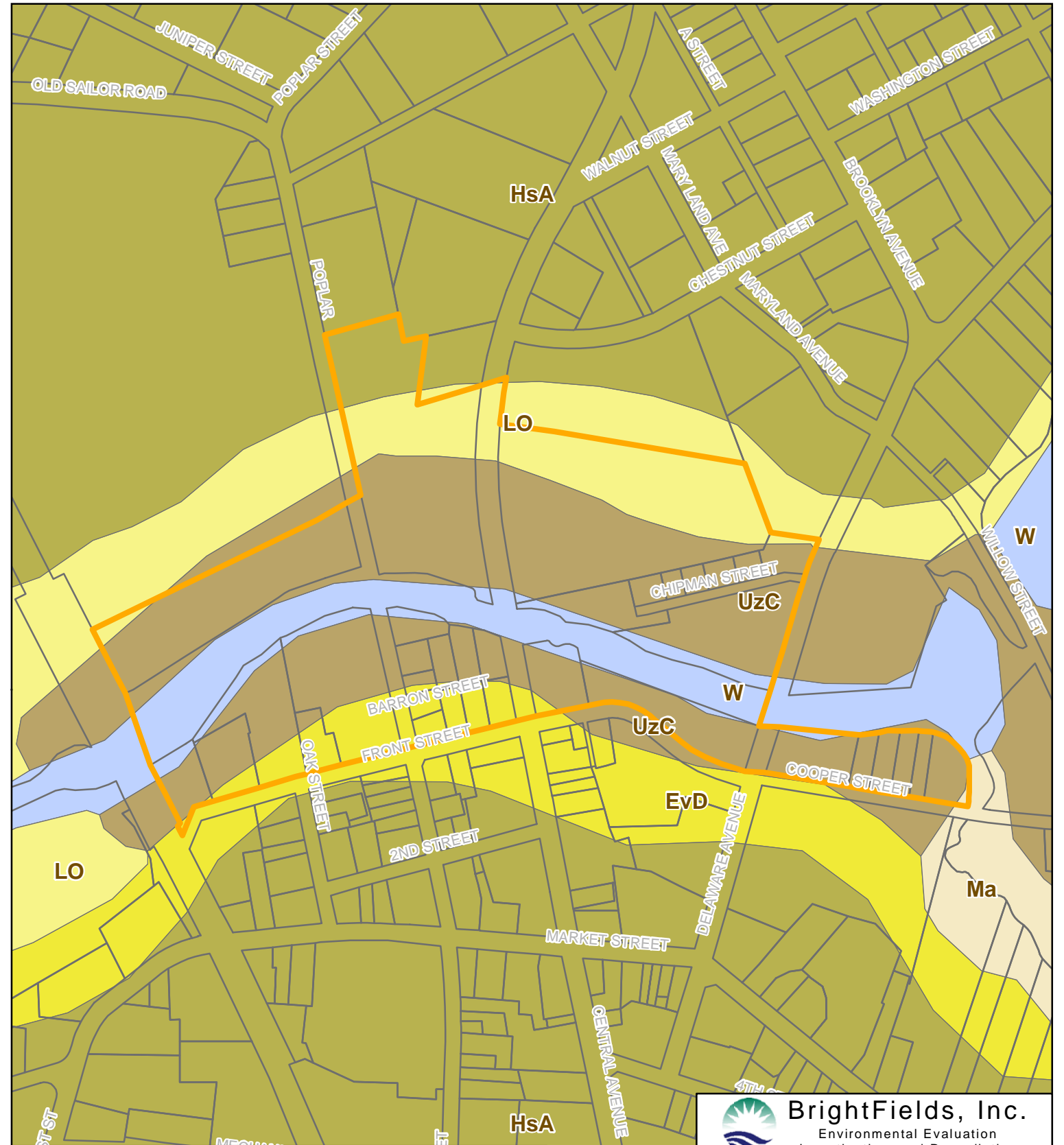
Environmental Evaluation
Investigation, and Remediation

801 Industrial Street, Suite 1 302-656-9600
Wilmington, Delaware 19801 302-656-9700 fax

Site Location/Topographic Map
The Ramble Waterfront Redevelopment
Laurel, Delaware

	By	Date	Scale:	File Name:
Drawn	ADS	7/24/2015	1:24,000	Fig1SiteLoc.mxd
Checked	JAM	7/24/2015	Fig. No.	
Project #	3299.01.51		Figure 1	





- Site Boundary
- Tax Parcels
- EvD Evesboro loamy sand, 5 to 15 percent slopes
- HsA Henlopen-Rosedale-Urban land complex, 0 to 2 percent slopes
- LO Longmarsh and Indiantown soils, frequently flooded
- Ma Manahawkin muck, frequently flooded
- Uzc Udorthents, 0 to 10 percent slopes
- W Water

Source:
 Delaware DataMIL - Tax Parcels;
 NRCS Sussex County, DE.

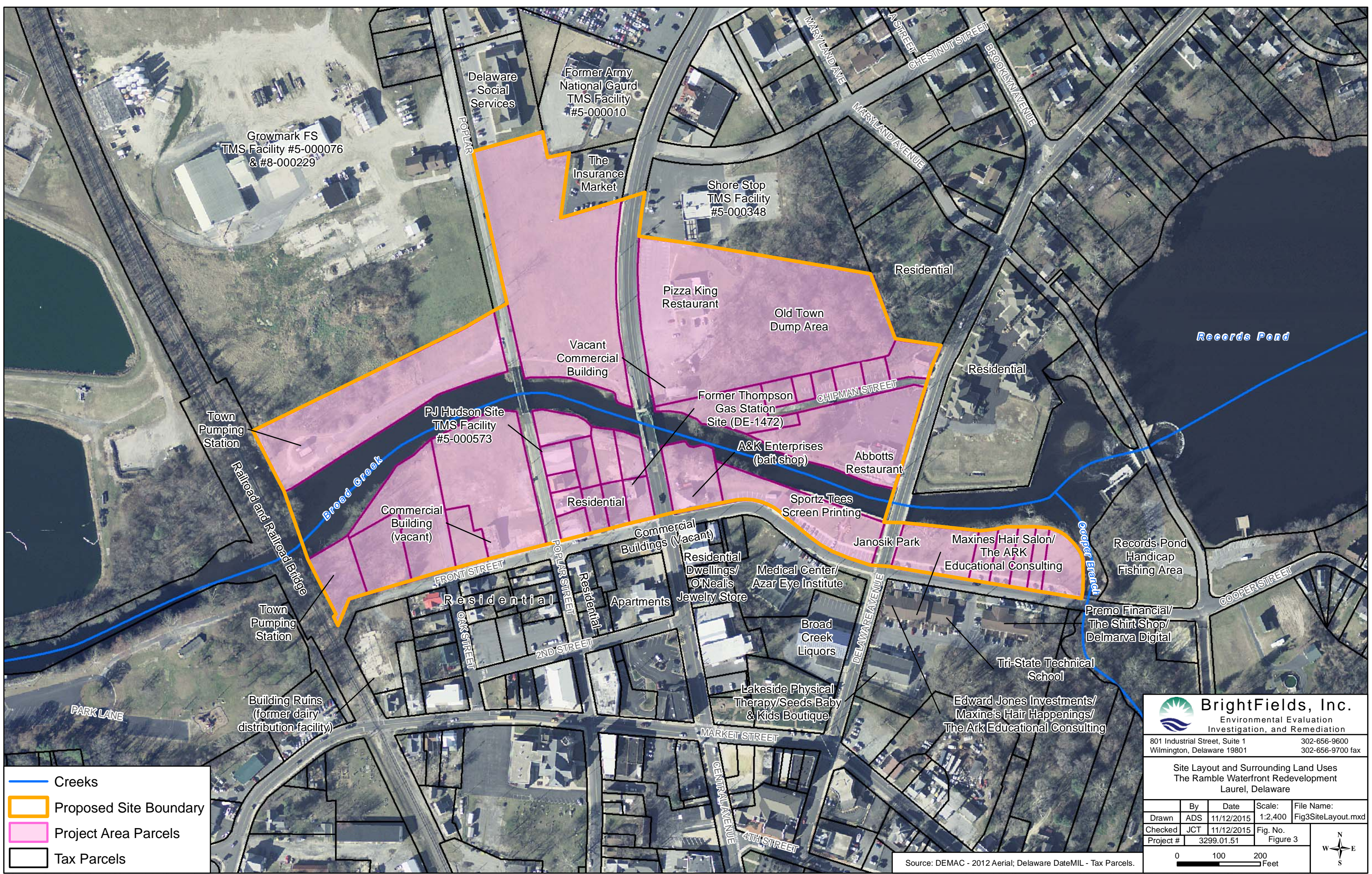
BrightFields, Inc.
 Environmental Evaluation
 Investigation, and Remediation

801 Industrial Street, Suite 1 302-656-9600
 Wilmington, Delaware 19801 302-656-9700 fax

Site Soils Map
 The Ramble Waterfront Redevelopment
 Laurel, Delaware

	By	Date	Scale:	File Name:
Drawn	ADS	7/24/2015	1:3,600	Fig2SiteSoils.mxd
Checked	JCT	7/24/2015	Fig. No.	
Project #	3299.01.51		Figure 2	

0 150 300
 Feet



— Creeks
 Proposed Site Boundary
 Project Area Parcels
 Tax Parcels

BrightFields, Inc.
 Environmental Evaluation
 Investigation, and Remediation
 801 Industrial Street, Suite 1
 Wilmington, Delaware 19801

302-656-9600
 302-656-9700 fax

Site Layout and Surrounding Land Uses
The Ramble Waterfront Redevelopment
Laurel, Delaware

By	Date	Scale:	File Name:
Drawn ADS	11/12/2015	1:2,400	Fig3SiteLayout.mxd
Checked JCT	11/12/2015	Fig. No.	Figure 3
Project #	3299.01.51		

0 100 200 Feet

Source: DEMAC - 2012 Aerial; Delaware DataMIL - Tax Parcels.