

Appendix J

Hazardous, Toxic, and Radioactive Waste Technical Memorandum

APPENDIX J
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE
ADDITIONAL DATA REVIEW

HAZARDOUS MATERIALS

Palmetto Railways commissioned Phase I Environmental Site Assessments (ESAs) for most of the properties involved with the Proposed Navy Based ICTF and the River Center ICTF sites, as is discussed in Section 3.15 of the Environmental Impact Statement (EIS). However, certain areas in the northern-most and southern-most portions of the EIS study area were not addressed in these Phase I ESAs. Therefore, Atkins reviewed and evaluated additional information for two areas: one known as the “Northern Alternatives Area” and another known as the “Southern Alternatives Area.” A review and evaluation of the available public information relating to the hazardous materials issues within these two additional areas was conducted. The objective of this preliminary assessment was to identify the existence of, and potential for, hazardous, toxic, and radioactive waste (HTRW) contamination, which could impact or be impacted by the proposed Project and alternatives in these specific areas. The assessment consisted of a review of recent and historic aerial photographs, other historical information sources, and regulatory agency database information (Environmental Data Resources, Inc. [EDR], 2016). A site reconnaissance was not conducted in this assessment to verify the status and location of sites referenced in the regulatory database search or to locate any additional unreported hazardous materials sites.

Aerial Photographic Review – Northern Alternatives Area

Aerial photographs of the Northern Alternatives Area were obtained to examine the historic usage of the area (EDR, 2016a). The photographs depict the area as it appeared in 1939, 1941, 1954, 1957, 1961, 1979, 1983, 1989, 1994, 2000, 2005, 2006, and 2011.

- The earliest aerial photography available for the Northern Alternatives Area was taken in 1939. The 1939 photograph shows the area as cleared, undeveloped, and vacant land. The northern portion has evidence of soil disturbance, while the southern portion does not. A railroad line is evident along the east side of the site.
- From the 1940s through the 1950s, the site was used for materials storage, likely associated with the railroad line. The materials were initially located along the rail line, but then were located throughout the site. By 1941, buildings were present in the southern portion of the property, and the nearby Charleston Marine Container, Inc. (CMCI) and Naval Hospital properties had been developed with structures. By 1954, a pond was present in the northern portion of the site, with another immediately north of the property.
- By 1979, additional railroad lines and structures (buildings) were present in the northern portion of the site. The central portion of the site continued to be used for outdoor materials storage. By 1983, large buildings had been built in the eastern portion of the site, with much of the western area covered by parking or storage lots.

- By 1989, additional large buildings were present in the western and southern sections of the site, while the eastern buildings had been removed. The site configuration remained relatively unchanged through the 1990s.
- By 2005, additional buildings had been removed from the southern portion of the property, and the parking and materials storage areas had become overgrown. By 2000, a portion of the on-site pond appears to have been filled in. It also appeared that some of the railroad lines serving the northern portion of the site had been removed.
- Between 2005 and 2011, the only major change to the site configuration was the addition of a new building in the southern portion of the site. The eastern portion of the site appeared to contain primarily vacant, commercial land.

Other Historical Information Sources – Northern Alternatives Area

Other historical information sources were reviewed for the Northern Alternatives Area, including selected historical topographic maps, Sanborn fire insurance maps, and city directories (EDR, 2016b,c,d). The topographic maps depict the study area as it appeared in 1919, 1948, 1958, 1971, 1979, 1983, 1994, 1998, and 2014. Historical city directory information was available only for the year 2013.

- The 1919 topographic map shows the site as swampy, vacant land, with a railroad along the east side and road along the northwest side. The 1948 topographic map shows buildings in the eastern and southern portions of the site. The 1958 through 1998 topographic maps show the site's infrastructure features, such as railroad lines, buildings, and roadways, consistent with the findings from the aerial photograph review. The 2014 topographic map shows only the nearby roadways and railroad line.
- The city directory for 2013 listed multiple commercial occupants at the 1535 Hobby Street address. The commercial businesses listed included engineering, consulting, and technology firms, which appeared to be primarily offices.
- No Sanborn fire insurance maps were available for the Northern Alternatives Area.

Regulatory Agency Records Review – Northern Alternatives Area

The scope of the regulatory information search included nearly 60 databases and records, as described in the EDR Radius Report with GeoCheck (EDR, 2016e). Of the records searched, none identified any regulatory-listed sites within the Northern Alternatives Area. However, the site is identified as located within a Department of Defense Site (the Charleston Naval Complex - CNC). It is important to note that the search identified only three listed sites located within 1,000 feet of the Northern Alternatives Area. The nearest site is the CMCI property, which is located along the southwest side of the Northern Alternatives Area. The CMCI property was investigated as part of a Phase I ESA (see Section 3.15 of the EIS) and is discussed in the EIS. The Boeing Charleston Training Center is located approximately 600 feet southeast of the Northern Alternatives Area. The Boeing facility is listed as a Non-generator of hazardous waste, but was previously a Small Quantity Generator of hazardous waste. No hazardous waste violations were noted in the records. The third

nearby site is the main CNC facility, which is located 900 feet southeast (and downgradient) of the Northern Alternatives Area. Multiple Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) were noted at the CNC facility, including some that are under Land Use Controls (LUCs). The three facilities nearest to the Northern Alternatives Area do not appear to be Recognized Environmental Conditions (RECs) associated with that property. The vast majority of the sites revealed in the search are located north of Noisette Creek and/or are located more than 1,000 feet from the Northern Alternatives Area.

On the basis of the results of the primary regulatory database searches, the type and number of sites located within the vicinity of the Northern Alternative Area and their range of distances from it are presented in Table 1. The only RECs associated with the Northern Alternatives Area appeared to be the presence of former railroad lines on the property and its former inclusion within the greater CNC facility.

Table 1
Regulatory Database Search Summary – Northern Alternatives Area

Type	Number Recorded	Range of Distance from Area (miles)
National Priorities List	0	N/A
Underground Storage Tank Database	3	0.205–0.217
Aboveground Storage Tank Database	0	N/A
Leaking Underground Storage Tank Listing	10	0.205–0.427
Resource Conservation and Recovery Act (RCRA)-Large Quality Generator	1	0.076
RCRA-Conditionally Exempt Small Quality Generator	1	0.242
RCRA Non-Generator	4	0.123–0.236
Emergency Response Notification System (ERNS)	0	N/A
Facility Index System	0	N/A
State Hazardous Waste Sites records (SHWS)	12	0.217–0.988
Solid Waste Facilities/Landfill	0	N/A
Voluntary Evaluation Program	2	0.217–0.233
Solid Waste Disposal/Recycling Facilities	0	N/A
Department of Defense (DoD)	1	Target Property
Integrated Compliance Information System	0	N/A
Hazardous Materials Incident Report System	0	N/A
Manufactured Gas Plant	0	N/A

Source: EDR (2016).

N/A = Not applicable.

Note: additional databases are referenced in the EDR report.

Aerial Photographic Review – Southern Alternatives Area

Aerial photographs of the Southern Alternatives Area were obtained to examine the historic usage of the area (EDR, 2016f). The photographs depict the area as it appeared in 1939, 1954, 1961, 1968, 1973, 1979, 1983, 1989, 1994, 2006, 2009, 2011, and 2013.

- The earliest aerial photography available for the Southern Alternatives Area was taken in 1939. The 1939 photograph shows the area as having two main railroad lines on either side (west and east), with multiple railroad sidings in the northern portion of the area. The properties along the east side of the area appeared primarily agricultural (pastureland), with some residential. The properties on the western side were primarily residential. Some apparent commercial or industrial-type businesses were observed in the southern portion of the site. The only roads crossing the area were residential streets in the northwestern portion of the area. Large Above-ground Storage Tanks (ASTs) were observed to the south of the area.
- By 1954, the area had become much more developed. The northwestern section was a dense residential area, while the northeastern section was occupied by multiple parallel railroad lines. The central section was crossed by newly-built highways, with the east-central area mostly vacant land. The central section contained an apparent drive-in theater and other commercial businesses. The southern and south-central sections of the area appeared to contain a mix of residential but mostly commercial or industrial businesses. Notably, potential fuel or oil ASTs were observed in the southeastern and southwestern corner sections of the area. A large industrial facility was located to the east of the Southern Alternatives Area.
- From the 1960s through the 1970s, the types of land uses in the area remained essentially the same as in 1954. Multiple large ASTs, likely for fuel storage, were located along the southeastern side of the area. By 1968, the interstate highway system connected to the northern portion of the area. The drive-in theater did not appear to be operating after the early 1960s. By 1979, the industrial operation to the east of the area had expanded toward the north.
- Through the 1980s and 1990s, land uses were consistent with previous years. The industrial operation to the east continued to expand in size, while most remaining vacant parcels in the central and southern portions of the area had been occupied by commercial or industrial operations. The northeastern area remained occupied by railroad lines, while the northwestern area remained residential. The incinerator facility along the north side of the area was built between 1983 and 1989.
- By 2006, the industrial operation to the east had continued to expand, with large areas of soil disturbance. Also by 2006, it appeared that the former large ASTs in the southeastern portion of the site had been removed. Buildings to the north of the ASTs had also been removed. Land use remained generally the same from 2006 through 2013. Residential areas characterized the northwestern portion of the site, with railroad lines along the east and northeast. Roadways and railroads were primarily present along the west side. Mixed commercial and industrial businesses were prominent in the central and southern sections of the area. Between 2009 and 2011, the incinerator facility was removed. By 2013, much of the industrial operations to the east had largely been shut down, and there were large vacant

parcels in the southeastern portion of the area that had previously been occupied by buildings and ASTs.

Other Historical Information Sources- Southern Alternatives Area

Other historical information sources were reviewed for the Southern Alternatives Area, including Sanborn fire insurance maps for selected areas and city directories for select portions of Spruill Avenue, Meeting Street Road, and Milford Street (EDR, 2016g,h). The Sanborn maps depict sections of the Southern Alternatives Area as it appeared in 1921, 1944, and 1951. Historical city directory information was available for 1968, 1973, 1978, 1983, 1988, 1992, 1999, 2003, 2008, and 2013 for portions of Spruill Avenue, Meeting Street Road, and Milford Street.

- The 1944 and 1951 Sanborn maps showed residential properties and one “filling station” along Spruill Avenue, with numerous railroad tracks to the east. The maps also showed various industrial operations, oil storage facilities, a fertilizer plant, and warehouse operations located to the east of the Southern Alternatives Area, along with multiple sets of railroad tracks located along either side of the King Street Extension. Most of the area was not covered by the Sanborn maps.
- The city directories from 1968 through 1999 listed multiple commercial occupants in the vicinity of 2100 – 2600 Spruill Avenue. The businesses of most concern included a gas station/service station, a dry cleaners, a paint and body shop, and other auto repair businesses. By 1983, the gas station no longer appeared to be in business. From 2003 through 2013, an iron works was listed along Spruill Avenue.
- The city directories from 1968 through 2013 listed multiple commercial and industrial occupants in the vicinity of 1700 – 2200 Meeting Street Road. The businesses of most concern included multiple “oil” or petroleum companies, gas stations, and auto repair businesses. By 1992, most of the oil and petroleum businesses were no longer listed, but some gas stations and numerous auto repair businesses remained. By 2013, only one gas station business appeared to be present with a Meeting Street Road address, along with several auto repair-type businesses.
- The city directories from 1968 listed industrial activities to the east of Milford Street, including fuel storage facilities and a fertilizer company, but no listings in the Southern Alternatives Area. After 1973, a construction company and transportation business were listed along Milford Street in the Southern Alternatives Area. From 1992 through 2013, businesses listed along the Milford Street included City of Charleston operations, Frazier’s Ironworks, and various transport/container companies.

Regulatory Agency Records Review-Southern Alternatives Area

The scope of the regulatory information search included nearly 60 databases and records, as described in the EDR Radius Report with GeoCheck (EDR, 2016i). Approximately 34 addresses (or sites) with the potential for contamination involvement or having actual records of contamination involvement were listed in the EDR Report within the Southern Alternatives Area. A brief summary of each site follows (listed from north to south):

- Belcher Service Station, 2502 Spruill Avenue: This site is listed as a Leaking Underground Storage Tank (UST) facility and also as a former dry cleaner. The site is listed as “awaiting funding” and therefore has a high risk of contamination involvement.
- 1889 Riverview Avenue Property, 1889 Riverview Avenue: This site is listed as a State Hazardous Waste Site, with no additional information. Due to the lack of information, the risk of contamination involvement is considered high.
- Crosby’s Garage, 2204 Meeting Street Road: This site is listed in the Facility Index System, with no additional information. The risk of contamination involvement from this site appears to be minimal.
- Plantation Painters, Inc., 2128 Spruill Avenue: This site is listed as a Resource, Conservation, and Recovery Act (RCRA) Non-generator of hazardous waste, but was previously a Small Quantity generator, with no violations. The risk from this site appears to be minimal.
- First Recovery and Transflo Terminal Services, Inc., 1990 Tuxbury Lane: This site is primarily a Small Quantity generator of hazardous waste that was previously a Large Quantity generator. No hazardous waste violations were noted, and the risk from this site appears to be minimal.
- Former Jennings Body Shop (J&G Properties), 2038 Meeting Street Road: This site is a Leaking UST facility and a Small Quantity generator of hazardous waste. The cleanup status of the facility is listed as “inactive” and the site has violations of hazardous waste regulations. Therefore, this site has a high risk of contamination involvement.
- Southern Lumber & Millwork Corporation, 2031 King Street Extension: This site is listed in the Facility Index System, with no additional information. The risk of contamination involvement from this site appears to be minimal.
- Asbestos Control Services, Inc., 2019 Pittsburgh Avenue: This site is listed in the Facility Index System, with no additional information. The risk of contamination involvement from this site appears to be minimal.
- Kangaroo Express #3355, 1968 Meeting Street Road: This site is an active gas station facility. No information was available regarding the site’s USTs, so this site is considered a high risk for contamination involvement.
- Polo Champ, LLC, 2000 Meeting Street Road: This is a State Hazardous Waste Site, a Brownfields site, and is part of a Voluntary Cleanup Program. The site has land use restrictions and is therefore considered a high risk of contamination involvement.
- Solvay, Inc. and Albright & Wilson Chemical Plant, 2151 King Street Extension: This site is listed as a facility that uses toxic chemicals and has notified the Environmental Protection Agency (EPA). Several spills or releases are reported for this site, but have been cleaned up. The risk from this site also appears to be minimal.
- Nilson Van & Storage, 2017 Pittsburgh Avenue: This site is listed in the Facility Index System, with no additional information. The risk of contamination involvement from this site appears to be minimal.

- Seven M LLC, 2025 Cherry Hill Lane: This site is listed in the Facility Index System, with no additional information. The risk of contamination involvement from this site appears to be minimal.
- Yellow Cab Company of Charleston, 2003 Cherry Hill Lane: This site is a Leaking UST site, with No Further Action approved in 2010. It is also a Small Quantity generator of hazardous waste. One 10,000-gallon UST remains in use. However, the risk from this site appears to be minimal.
- Charleston Constructors, Inc., 2007 Cherry Hill Lane: This is a UST site with no reported releases. Therefore, the risk of contamination involvement appears to be minimal.
- Delta Machine Shop, Ltd., 2008 Cherry Hill Lane: This site is primarily a Small Quantity generator of hazardous waste. No hazardous waste violations were noted, and the risk from this site appears to be minimal.
- Wando Redimix, LLC, 2015 Cherry Hill Lane: This site is listed in the Facility Index System; it is also an air emissions facility, and has had a reported spill of dry concrete. The risk from the site appears to be minimal.
- Reported Gasoline/Oil Spill, East of 2019 Cherry Hill Lane: A spill of oil or gasoline was reported to the State. No further information was available. Due to the lack of a significant response, the spill appears to have been minor, and the risk of contamination appears to be minimal.
- Yancy Company, Inc., 1871 King Street Extension: This site is listed as a RCRA Non-generator of hazardous waste, but was previously a Small Quantity generator. Violations of hazardous waste regulations are listed for this site. There is a risk of potential contamination involvement at this site.
- Mark's Paint & Body Shop, 1822 – 1826 Meeting Street Road: These addresses are historical auto repair shops. The site is a current RCRA Non-generator of hazardous waste, but was formerly a Small Quantity generator of hazardous waste. Violations of hazardous waste regulations are listed for this site. There is a risk of potential contamination involvement at this site.
- Express Cab Property and Cherokee Truck Center, 1836 Meeting Street Road: This site is a RCRA Non-generator of hazardous waste and a Brownfields site. Due to the lack of information regarding the Brownfields investigations, there is a risk of potential contamination involvement at this site.
- Reported Mineral Oil Spill, 1787 Anthony Street: A 26-gallon spill of mineral oil was reported to the State. No further information was available. Due to the lack of a significant response, the spill appears to have been minor, and the risk of contamination appears to be minimal.
- WR Grace & Company Agricultural Chemical Group, 1820 Harmon Street: This site is a State Hazardous Waste Site, UST site, and Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) site. Land use restrictions have been implemented at this property, and the groundwater is being monitored. Therefore, there is a relatively high risk of contamination involvement at this site.

- Furlong Printing Co., 1786 Harmon Street: This site is listed as a RCRA Non-generator of hazardous waste, but was previously a Small Quantity generator, with no violations. The risk from this site appears to be minimal.
- Concrete On Demand, 2004 Herbert Street: This site is listed in the Facility Index System, with no additional information. The risk of contamination involvement from this site appears to be minimal.
- Fleet Transport Company, Inc., 1823 Harmon Street: This site is listed in the Facility Index System, with no additional information. The risk of contamination involvement from this site appears to be minimal.
- Brown Transport Corp., 1843 Harmon Street: This site is a UST site and is listed in the Facility Index System. There are no reported discharges associated with the USTs. The risk of contamination involvement from this site appears to be minimal.
- North Charleston SD-Elgin St. Plant, 1000 Elgin Street: This site is listed as a RCRA Non-generator of hazardous waste, with no violations. The risk from this site appears to be minimal.
- Hermann Warehouse SE, 1797 King Street Extension: This site is a Leaking UST site, with No Further Action approved in 2008. Three USTs were abandoned at the site. However, the risk from this site appears to be minimal.
- Southern Truck Terminal, 1805 Meeting Street Road: This is a State Hazardous Waste Site, a Brownfields site, and is part of a Voluntary Cleanup Program. Cleanup of the site has not been completed, and land use restrictions are being considered. Therefore, this site is considered a high risk of contamination involvement.
- Federal Services, Inc., King Street Extension: This site is a State Hazardous Waste Site, a CERCLIS site, and a RCRA Non-generator of hazardous waste. The site is part of an EPA cleanup operation, and it is therefore considered a high risk of contamination involvement.
- Koppers/Squire, 1951 Milford Street: This is a State Hazardous Waste Site, a Brownfields site, and is part of a Voluntary Cleanup Program. This is the location of a former creosote storage facility, with no cleanup information. Therefore, this site is considered a high risk of contamination involvement.
- City of Charleston Garage, 1950 Milford Street: This site is a Leaking UST site and a RCRA Small Quantity Generator of hazardous waste. Six USTs at the site have been abandoned, and the groundwater is being monitored. Therefore, this site is considered a high risk of contamination involvement.
- Port Oil Division and EMRO Southern Division Office, 1766 Meeting Street: This site is a Leaking UST site, a State Hazardous Waste Site, a Brownfields site, a RCRA Non-generator of hazardous waste, and is part of a Voluntary Cleanup Program. The site has 3 abandoned USTs, and the Leaking USTs received No Further Action status from the State in 2007. However, due to the other site issues, this site is considered a risk of having contamination involvement.

Of the 34 sites with potential contamination involvement identified within the Southern Alternatives Area, 14 sites were considered to have a high risk of contamination involvement, while the remaining 20 sites were considered to have minimal risk of contamination involvement.

The Southern Alternatives Area is bordered on the west and east sides by properties that have documented contamination issues. A large Mobil Chemical Company terminal facility is located immediately northwest of the Southern Alternatives Area. The Koppers, Inc. (Charleston Plant) National Priorities List site is located immediately southwest of the Southern Alternatives Area. The Montenay Incinerator Site is located along the northeast side of the Southern Alternatives Area, while the Macalloy Corporation Superfund Site is located along the east side of the area. The latter two sites are discussed individually in Section 3.15 of the EIS.

On the basis of the results of the primary regulatory database searches, the type and number of sites located within the one-mile search radius, which includes the Southern Alternative Area, are presented in Table 2.

Table 2
Regulatory Database Search Summary – Southern Alternatives Area

Type	Number of Sites Within Search Area
National Priorities List Sites	2
Underground Storage Tank Database	39
Aboveground Storage Tank Database	5
Leaking Underground Storage Tank Listing	30
RCRA-Large Quality Generator	3
RCRA- Small Quality Generator	4
RCRA-Conditionally Exempt Small Quality Generator	12
RCRA Non-Generator	23
Emergency Response Notification System (ERNS)	4
Facility Index System	49
State Hazardous Waste Sites records (SHWS)	52
Solid Waste Facilities/Landfill	4
Voluntary Evaluation Program	33
Solid Waste Disposal/Recycling Facilities	2
Department of Defense (DoD)	2
Integrated Compliance Information System	3
Hazardous Materials Incident Report System	0
Manufactured Gas Plant	0

Source: EDR (2016).

N/A = Not applicable.

Note: additional databases are referenced in the EDR report.

REFERENCES

- Environmental Data Resources, Inc. (EDR). 2016a. The EDR Aerial Photo Decade Package, Northern Alternatives Area, Hobby Street at Mcritchie Avenue, North Charleston, SC 29405, Inquiry No. 4518753.9, January 21.
- . 2016b. EDR Historical Topo Map Report, Northern Alternatives Area, Hobby Street at Mcritchie Avenue, North Charleston, SC 29405, Inquiry No. 4518753.4, January 21.
- . 2016c. Certified Sanborn Map Report, Northern Alternatives Area, Hobby Street at Mcritchie Avenue, North Charleston, SC 29405, Inquiry No. 4518753.3, January 22.
- . 2016d. The EDR-City Directory Image Report, Northern Alternatives Area, Hobby Street at Mcritchie Avenue, North Charleston, SC 29405, Inquiry No. 4518753.5, January 22.
- . 2016e. The EDR Radius Map Report with GeoCheck, Northern Alternatives Area, Hobby Street at Mcritchie Avenue, North Charleston, SC 29405, Inquiry No. 4518753.2s, January 21.
- . 2016f. The EDR Aerial Photo Decade Package, Southern Alternatives Area, Spruill Avenue/Meeting Street/Milford Street, North Charleston, SC 29405, Inquiry No. 4518788.7, January 26.
- . 2016g. Certified Sanborn Map Report, Southern Alternatives Area, Spruill Avenue/Meeting Street/Milford Street, North Charleston, SC 29405, Inquiry No. 4520722.1, January 25.
- . The EDR-City Directory Image Report, Southern Alternatives Area, Spruill Avenue/Meeting Street/Milford Street, North Charleston, SC 29405, Inquiry No. 4518788.8, January 22.
- . 2016i. EDR DataMap Area Study, Southern Alternatives Area, Spruill Avenue/Meeting Street/Milford Street, North Charleston, SC 29405, Inquiry No. 4518788.2s, January 21.