



TIER 1 FINAL ENVIRONMENTAL IMPACT STATEMENT
VOLUME 2



7.8 Hazardous Waste and Contaminated Material

7.8 HAZARDOUS WASTE AND CONTAMINATED MATERIAL

7.8.1 Introduction

Hazardous waste and contaminated material (HWCM) include substances that are dangerous or potentially harmful to public health or the environment. This chapter briefly describes the types and quantities of HWCM sites in the Study Area and includes the evaluation of Environmental Consequences of the No Action and Action Alternatives on these HWCM sites as well as HWCM effects that could affect implementation of the Action Alternatives.

Consistent with a Tier 1 Draft Environmental Impact Statement (Tier 1 Draft EIS) level of analysis, information regarding the HWCM sites was based solely on readily available database information. The analysis did not entail fieldwork, site inspections or sampling to determine the actual presence and/or level of contamination. The Federal Railroad Administration (FRA) compiled HWCM information in 2012; as such, information is subject to change. Further investigations would be completed, including a review of updated database searches, and fieldwork to confirm the type and extent of contamination of affected HWCM sites, as part of Tier 2 planning and compliance efforts.

7.8.1.1 Definition of Resource

HWCM are further defined below:

- ▶ **Hazardous Wastes** – These are wastes that the U.S. Environmental Protection Agency (EPA) has determined to be hazardous by the properties they exhibit (i.e., ignitability, corrosivity, reactivity, toxicity); or if it is acutely hazardous (i.e., can cause death, disabling injury, or serious illness at low doses); or if it contains listed toxic constituents capable of posing a potential hazard to public health or the environment.
- ▶ **Contaminated Materials** – Though not specifically defined as hazardous by the EPA, contaminated materials are substances that may cause pollution of the soils and groundwater, requiring remedial actions for the protection of public health and the environment.
- ▶ **HWCM Sites** – These sites are properties that have been affected by HWCMs, which may be manifested in the soil, groundwater, or soil gas because of past or present uses on the site or from adjacent properties.
- ▶ **High-Probability Sites¹** – For purposes of this Tier 1 Draft EIS analysis, these sites are defined as properties located within a 300-foot-wide swath centered on the Representative Route for each Action Alternative and that are considered most likely to be affected by future construction activities.
- ▶ **National Priority List (NPL) Superfund** – This is the list of the hazardous waste sites in the United States eligible for long-term remedial action (cleanup) financed under the federal Superfund program. EPA regulations outline a formal process for assessing hazardous waste sites and placing them on the NPL. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation. The NPL is maintained by the EPA.

¹ “High-Probability Sites” are defined in Appendix E, Section E.08, Hazardous Waste and Contaminated Materials Methodology as “High Risk Sites”

- ▶ **Resource Conservation and Recovery Act (RCRA) Corrective Actions (CORRACTS)** – This is a list of hazardous waste handlers with RCRA Corrective Action Activity. The RCRA CORRACTS list is maintained by the EPA.
- ▶ **Brownfield Sites** – These sites are considered contaminated because they were previously used for industrial or certain commercial uses but could be reused or redeveloped once they are appropriately remediated. The Brownfields list is maintained by the EPA.
- ▶ **RCRA Information Systems (Info)** – This system includes information on Large Quantity Generator and Small Quantity Generator facilities that generate hazardous waste. The RCRA Info list is maintained by the EPA.
- ▶ **RCRA Treatment, Storage, and Disposal Facilities (TSDF)** – This list includes facilities that are involved with the treatment of hazardous waste, the temporary storage of hazardous waste prior to treatment or disposal, or the disposal of wastes. The RCRA TSDF list is maintained by the EPA.
- ▶ **State Databases** – State databases vary but include sites that are perceived to be contaminated by hazardous substances; have contamination caused by previous industrial or commercial uses; have land use restrictions due to known site contamination; have been identified as Hazardous Waste Corrective Action sites, Site Investigation & Restoration Branch sites, Solid Waste Landfills, Solid Waste Resource Recovery sites, and Unpermitted Landfills-Dumps; and are inventoried as abandoned landfills and pose potential environmental hazards. State databases are maintained by the individual states.

Appendix E, Section E.08, provides more detailed definitions of HWCMs.

7.8.1.2 Effects-Assessment Methodology

The FRA developed an effects-assessment methodology for the evaluation of HWCM sites. The methodology provides a detailed definition of HWCM, data sources, and an explanation about how the Affected Environment was defined and established. The methodology also explains how the effects on HWCM sites were evaluated and reported. Table 7.8-1 summarizes key factors associated with the effects-assessment methodology for HWCMs. For this Tier 1 Draft EIS, the analysis was limited to the HWCM sites identified on the NPL Superfund, RCRA CORRACTS, RCRA Info, RCRA TSDFs, Brownfields, and various state databases as defined in Section 7.8.1.1. The FRA identified the NPL sites and RCRA CORRACTS sites as sites of particular concern with the potential to have the most impact.

Appendix E, Section E.08, provides the methodology for evaluating HWCM sites and includes the supporting data that were used in the analyses. Appendix A, Mapping Atlas, provides the general locations of HWCM sites in relationship to each of the Action Alternatives.

Table 7.8-1: Effects-Assessment Methodological Summary: Hazardous Waste and Contaminated Material

Resource	Affected Environment	Type of Assessment	Outcome
HWCM Sites	2-mile-wide swath centered along the Representative Route for each Action Alternative	Quantitative: Number of Sites	Identification of HWCM sites identified on the NPL Superfund, RCRA CORRACTS, Brownfield, RCRA Info, RCRA TSDFs, and state databases that could be affected by the Representative Routes of the Action Alternatives
Resource	High-Probability Area	Type of Assessment	Outcome
HWCM High-Probability Sites	300-foot-wide swath centered along the Representative Route for each Action Alternative	Quantitative: Number of Sites	Identification of HWCM sites identified on the NPL Superfund, RCRA CORRACTS, Brownfield, RCRA Info, RCRA TSDFs, and state databases that are located within the High-Probability Area of the Action Alternatives. HWCM sites identified in the High-Probability Area are not necessarily more dangerous than the HWCM sites identified outside the High-Probability Area, but are more likely to be encountered during construction due to their closer proximity to the Representative Routes.

Source: NEC FUTURE Hazardous Waste and Contaminated Material Methodology, Appendix E, Section E.08, 2014

7.8.2 Resource Overview

HWCM sites within the Study Area tend to be more densely located in urban areas including Philadelphia, PA; Camden, Trenton, Elizabeth, and Newark, NJ; Stamford, Waterbury, and Hartford, CT; and Boston, MA. The FRA did not identify the type and extent of contamination at these sites.

7.8.3 Affected Environment

Table 7.8-2 identifies the number of HWCM sites within the Affected Environment for the existing NEC and Action Alternatives. Appendix A, Mapping Atlas, provides the general locations of HWCM. New Jersey and Connecticut rank as having the highest quantities of total HWCM within the Affected Environment for the existing NEC and Action Alternatives. Pennsylvania, New Jersey, and Connecticut rank highest among the existing NEC and Action Alternatives for RCRA CORRACTS sites.

More developed, industrial areas along the NEC, such as Philadelphia County, PA; Essex County, NJ; and Fairfield, New Haven, and Hartford Counties, CT, generally have the largest number of HWCM sites within the Affected Environment for the existing NEC and the Action Alternatives. The FRA did not identify any HWCM sites within the Affected Environment of the existing NEC or any of the Action Alternatives in the following counties: Montgomery County, PA; Salem, Gloucester, Camden, and Bergen Counties, NJ; Richmond County, NY; and Middlesex County, MA.

Table 7.8-2: Affected Environment: Total Hazardous Waste and Contaminated Material Sites

Geography	Existing NEC	Alternative 1	Alternative 2	Alternative 3
D.C.	35	35	35	35
MD	385	390	400	670
DE	440	440	475	450
PA	980	980	890	1,430
NJ	2,850	2,875	2,880	3,010
NY	345	345	365	455–715
CT	3,045	3,205	4,240	3,395–4,440
RI	545	545	580	545–580
MA	415	415	415	415–945
TOTAL	9,040	9,230	10,280	10,405–12,275

Sources: NEC FUTURE team, 2015; U.S. Environmental Protection Agency’s (EPA) Envirofacts; EPA’s Cleanup in My Community, District Department of the Environment; Maryland Department of the Environment (MDDE); Delaware Department of Natural Resources and Environmental Control (DEDNREC); Pennsylvania Department of Environmental Protection (PADEP); New Jersey Department of Environmental Protection (NJDEP); New York Department of Environmental Conservation (NYDEC); New York City Department of Environmental Protection (NYCDEP); New York City Office of Environmental Remediation (NYCOER); Connecticut Department of Energy and Environmental Protection (CTDEEP); Connecticut Department of Economic and Community Development (CTDECD) Brownfield Opportunity list; Rhode Island Department of Environmental Management (RIDEM); Mass.gov; Massachusetts Department of Environmental Protection (MADEP).

The Affected Environment of Alternative 3 has the highest total number of HWCM sites, and NPL Superfund and RCRA CORRACTS sites, while the existing NEC and Alternative 1 contain the fewest. Similar to the existing NEC, the most frequent type of HWCM sites in all Action Alternative’s High-Probability Areas are state database sites in Connecticut. Table 7.8-3 identifies NPL Superfund and RCRA CORRACTS sites within the Affected Environment of the existing NEC and Action Alternatives.

All Alternative 3 route options share the same improvements south of New York City, with the most frequent type of HWCM sites in the High-Probability Area being state database sites in New Jersey. The Alternative 3 route option to Hartford, CT, via the Long Island Sound contains the highest number of HWCM sites within the Affected Environment of any of the Alternative 3 route options north of Washington, D.C. The majority of these sites are located within Nassau and Suffolk Counties, NY. Table 7.8-4 identifies the total number of HWCM sites by type within the Affected Environment of the Alternative 3 route options.

Table 7.8-3: Affected Environment: National Priority List Superfund and Resource Conservation and Recovery Act Corrective Actions Sites

Geography	Resource of Interest	Existing NEC	Alternative 1	Alternative 2	Alternative 3
D.C.	NPL Superfund				
	RCRA CORRACTS				
MD	NPL Superfund	5	5	5	10
	RCRA CORRACTS	10	10	10	10
DE	NPL Superfund	2	2	3	2
	RCRA CORRACTS	4	4	4	4
PA	NPL Superfund	5	5	5	5
	RCRA CORRACTS	30	30	30	35
NJ	NPL Superfund	5	5	5	5
	RCRA CORRACTS	30	30	30	30
NY	NPL Superfund	1	1	1	2–15
	RCRA CORRACTS	5	5	5	5–15
CT	NPL Superfund	1	1	1	1–3
	RCRA CORRACTS	45	45	60	50–60
RI	NPL Superfund	2	2	2	2*
	RCRA CORRACTS	10	10	15	10–15
MA	NPL Superfund	1	1	1	1–3
	RCRA CORRACTS	3	3	3	3–5
TOTAL		160**	160**	180	175–220

Sources: NEC FUTURE 2015, EPA’s Envirofacts; EPA’s Cleanup in My Community, District Department of the Environment; MDDE; DEDNREC; PADEP; NJDEP; NYDEC; NYCDEP; NYCOER; CTDEEP; CT CTDECD Brownfield Opportunity list; RIDEM; Mass.gov; and MADEP.

Blank cell = No sites were identified within the Affected Environment.

* = Number represents both the minimum and maximum number of sites.

** = Totals were rounded to the nearest five.

Table 7.8-4: Affected Environment: Hazardous Waste and Contaminated Material Sites of Alternative 3 Route Options

Geography	Resource of Interest	Existing NEC	Alternative 3				
			D.C. to NYC	New York City to Hartford		Hartford to Boston	
				via Central Connecticut	via Long Island	via Providence	via Worcester
D.C.	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	30	30	—	—	—	—
	RCRA Info	5	5	—	—	—	—
	RCRA TSDF	0	0	—	—	—	—
	State	0	0	—	—	—	—
MD	NPL Superfund	5	10	—	—	—	—
	RCRA CORRACTS	10	10	—	—	—	—
	Brownfields	205	350	—	—	—	—
	RCRA Info	45	65	—	—	—	—
	RCRA TSDF	3	4	—	—	—	—
	State	120	230	—	—	—	—
DE	NPL Superfund	2	2	—	—	—	—
	RCRA CORRACTS	4	4	—	—	—	—
	Brownfields	165	170	—	—	—	—
	RCRA Info	15	15	—	—	—	—
	RCRA TSDF	1	1	—	—	—	—
	State	250	255	—	—	—	—
PA	NPL Superfund	5	5	—	—	—	—
	RCRA CORRACTS	30	35	—	—	—	—
	Brownfields	90	310	—	—	—	—
	RCRA Info	95	110	—	—	—	—
	RCRA TSDF	5	5	—	—	—	—
	State	755	965	—	—	—	—
NJ	NPL Superfund	5	5	—	—	—	—
	RCRA CORRACTS	30	30	—	—	—	—
	Brownfields	1,220	1,275	—	—	—	—
	RCRA Info	165	165	—	—	—	—
	RCRA TSDF	10	10	—	—	—	—
	State	1,415	1,520	—	—	—	—
NY	NPL Superfund	1	—	2	15	—	—
	RCRA CORRACTS	5	—	5	15	—	—
	Brownfields	65	—	70	85	—	—
	RCRA Info	185	—	255	405	—	—
	RCRA TSDF	2	—	2	5	—	—
	State	90	—	125	190	—	—

Table 7.8-4: Affected Environment: Hazardous Waste and Contaminated Material Sites of Alternative 3 Route Options (continued)

Geography	Resource of Interest	Existing NEC	Alternative 3				
			D.C. to NYC	New York City to Hartford		Hartford to Boston	
				via Central Connecticut	via Long Island	via Providence	via Worcester
CT	NPL Superfund	1	—	2	1	0	1
	RCRA CORRACTS	45	—	55	50	5	4
	Brownfields	240	—	290	295	75	70
	RCRA Info	65	—	85	80	20	20
	RCRA TSDF	25	—	25	20	5	5
	State	2,675	—	2,760	2,680	615	510
RI	NPL Superfund	2	—	—	—	2	2
	RCRA CORRACTS	10	—	—	—	15	10
	Brownfields	420	—	—	—	435	420
	RCRA Info	25	—	—	—	30	25
	RCRA TSDF	1	—	—	—	1	1
	State	85	—	—	—	100	85
MA	NPL Superfund	1	—	—	—	1	3
	RCRA CORRACTS	3	—	—	—	3	5
	Brownfields	55	—	—	—	55	95
	RCRA Info	35	—	—	—	35	85
	RCRA TSDF	2	—	—	—	2	3
	State	315	—	—	—	320	750
TOTAL		9,040*	5,550*	3,675*	3,840*	1,720*	2,095*

Source: NEC FUTURE team, 2015.

— = Not applicable within that alternative/route option.

* = Totals were rounded to the nearest five.

Table 7.8-5 identifies the total number of HWCM sites by type within the High-Probability Areas of the existing NEC and the Action Alternatives. For purposes of this Tier 1 Draft EIS analysis, a High-Probability Area includes properties located within the 300-foot-wide swath around the Representative Route for each Action Alternative and which are considered most likely to be affected by construction activities. Similar to the Affected Environment, the FRA identified the fewest HWCM sites in the High-Probability Area of the existing NEC, while the most HWCM sites were identified in the High-Probability Area of Alternative 3. Table 7.8-6 identifies the total number of HWCM sites by type within the High-Probability Areas of the Alternative 3 route options.

Table 7.8-5: High-Probability Areas: Hazardous Waste and Contaminated Materials Sites

Geography	Resource of Interest	Existing NEC	Alternative 1	Alternative 2	Alternative 3
D.C.	NPL Superfund				
	RCRA CORRACTS				
	Brownfields				
	RCRA Info				
	RCRA TSDF				
	State				
MD	NPL Superfund				
	RCRA CORRACTS				
	Brownfields	5	5	5	5
	RCRA Info				1
	RCRA TSDF				
	State	2	2	2	3
DE	NPL Superfund				
	RCRA CORRACTS				
	Brownfields	5	5	10	15
	RCRA Info	1	1	1	3
	RCRA TSDF				
	State	15	15	20	30
PA	NPL Superfund				
	RCRA CORRACTS				
	Brownfields				1
	RCRA Info	3	3	5	5
	RCRA TSDF				
	State	10	10	10	15
NJ	NPL Superfund				
	RCRA CORRACTS				
	Brownfields	25	25	35	40
	RCRA Info	3	3	4	4
	RCRA TSDF			1	1
	State	30	35	45	50
NY	NPL Superfund			1	1-2
	RCRA CORRACTS				0-1
	Brownfields			1	1*
	RCRA Info	10	10	15	15-20
	RCRA TSDF				
	State	5	5	10	10-15
CT	NPL Superfund				
	RCRA CORRACTS	3	3	3	3-4
	Brownfields	15	15	20	20*
	RCRA Info	5	5	10	10*
	RCRA TSDF	3	3	3	3*
	State	55	70	100	105-120

Table 7.8-5: High-Probability Areas: Hazardous Waste and Contaminated Materials Sites (continued)

Geography	Resource of Interest	Existing NEC	Alternative 1	Alternative 2	Alternative 3
RI	NPL Superfund				
	RCRA CORRACTS				
	Brownfields	5	5	10	5-10
	RCRA Info				
	RCRA TSDF				
	State	4	4	4	4*
MA	NPL Superfund				
	RCRA CORRACTS				
	Brownfields				0-2
	RCRA Info				0-1
	RCRA TSDF				
	State	10	10	10	15-20
TOTAL		215**	225**	325	365-405**

Sources: NEC FUTURE 2015, EPA’s Envirofacts; EPA’s Cleanup in My Community, District Department of the Environment; MDDE; DEDNREC; PADEP; NJDEP; NYDEC; NYCDEP; NYCOER; CTDEEP; CT CTDECD Brownfield Opportunity list; RIDEM; Mass.gov; MADEP.

Blank cell = No sites were identified within the High-Probability Area.

* = Number represents both the minimum and maximum number of sites.

** = Totals were rounded to the nearest five.

Table 7.8-6: High-Probability Areas: Hazardous Waste and Contaminated Material Sites of Alternative 3 Route Options

Geography	Resource of Interest	Existing NEC	Alternative 3				
			D.C. to NYC	New York City to Hartford		Hartford to Boston	
				via Central Connecticut	via Long Island	via Providence	via Worcester
D.C.	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	0	0	—	—	—	—
	RCRA Info	0	0	—	—	—	—
	RCRA TSDF	0	0	—	—	—	—
	State	0	0	—	—	—	—
MD	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	5	5	—	—	—	—
	RCRA Info	0	1	—	—	—	—
	RCRA TSDF	0	0	—	—	—	—
	State	2	3	—	—	—	—
DE	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	5	15	—	—	—	—
	RCRA Info	1	3	—	—	—	—
	RCRA TSDF	0	0	—	—	—	—
	State	15	30	—	—	—	—
PA	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	0	1	—	—	—	—
	RCRA Info	3	5	—	—	—	—
	RCRA TSDF	0	0	—	—	—	—
	State	10	15	—	—	—	—
NJ	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	25	40	—	—	—	—
	RCRA Info	3	4	—	—	—	—
	RCRA TSDF	0	1	—	—	—	—
	State	30	50	—	—	—	—
NY	NPL Superfund	0	—	1	2	—	—
	RCRA CORRACTS	0	—	1	0	—	—
	Brownfields	0	—	1	1	—	—
	RCRA Info	10	—	15	20	—	—
	RCRA TSDF	0	—	0	0	—	—
	State	5	—	10	15	—	—

Table 7.8-6: High-Probability Areas: Hazardous Waste and Contaminated Material Sites of Alternative 3 Route Options (continued)

Geography	Resource of Interest	Existing NEC	Alternative 3				
			D.C. to NYC	New York City to Hartford		Hartford to Boston	
				via Central Connecticut	via Long Island	via Providence	via Worcester
CT	NPL Superfund	0	—	0	0	0	0
	RCRA CORRACTS	3	—	4	3	0	0
	Brownfields	15	—	15	15	3	2
	RCRA Info	5	—	10	5	2	2
	RCRA TSDF	3	—	2	2	1	1
	State	55	—	85	90	20	25
RI	NPL Superfund	0	—	—	—	0	0
	RCRA CORRACTS	0	—	—	—	0	0
	Brownfields	5	—	—	—	10	5
	RCRA Info	0	—	—	—	0	0
	RCRA TSDF	0	—	—	—	0	0
	State	4	—	—	—	4	4
MA	NPL Superfund	0	—	—	—	0	0
	RCRA CORRACTS	0	—	—	—	0	0
	Brownfields	0	—	—	—	0	2
	RCRA Info	0	—	—	—	0	1
	RCRA TSDF	0	—	—	—	0	0
	State	10	—	—	—	15	20
TOTAL		215*	175*	145*	155*	55*	55*

Source: NEC FUTURE team, 2015.

— = Not applicable within that alternative/route option.

* = Totals were rounded to the nearest five.

7.8.4 Environmental Consequences

Table 7.8-7 identifies the total number of HWCM sites by type within the Representative Routes of the existing NEC and Action Alternatives. The FRA identified NPL and RCRA CORRACTS sites as sites of particular concern with the potential to have the most significant impact.

7.8.4.1 No Action Alternative

Most activities included as part of the No Action Alternative occur within or adjacent to the existing NEC right-of-way. HWCM sites exist within the existing NEC; therefore, it is likely that activities proposed under the No Action Alternative will encounter HWCM sites and contaminated soil or groundwater associated with HWCM sites. Project sponsors will be responsible for identifying HWCM within their project limits, coordinating with local, state, and federal agencies managing HWCM, and implementing any remedial actions and measures for removing, handling, or transporting HWCMs.

7.8.4.2 Alternative 1

The majority of HWCM sites associated with Alternative 1 occur in Connecticut. Through Connecticut, Alternative 1 includes the Old Saybrook-Kenyon new segment, which is off the existing NEC. This off-corridor improvement increases the number of HWCM that would be encountered in Connecticut. There are no known NPL Superfund sites that intersect Alternative 1.

7.8.4.3 Alternative 2

The addition of the New Haven-Hartford-Providence route option occurs outside the existing NEC; therefore, Alternative 2 would have a higher potential to encounter HWCM sites. Similar to Alternative 1, the majority of new HWCM sites are in Connecticut. There are no known NPL Superfund sites that Alternative 2 intersects.

7.8.4.4 Alternative 3

Alternative 3 includes more route options off the existing NEC than the other Action Alternatives, and has the highest potential to encounter HWCM sites.

Washington, D.C., to New York City

New Jersey contains the highest number of HWCM sites, which would be affected by the Representative Route of this portion of Alternative 3. There are no NPL and RCRA CORRACTS sites located within this portion of Alternative 3.

New York City to Hartford

Via Central Connecticut

Within the New York City to Hartford via Central Connecticut route option, which is mostly off the existing NEC, additional HWCM sites would be affected by the Representative Route. The largest number of HWCM sites in this route option are RCRA Info sites in New York City and state database sites in Connecticut. There are no NPL and RCRA CORRACTS sites located within this Alternative 3 route option.

Via Long Island

This Alternative 3 route option also goes off the existing NEC via the Long Island Sound and includes Nassau and Suffolk Counties, NY, which have additional HWCM sites. The largest number of HWCM sites in this route option are state database sites in Connecticut. Additionally, one NPL Superfund site was identified in Nassau County, NY, for this route option.

Hartford to Boston

Via Providence

The largest number of HWCM sites in this route option, which is off the existing NEC generally from Hartford, CT, to northeast Providence, RI, are state database sites in Massachusetts. There are no NPL and RCRA CORRACTS sites located within this route option of Alternative 3.

Via Worcester

This route option, which travels from Hartford to Boston via Worcester, has the largest number of HWCM sites from state database sites in Connecticut. There are no NPL and RCRA CORRACTS sites located within this Alternative 3 route option.

Table 7.8-7: Environmental Consequences: Hazardous Waste and Contaminated Material Sites within the Representative Routes of Action Alternatives

Geography	Resource of Interest	Existing NEC	Alternative 1	Alternative 2	Alternative 3
D.C.	NPL Superfund				
	RCRA CORRACTS				
	Brownfields				
	RCRA Info				
	RCRA TSDF				
	State				
MD	NPL Superfund				
	RCRA CORRACTS				
	Brownfields	3	3	3	10
	RCRA Info				1
	RCRA TSDF				
	State				1
DE	NPL Superfund				
	RCRA CORRACTS				
	Brownfields	3	3	5	10
	RCRA Info				3
	RCRA TSDF				
	State	5	5	10	25
PA	NPL Superfund				
	RCRA CORRACTS				
	Brownfields				1
	RCRA Info	1	1	3	5
	RCRA TSDF				
	State	5	5	10	15
NJ	NPL Superfund				
	RCRA CORRACTS				
	Brownfields	10	10	20	40
	RCRA Info	1	1	1	3
	RCRA TSDF				1
	State	10	10	20	45
NY	NPL Superfund				0-1
	RCRA CORRACTS				
	Brownfields			1	1*
	RCRA Info	2	2	5	10*
	RCRA TSDF				
	State	4	4	5	5-10

Table 7.8-7: Environmental Consequences: Hazardous Waste and Contaminated Material Sites within the Representative Routes of Action Alternatives (continued)

Geography	Resource of Interest	Existing NEC	Alternative 1	Alternative 2	Alternative 3
CT	NPL Superfund				
	RCRA CORRACTS	1	1	1	1
	Brownfields	4	5	10	5-10
	RCRA Info	4	4	5	6*
	RCRA TSDF	3	3	3	3*
	State	25	30	45	40-50
RI	NPL Superfund				
	RCRA CORRACTS				
	Brownfields				
	RCRA Info				
	RCRA TSDF				
	State	1	1	1	1*
MA	NPL Superfund				
	RCRA CORRACTS				
	Brownfields				0-2
	RCRA Info				
	RCRA TSDF				
	State				4-10
TOTAL		80**	90**	150**	240-365**

Sources: NEC FUTURE 2015, EPA's Envirofacts; EPA's Cleanup in My Community, District Department of the Environment; MDDE; DEDNREC; PADEP; NJDEP; NYDEC; NYCDEP; NYCOER; CTDEEP; CT CTDECD Brownfield Opportunity list; RIDEM; Mass.gov; MADEP.

Blank Cell = No sites were identified within the Representative Route.

* = Number represents both the minimum and maximum number of sites.

** = Totals were rounded to the nearest five.

Table 7.8-8: Environmental Consequences: Hazardous Waste and Contaminated Material Sites within the Representative Route of Alternative 3 Route Options

Geography	Resource of Interest	Existing NEC	Alternative 3				
			D.C. to NYC	New York City to Hartford		Hartford to Boston	
				via Central Connecticut	via Long Island	via Providence	via Worcester
D.C.	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	0	0	—	—	—	—
	RCRA Info	0	0	—	—	—	—
	RCRA TSDF	0	0	—	—	—	—
	State	0	0	—	—	—	—
MD	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	3	10	—	—	—	—
	RCRA Info	0	1	—	—	—	—
	RCRA TSDF	0	0	—	—	—	—
	State	0	1	—	—	—	—
DE	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	3	10	—	—	—	—
	RCRA Info	0	3	—	—	—	—
	RCRA TSDF	0	0	—	—	—	—
	State	5	25	—	—	—	—
PA	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	0	1	—	—	—	—
	RCRA Info	1	5	—	—	—	—
	RCRA TSDF	0	0	—	—	—	—
	State	5	15	—	—	—	—
NJ	NPL Superfund	0	0	—	—	—	—
	RCRA CORRACTS	0	0	—	—	—	—
	Brownfields	10	40	—	—	—	—
	RCRA Info	1	3	—	—	—	—
	RCRA TSDF	0	1	—	—	—	—
	State	10	45	—	—	—	—
NY	NPL Superfund	0	—	0	1	—	—
	RCRA CORRACTS	0	—	0	0	—	—
	Brownfields	0	—	1	1	—	—
	RCRA Info	2	—	10	10	—	—
	RCRA TSDF	0	—	0	0	—	—
	State	4	—	5	10	—	—

Table 7.8-8: Environmental Consequences: Hazardous Waste and Contaminated Material Sites within the Representative Route of Alternative 3 Route Options (continued)

Geography	Resource of Interest	Existing NEC	Alternative 3				
			D.C. to NYC	New York City to Hartford		Hartford to Boston	
				via Central Connecticut	via Long Island	via Providence	via Worcester
CT	NPL Superfund	0	—	0	0	0	0
	RCRA CORRACTS	1	—	1	1	0	0
	Brownfields	4	—	5	10	1	0
	RCRA Info	4	—	5	5	1	1
	RCRA TSDf	3	—	2	2	1	1
	State	25	—	30	40	10	10
RI	NPL Superfund	0	—	—	—	0	0
	RCRA CORRACTS	0	—	—	—	0	0
	Brownfields	0	—	—	—	0	0
	RCRA Info	0	—	—	—	0	0
	RCRA TSDf	0	—	—	—	0	0
	State	1	—	—	—	1	1
MA	NPL Superfund	0	—	—	—	0	0
	RCRA CORRACTS	0	—	—	—	0	0
	Brownfields	0	—	—	—	0	2
	RCRA Info	0	—	—	—	0	0
	RCRA TSDf	0	—	—	—	0	0
	State	0	—	—	—	10	4
TOTAL		80*	160	60*	80	25*	20*

Source: NEC FUTURE team, 2015.

— = Not applicable within that alternative/route option.

* = Totals were rounded to the nearest five.

7.8.4.5 Stations

The Action Alternatives include continued service to existing stations along the NEC, modifications to existing stations (which may require an increase in the station footprint), and new stations. Effects to HWCM sites would not occur at existing stations where there are no proposed modifications. Effects to HWCM sites may occur at stations where modifications are proposed and an increase in the station footprint overlaps with HWCM sites. Greater effects would be associated in areas where new stations are proposed and overlap with HWCM sites. Table 7.8-9 identifies stations that are new or will be modified and that overlap with HWCM sites.

Table 7.8-9: Environmental Consequences: Hazardous Waste and Contaminated Materials Sites – Stations

State	County	Station ID/type	Station Name	Alternative 1	Alternative 2	Alternative 3
MD	Baltimore City	8/Modified	West Baltimore	X	X	X
		11/New	Baltimore Downtown			X
		14/New	Bayview H.S.			X
DE	New Castle	26/New	Newport	X	X	X
PA	Delaware	34/New	Baldwin	X	X	X
	Philadelphia	46/Modified	Philadelphia Market East			X
		47/Modified	North Philadelphia	X	X	X
NJ	Middlesex	64/Modified	New Brunswick	X	X	X
		68/New	Metropark H.S.			X
NY	Queens	144/Modified	Jamaica			X
		145/New	Jamaica H.S.			X
	Nassau	146/New	Nassau Hub			X
	Suffolk	148/New	Suffolk Hub			X
CT	Fairfield	94/New	Stamford H.S.	X		
		101/Modified	Greens Farms	X	X	X
	Middlesex	120/New	Old Saybrook H.S.	X		
	New London	122/Modified	Mystic	X	X	X
	Hartford	160/New	West Hartford		X	
164/New		Hartford		X	X	
RI	Kent	127/Modified	TF Green	X	X	X
MA	Suffolk	142/New	Back Bay H.S.			X
	Middlesex	176/New	Southborough/Ashland			X

Source: NEC FUTURE team, 2015

X = Presence of resource within the new station footprint; effects would be subject to Tier 2 analysis.

Blank Cell = No effects identified for subject resource for listed station for specified alternative.

H.S. = high speed

7.8.5 Context Area

There is no notable difference between the types, quantities, and distribution of HWCM sites within the Affected Environment and the Context Area. A shift in the Representative Route of any of the Action Alternatives may avoid encroaching upon some HWCM sites, but would most likely result in encroaching upon other HWCM sites.

7.8.6 Potential Mitigation Strategies

Examples of programmatic mitigation measures for handling and transporting HWCMs would include contaminant management to prevent any existing contamination from migrating to adjacent sites, and providing a safe working environment to protect both the workers and the public. Typical best management practices used to mitigate the release of contaminants during construction include the use of dust control technologies, the proper management of soils and groundwater, ensuring that contaminated material is transported to licensed disposal facilities and containment and management of contaminated materials generated during construction activities. Furthermore, the protection of workers who participate in these activities is typically managed by ensuring that

workers wear proper personnel protection equipment such as gloves, boots, safety glasses, Tyvek suits, or respirators as appropriate. During HWCM analyses conducted as part of Tier 2 projects, and after completion of additional review and investigations of site conditions, these issues would be further analyzed and more-specific information related to public health effects can be addressed.

7.8.7 Subsequent Tier 2 Analysis

The Tier 2 analysis would provide a more detailed review of the HWCM sites. Tier 2 analysis would include an updated database review of each Action Alternative. Additionally, site and adjacent property inspections would also be conducted along the Representative Routes. Based on current information, the database review, site inspections, file reviews, etc., would be conducted for HWCM sites that are identified within the Representative Route. Specific references for the RCRA Corrective Action list and RCRA TSD list is anticipated to be performed in Tier 2 analysis. Environmental site investigations, including sampling of soil and/or groundwater, would be completed as necessary, which would confirm the type and extent of contamination.