## 1 3.18 Hazardous Materials

- 2 Note to reviewers: Following preparation and review of the initial draft of the Hazardous Materials Technical
- 3 Report, FTA and FHWA requested that the IBR Program follow the requirements of FTA's Environmental Standard
- 4 Operating Procedure (SOP) 19, Consideration of Contaminated Properties including Brownfields. SOP 19
- 5 quidance stipulates that Phase I Environmental Site Assessments (ESAs) be completed for all properties proposed
- 6 for acquisition prior to publication of a Draft EIS, and that any Phase II ESAs determined to be necessary be
- 7 completed prior to publication of a Final EIS. Accordingly, the IBR Program will be preparing Phase I ESAs for
- 8 inclusion in the Draft SEIS, scheduled for late 2023, and Phase II ESAs for inclusion in the Final SEIS. Findings from
- 9 the Phase I and II ESAs for acquired properties will supplement the information contained in this subsection,
- 10 which is based primarily on environmental database and historical records searches. However, the existing
- 11 *information will remain available for reference by reviewers until additional information from the ESAs becomes*
- 12 available to enhance the discussion below.
- 13 This section identifies, describes, and evaluates potential temporary and long-term hazardous materials-
- related effects resulting from the No-Build Alternative and construction and operation of the Modified LPA.
- 15 This section also describes measures to help avoid or mitigate adverse effects. A comparison of the impacts of
- the Modified LPA and the No-Build Alternative is shown in Table 3.18-3.
- 17 The information in this section is based on the Hazardous Materials Technical Report, which contains

additional detail including analysis methods, an inventory and maps of Recognized Environmental Conditions

19 (RECs), and potential RECs identified through environmental data reports and desktop site assessment tools.

## 20 3.18.1 Changes or New Information Since 2013

- The Columbia River Crossing (CRC) Final EIS and Record of Decision were completed in 2011, and design refinements were addressed in subsequent NEPA re-evaluations in 2012 and 2013. Since then, the following changes and new information have affected the potential impacts to hazardous materials:
- Updated assessment methodologies based on state and federal laws and requirements and lead agency environmental standard operating procedures.
- Updated datasets for hazardous material sites based on current database searches and the study area for the Modified LPA.
- Updated long-term and temporary property acquisitions for the Modified LPA.
- Changes to the design of the CRC project's LPA to develop a Modified LPA, including design options.
- Table 3.18-1 compares the impacts of the CRC Final EIS (2011) and the IBR Modified LPA as a result of the changes listed above. A detailed description of impacts and benefits to hazardous materials from the IBR Modified LPA and associated design options follows. Based on the analysis described in this section, the hazardous materials effects of the Modified LPA would be the same as or similar to the effects of the CRC LPA.

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#### 1 Table 3.18-1. Comparison of CRC Effects and Modified LPA Effects

Technical Considerations	CRC LPA Effects as Identified in the 2011 Final EIS	Modified LPA Effects Identified in this Section	Explanation of Differences
Property acquisition	<ul> <li>Moderate potential for increased liability from the acquisition of contaminated sites.</li> <li>Moderate potential for long-term beneficial effects on human health and safety from cleanup and remediation of contaminated areas on acquired sites.</li> </ul>	<ul> <li>Similar potential to the CRC LPA for increased liability from the acquisition of contaminated sites.</li> <li>Similar beneficial effects on human health and safety from cleanup and remediation of contaminated areas on acquired sites.</li> </ul>	Approximate risk from property acquisition would be similar between the CRC LPA and the Modified LPA, as the overall number of sites affected by the two projects would be similar.
Surface water and groundwater quality	Beneficial effects from updates in stormwater conveyance and treatment, which would reduce pollutants in stormwater runoff and improve surface water and groundwater quality.	Same as the CRC LPA.	Risk to surface water and groundwater quality from the two projects would be similar, due largely to anticipated stormwater improvements providing beneficial effects.
Hazardous materials spill potential	Reduced spill risk due to reduced traffic congestion and collisions.	Same as the CRC LPA.	Risk due to hazardous material spill potential is similar for the two projects, as highway congestion and resultant collisions would be reduced under both the CRC LPA and the Modified LPA.

## 2 3.18.2 Existing Conditions

### 3 Hazardous Materials Sites within the Study Area

The hazardous materials study area includes the limits of ground disturbance for the Modified LPA plus the

maximum standard 1-mile database search radii established by ASTM E1527-21 for conducting environmental
 site assessments. The search identified 579 sites that could contain hazardous materials. Of these, 358 are in

site assessments. The search identified 579 sites that could contain hazardous materials. Of these, 358
 Washington and 221 are in Oregon

7 Washington and 221 are in Oregon.

8 The Ruby Junction Maintenance Facility is a small-quantity generator for hazardous wastes including

9 solvents, batteries, and paints. Oregon Department of Environmental Quality (DEQ) files for the Ruby Junction

property indicate that cleanup activities for leaking underground storage tanks (LUSTs) at the site were

11 completed in 1994 and 1998. DEQ also identifies seven potentially contaminated sites within 500 feet of the

12 proposed expanded facility boundaries.

### 13 Ranking of Database Sites

- 14 To assess potential project impacts, the identified hazardous materials sites were ranked on a scale of 1 (low)
- to 5 (high) for their potential to cause adverse effects. Sites with a ranking of 4 or 5 have the greatest potential
- to be a source of contamination within the hazardous materials study area and were identified as high priority

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- 1 sites; 46 such sites were identified in the study area. Among the 46 higher priority sites, 16 sites were identified
- 2 within close proximity or adjacent to the Modified LPA. These are listed in Table 3.18-2.
- 3 Table 3.18-2. High Priority Hazardous Materials Sites

State	Site ID	Site	Rank	Location	Type of Release or Suspected Release
WA	1	Special Events and Convention Center	4	Between W 4th and W 6th Streets and Columbia and Esther Streets, Vancouver	LUST; petroleum and metal contaminants
WA	2	U.S. Army Vancouver Barracks	4	Hatheway Road Building 404, Vancouver	LUST
WA	3	Hannah Motor Company	5	300 and 400 Washington Street, Vancouver	LUST; petroleum contaminants
OR	4	Arco SS #4475/ Atlantic Richfield Company	4	1305 N Hayden Island Drive, Portland	LUST; petroleum contaminants
OR	5	Hayden Island Landfill	5	N Hayden Island Road, Portland, adjacent to west side of I-5 bridge	LUST; petroleum and metal contaminants; unknown landfill debris
OR	6	Conoco Phillips Company/Unocal SS 5953	4	12205 N Center Avenue, Portland	LUST; petroleum contaminants
OR	7	Jantzen Beach Shell/Shell Oil Co./Panoca #39	4	12235 N Jantzen Drive, Portland	LUST; petroleum contaminants
OR	8	Jantzen Beach Car Wash	4	12100 N Tomahawk Drive	LUST; petroleum contaminants
OR	9	Country Club Cleaners	4	1190 N Jantzen Drive, Portland	Tetrachloroethene (PCE), trichloroethene (TCE), and 1,2- dichloroethene (1,2-DCE).
OR	10	Expo Center	4	2060 N Marine Drive, Portland	LUST; petroleum contaminants
OR	11	Ross Island Sand & Gravel/Vanport Plant	4	1835 N Marine Drive, Portland	LUST; petroleum contaminants
OR	12	Diversified Marine	5	1801 N Marine Drive, Portland	Petroleum and metal contaminants; organic contaminants (phthalates, PCP, chlorinated solvents, and PCBs); drug lab waste and supplies
OR	13	Schooner Creek Boat Works (a.k.a. Pier 99)	5	1610 N Pier 99 Street, Portland	Metals, SVOCs, organo-chlorine pesticides, phthalates, PCBs, tributyltin, PAHs, and DDT
OR	14	Jantzen Bay Fuel/Jantzen Beach Moorage	4	1130 N Jantzen Avenue, Portland	LUST; petroleum contaminants

State	Site ID	Site	Rank	Location	Type of Release or Suspected Release
OR	15	Fazio Property	4	10365 N Vancouver Way, Portland	LUST
OR	16	Chevron Station Jantzen Beach	4	12105 N Jantzen Drive	LUST; petroleum contaminants

1 Source: Hazardous Materials Technical Report.

2 DDT = dichlorodiphenyltrichloroethane; LUST = leaking underground storage tank; PAHs = polycyclic aromatic hydrocarbons; PCBs =

3 polychlorinated biphenyls; PCP = pentachlorophenol; SVOC = semi-volatile organic compounds

### 4 Spills and Releases

- 5 Roadway and transportation operations can result in the release of hazardous substances or petroleum
- 6 products into the environment from accidental spills. These releases can migrate to surface water or
- 7 groundwater and could affect properties outside of the right of way. Limited controls are currently in place to
- 8 contain spills or releases of hazardous materials or petroleum products which could migrate to environmental
- 9 media.

### 10 **Stormwater Quality and Existing Stormwater Conveyance Systems**

- 11 Impacts to stormwater quality can occur when precipitation encounters a pollutant-generating impervious
- 12 surface. The existing stormwater drainage systems in the study area are closed conveyance systems that
- 13 discharge runoff to either the Columbia River or Burnt Bridge Creek watersheds or to stormwater drywells
- 14 that infiltrate into the subsurface soil. These watersheds are highly urbanized within the study area.
- 15 Additional discussion can be found in the Hazardous Materials Technical Report as well as the Water Quality
- 16 and Hydrology Technical Report.

## 17 3.18.3 Long-Term Benefits and Effects

18 The long-term benefits and effects of the No-Build Alternative and the Modified LPA are summarized in

19 Table 3.18-3 and detailed in the discussion below.

#### **Type of Effect No-Build Alternative Modified LPA** Property acquisition Hazardous materials sites would • Moderate potential for increased liability for not be acquired. No potential for property owners (ODOT and WSDOT) from adverse effects from acquisition of the acquisition of contaminated sites. contaminated sites, such as • Beneficial effects on human health and increased liability and human safety and surface and groundwater quality health and safety if encountered from cleanup and remediation of during construction. No beneficial contaminated areas on acquired sites and effects from the cleanup of limiting the possible off-site migration of contaminated sites. contamination. If residual contamination remains on acquired hazardous materials sites after cleanup, moderate potential for adverse effects on human health and safety if encountered during construction or with the possible off-site migration of contamination. Surface water and Stormwater that is untreated for Beneficial effects from updates in stormwater groundwater quality the removal of pollutants would conveyance and treatment, which would reduce continue to enter surface pollutants in stormwater runoff and improve waterbodies and groundwater. surface water and groundwater quality. Hazardous materials No improvement in existing spill Greater reduction in spill risk due to reduced spill potential risks from traffic congestion and traffic congestion and collisions. collisions.

#### 1 Table 3.18-3. Comparison of Long-Term Benefits and Effects on and from Hazardous Materials

2 Source: Hazardous Materials Technical Report.

3 Note: The impacts for the Modified LPA are relative to No-Build and existing conditions.

#### 4 No-Build Alternative

5 Under the No-Build Alternative, the IBR Program would not acquire property that would include the liability of

6 cleaning up contaminated sites. However, there would be no project-related opportunities to improve

7 existing contamination levels through the cleanup of acquired contaminated site; existing contaminated sites

8 would remain in their current conditions and pollutants may migrate off those sites.

The No-Build Alternative would include few to no improvements to roadways and bridges, which currently
have limited controls in place to contain spills or releases that could migrate to environmental media. As
such, the potential for adverse effects from spills or accidental releases is higher for the No-Build Alternative.
Stormwater would continue to be untreated on the Columbia River bridges and within the study area;
pollutants on roadways, such as oil from vehicles or heavy metals in brake dust, would continue to enter

- 14 nearby surface water bodies and groundwater. Spills of hazardous materials from collisions as a result of
- 15 traffic congestion would be assumed to continue at current levels or worsen as congestion increases over
- 16 time.

#### 17 Modified LPA

- 18 The assessment of long-term effects from the construction, operation, and maintenance of the Modified LPA
- 19 is based on information about the natural and built environments. The types of impacts evaluated include
- long-term liability from property acquisition, spills and releases of hazardous materials during project
- 21 operation, and contamination of groundwater and surface water by highway runoff.

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#### 1 **Property Acquisition**

- 2 Long-term liability is a risk for the IBR Program when acquiring a property that is undergoing investigation or
- 3 remediation and/or is subject to requirements associated with long-term operation of a cleanup action. As
- 4 described in Section 3.18.2, Existing Conditions, there are 16 high-priority hazardous materials sites adjacent
- 5 or in close proximity to the Modified LPA footprint, and at least one property that would be acquired to build
- 6 the Ruby Junction Maintenance Facility is identified as potentially contaminated. Even with cleanup, if
- 7 residual contamination remains on-site, there is a potential for long-term adverse impacts. However,
- 8 acquisition of properties currently affected by hazardous materials or petroleum products would result in an
- 9 increased rate of cleanup within the study area. Cleanup of existing hazardous materials or petroleum
- 10 products is a long-term benefit to the environment. Compared to the No-Build Alternative, which would not
- 11 involve acquisitions of contaminated properties, the Modified LPA would result in long-term beneficial effects
- 12 from the cleanup of properties with hazardous material contamination.
- 13 State and federal policies require due diligence prior to property acquisition and construction. The Modified
- 14 LPA would incorporate the findings of Phase I and Phase II Environmental Site Assessments (ESAs), conducted
- 15 consistent with ASTM E1527-05 or equivalent, for properties that
- 16 would be acquired prior to the conclusion of the IBR NEPA process.
- 17 Properties with contamination in excess of regulatory standards
- 18 would be subject to remediation and cleanup prior to construction.
- 19 The Two Auxiliary Lane Design Option and the Single-Level
- 20 Fixed-Span and Single-Level Movable-Span Design Options would
- 21 require the acquisition of a slightly larger area of property at Fort
- 22 Vancouver to accommodate the wider roadway and bridge
- 23 footprint compared to double-deck fixed-span bridges with one
- 24 auxiliary lane on each bridge. The Fort Vancouver property, listed
- in Table 3.18-2 above as U.S. Army Vancouver Barracks, has a
- 26 hazardous materials site ranking of 4, making it a potential a
- 27 source of contamination and a high priority site for further
- 28 hazardous materials investigations.

### 29 Spills and Releases

30 The Modified LPA also has the potential for adverse effects from

property is acquired to determine the presence, or potential presence, of environmental hazards. Due diligence provides the purchaser of a property with an understanding of the potential liability for environmental hazards and associated cleanup costs. The laws affecting legal liability for the purchasers of contaminated property differ between Oregon and Washington.

Due diligence means taking

appropriate precautions *before* a

- spills or releases of hazardous substances or petroleum products from operation. However, these effects are
   anticipated to be less than under the No-Build Alternative. The Modified LPA would be constructed with
- <sup>33</sup> updated road and bridge designs. Updates would include controls associated with the stormwater system to
- 34 contain and/or better manage releases on roadways and bridges. In addition, emergency response to such
- accidents would likely be quicker due to updates in roadway access and traffic safety. As such, the potential
- 36 for adverse effects from spills or releases is lower for the Modified LPA compared to the No-Build Alternative.
- The operation and maintenance of light-rail trains at the Ruby Junction Maintenance Facility requires the use of hazardous substances and the generation and disposal of hazardous waste. The facility currently has DEQ-approved plans and systems in place to control spills and manage hazardous materials. Operation of the expanded facility for light-rail maintenance would continue, and this existing use could create an incremental increase in existing risks; however, existing hazardous materials management plans and systems would be evaluated and adjusted as appropriate for the expanded scale of the facility. Therefore, expansion of the Ruby Junction Maintenance Facility would not be expected to result in substantial additional hazardous materials
- 44 effects.

### **1** Stormwater Conveyance System and Treatment Facilities

- 2 Groundwater and surface water quality can be affected by pollutants contained in stormwater runoff from
- 3 roadways and bridges and by erosion and runoff from contaminated soils exposed during excavation and
- 4 grading activities. The Modified LPA would include upgraded stormwater treatment facilities built to current
- 5 standards. These would manage and treat stormwater for pollutants prior to infiltration into soil and
- 6 groundwater or release to surface waters, contributing to locally improved surface water, sediment, and
- 7 groundwater quality. Additionally, the stormwater treatment facilities included in the Modified LPA would
- 8 enable better containment and management of spills on roadways and bridges and increased treatment of
- 9 contaminants in stormwater runoff. Beneficial effects on surface water and groundwater (e.g., the Columbia
- 10 River and the Troutdale Aquifer) would result, as described more fully in Section 3.14, Water Quality and
- 11 Hydrology, and Section 3.17, Geology and Groundwater.

## 12 3.18.4 Temporary Effects

- 13 Temporary effects from hazardous materials include the risk of exacerbation of or exposure to existing
- 14 contamination, accidental release of hazardous substances, and generation of hazardous waste during
- 15 construction. The risk of these types of adverse effects has been evaluated for areas of project construction
- 16 and staging and casting activities.

### 17 No-Build Alternative

- 18 Under the No-Build Alternative, no construction-related disturbance of soils or sediments would occur that
- 19 could potentially mobilize existing contamination into the environment. There would be no potential
- 20 hazardous materials encountered or released during project-related demolition or construction, including
- 21 in-water excavation for bridge foundations. There would be no risk of accidental spills or releases of fuels,
- 22 fluids, or other contaminants from construction vehicles, equipment, and materials.

### 23 Modified LPA

### 24 Property Acquisition (Temporary Construction Easements)

- Contaminated soils, sediments, surface water, stormwater, and groundwater can be disturbed during 25 construction, creating the potential to impact human health or the environment, raise liability issues, increase 26 project costs, or cause schedule delays. Prior to property acquisition and construction of the Modified LPA, 27 U.S. Department of Transportation (USDOT) standard operating procedures to complete individual property 28 evaluations and assessments, including confirming the extent of soil, sediment, and groundwater 29 contamination and defining the specific measures and applicable regulatory agency approvals needed to 30 31 address the contamination. Where contamination exists that may pose a risk to people or the environment if mobilized by construction activities, a remediation plan would be developed and executed for each property. 32 The remediation or cleanup of any hazardous material sites affected by the Modified LPA would occur prior to 33
- 34 construction.
- 35 The high priority properties identified above mostly include gas stations, vehicle service facilities, and
- 36 commercial or industrial operations with commercial LUSTs or other sources of hazardous releases (see
- Table 3.18-2). In accordance with USDOT standard operating procedures and applicable regulations for
- hazardous materials sites, actions to address this type of contamination would be defined in more detail at
- the individual property level. However, such sites would typically be addressed with soil excavation and
- disposal or the use of technologies such as in-situ chemical injection, bioremediation, or air-sparge/soil vapor
- 41 extraction. A period of groundwater monitoring during and after remediation may also be required if
- 42 groundwater is contaminated.

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- 1 Overall, the Modified LPA would include actions to identify and remediate contamination on acquired
- 2 properties, resulting in beneficial effects. Excavation and drilling activities, such as those associated with
- 3 construction of the new Columbia River and North Portland Harbor bridges and the Marine Drive, Hayden
- 4 Island, SR 14, and Mill Plain interchanges could risk adding to existing groundwater contamination because
- 5 deep shafts and excavations could create pathways for the migration of existing soil contamination to
- 6 groundwater. Risk factors could include depth of foundations and piles, depth of groundwater, and distances
- 7 to priority hazardous materials sites. The site assessment, cleanup, and remediation measures incorporated
- 8 into the Modified LPA as part of the acquisition and construction planning processes would be expected to
- 9 address contamination at the sites of these improvements such that negligible risk of additional groundwater
- 10 contamination would be expected.

### 11 Accidental Release or Generation of Waste

### 12 Spills and Releases

- 13 Construction equipment can spill or release fuels or other vehicle fluids. Other pollutants such as paints, acids
- 14 for cleaning masonry, solvents, and concrete-curing compounds are typically present at construction sites
- and have the potential to be released to the environment. Construction materials used, such as the
- subsurface pouring of wet cement, could also result in localized impacts to groundwater quality. Measures
- such as spill control and prevention plans, as described in Section 3.18.6, Potential Mitigation Measures,
- 18 should render these risks negligible.

### 19 Lead- and Asbestos-Containing Materials

20 Buildings and structures that have lead or asbestos-containing

- 21 materials (ACM) would require proper abatement procedures
- 22 prior to demolition, renovation, or repair activities. At least 23
- 23 of the properties that would be acquired for the Modified LPA
- have structures built prior to 1980 that may contain asbestos
- and that are planned for demolition. In a similar fashion,
- 26 materials that contain lead (such as some types of paint) must
- 27 be handled carefully during demolition and must be disposed
- 28 of at an approved site.
- 29 Hazardous building material surveys would be conducted
- 30 prior to demolition if properties are suspected of containing
- 31 asbestos, lead, or PCBs.<sup>1</sup> Surveys would be consistent with
- 32 OAR 248 and WAC 296-65, and would inventory lead-based
- 33 paint, ACM, mercury and PCB-containing equipment, universal
- 34 wastes, and/or abandoned waste. Based on survey results,
- 35 abatement would be conducted prior to demolition,
- 36 renovation and/or repair. The Washington State Department
- of Ecology or DEQ would be notified if unknown

### contamination is encountered during the assessments. Disposal of lead and ACM would be conducted at

39 applicable Subtitle C or D solid waste facilities.

### 40 Hazardous and Non-Hazardous Wastes

- 41 Hazardous and non-hazardous waste can be generated during construction activities. Waste can consist of
- 42 contaminated soils; sediments; groundwater generated from excavation, drilling, and dewatering activities;

### Asbestos

Asbestos was used extensively in building materials in the early and mid-twentieth century. Today, it is a known carcinogen, and is extremely *friable*; it crumbles easily. Demolition of buildings or other structures that contain asbestos can release small particles of asbestos into the air, and these particles can lodge in the lungs of people who breathe this air. Proper caution and *abatement procedures* can reduce or eliminate this hazard to human health.

<sup>&</sup>lt;sup>1</sup> polychlorinated biphenyls

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- 1 and building materials containing lead or asbestos exposed by demolition activities. Wastes can be harmful to
- 2 human health and the environment and would require management in accordance with applicable federal
- and state regulations if they are encountered during construction of the Modified LPA. The single-level
- 4 movable-span bridge configuration would require an increased area of in-water work due to its larger bridge
- 5 foundations, which could result in a comparatively greater potential risk of mobilizing hazardous materials in
- 6 river sediments for this design option as compared to others.

### 7 Staging and Casting

- 8 Potential off-site staging areas to support construction are currently being evaluated. Staging areas would be
- 9 used for material laydown yards, equipment storage, and fabrication. The former Thunderbird Hotel site,
- identified as a potential staging area, is a REC. This location is the site of the former Hayden Island Landfill and
- a former automotive service station. Activities at this site may have resulted in contamination of subsurface
- soils and groundwater, which if disturbed during construction as a result of staging activities, could mobilize
- into the surrounding environment. However, most construction staging activities would occur on the ground
- 14 surface, and excavation at this site is unlikely.
- 15 If the river crossing is built using precast concrete sections, an off-site casting yard would be required. One
- potentially available casting yard site has been identified to date: the former Thunderbird Hotel Site on
- 17 Hayden Island. Preliminary review of the site has identified existing RECs, as noted above.

## 18 3.18.5 Indirect Effects

Indirect effects related to hazardous materials could occur as a result of future development and 19 redevelopment activities independent of the IBR Program near Modified LPA transit improvements. As 20 discussed in Section 3.4, Land Use and Economic Activity, local governments have adopted land use plans 21 that support increased development densities in areas served by high-capacity transit, particularly in LRT 22 station areas. Redevelopment of properties in older urbanized areas, such as downtown Vancouver or Hayden 23 Island, is more likely to encounter existing contamination than new development in currently undeveloped 24 areas. Therefore, the Modified LPA could have the potential for indirect adverse effects due to the risk of 25 mobilizing contaminants during redevelopment of such properties. Any future redevelopment in compliance 26 with local land use plans would be required to remediate known or discovered hazardous materials in the 27 soils and buildings, including lead or ACM, resulting in indirect benefits. Construction equipment used for 28 redevelopment could release fuels or vehicle fluids from spills. Pollutants such as paints, acids for cleaning 29 30 masonry, solvents, and concrete-curing compounds can be present at construction sites and have the potential to be released to the environment. These releases could migrate to soil, surface water, sediments, or 31 groundwater. 32

# 33 3.18.6 Potential Avoidance, Minimization, and Mitigation Measures

## 34 Long-Term Effects

## 35 **Regulatory Requirements**

In accordance with FTA and FHWA standard procedures, the IBR Program is preparing Phase I ESAs per
 USDOT standard operating procedures to identify residual contamination on properties to be acquired.
 The results of the Phase I ESAs will be incorporated into the published version of the Draft SEIS. Following
 completion of the Draft SEIS, the IBR Program will prepare Phase II ESAs for properties where identified
 RECs indicate that a subsurface investigation is necessary to confirm the extent of contamination and
 define the specific measures and applicable regulatory agency approvals needed to address the

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- contamination. The Phase II results will be incorporated into the Final SEIS to provide decision-makers
   with a more detailed understanding of cleanup obligations and costs associated with the program.
- During final design and as part of the property acquisition process, detailed hazardous materials
- management plans would be developed, and necessary regulatory approvals would be obtained to
   address areas where cleanup and remediation are needed. The remediation or cleanup of hazardous
- 6 material sites affected by the Modified LPA would be required prior to construction.

### 7 Project-Specific Mitigation

8 No project-specific mitigation measures are proposed for long-term effects related to hazardous materials.

### 9 **Temporary Effects**

#### 10 **Regulatory Requirements**

To minimize temporary effects related to hazardous materials during construction, standard mitigation
 measures such as best management practices (BMPs) would be implemented. Construction BMPs applicable
 to the Modified LPA are discussed in Section 3.14, Water Quality and Hydrology. Other required measures to
 reduce the risk of spills, leaks, or other releases during construction activities include:

- Fueling, conducting maintenance, and cleaning in areas that are contained by measures such as berms or
   other containment.
- Minimizing the production or generation of hazardous materials.
- Labeling and storing hazardous waste according to federal regulations.
- Locating hazardous waste storage away from storm drains or surface water.
- Recycling materials such as used motor oil and water-based paint as appropriate.
- Handling potential spills of hazardous materials in conformance with applicable regulatory requirements.

### 22 **Project-Specific Mitigation**

23 No project-specific mitigation measures are proposed for temporary effects related to hazardous materials.