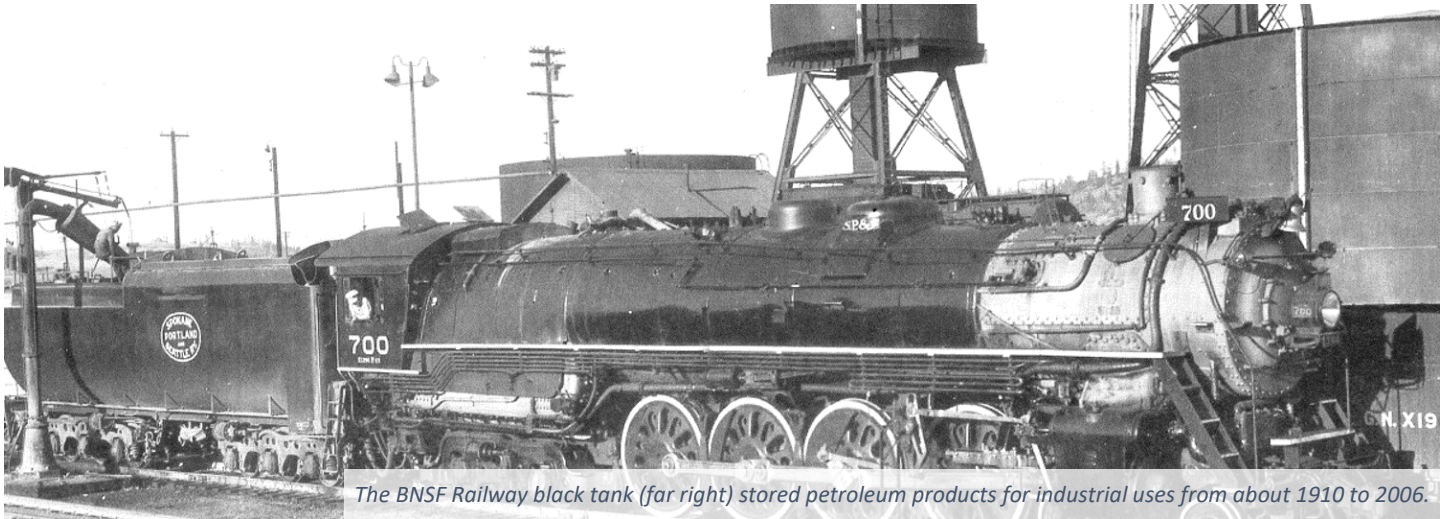


BNSF Railway Black Tank Property



The BNSF Railway black tank (far right) stored petroleum products for industrial uses from about 1910 to 2006.

Comments accepted:

May 13 – June 11, 2019

Submit comments:

Online at:

<http://cs.ecology.commentinput.com/?id=EQYNM>

Or by mail or email to:

Jeremy Schmidt, Site Manager
 4601 North Monroe Street
 Spokane, WA 99205
jeremy.schmidt@ecy.wa.gov

Document review locations:

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3243>

Hillyard Public Library
 4005 North Cook Street
 Spokane, WA 99207
 Phone: 509-444-5380
 Hours: Tues. 12–8 p.m., Wed. –
 Sat. 10 a.m.–6 p.m.

Washington Dept. of Ecology
 4601 North Monroe Street
 Spokane, WA 99205
 Phone: 509-329-3415
 Hours: Monday – Friday, 8 a.m. –
 5 p.m. (by appointment)

Facility Site ID: 98615712

Site Cleanup ID: 3243

Public invited to comment on draft Cleanup Action Plan and supporting documents

The Washington State Department of Ecology (Ecology) seeks your input on the following draft documents for the BNSF Railway Black Tank Property (site) May 13 through June 11, 2019:

- Cleanup Action Plan — explains the cleanup methods we are proposing for this site
- Consent decree — legal agreement requiring the parties responsible for cleanup to enact the cleanup plan
- State Environmental Policy Act (SEPA) documents — we have reviewed the cleanup actions using the SEPA checklist, and decided they won't adversely affect people or the environment

We are holding a public meeting May 22 at 6:30 p.m. at the Northeast Community Center in Hillyard to discuss the proposed cleanup and answer your questions.

The site covers roughly 18 acres in Spokane's Hillyard neighborhood at 3202 East Wellesley Avenue in Spokane, Washington. The property is owned by BNSF Railway Company and was once leased and operated by Marathon Oil Company. The companies are collectively called the potentially liable persons (PLPs) and are responsible for funding and completing cleanup.

The site is in the proposed path of the North Spokane Corridor (NSC) freeway (dark gray outline, Figure 1). The Washington State Department of Transportation (WSDOT) is building the NSC to connect U.S. Highway 395 to Interstate 90.

Ecology, the PLPs, and WSDOT are committed to working together to protect people and the environment, and incorporate public input about site cleanup and NSC freeway construction in Hillyard.

Your drinking water is safe

The site is directly over the Hillyard Trough portion of the Spokane-Valley Rathdrum-Prairie Aquifer. The aquifer provides drinking water to nearly 500,000 residents in the Spokane area. Because the contamination is a heavy oil, very little mixing with the groundwater is occurring. Many groundwater monitoring wells are at the site, and we are confident that drinking water is not affected by the contamination at this time. Monitoring will continue until the cleanup process is complete.

Proposed cleanup plan

We selected excavation for the contaminated surface soil, and a combination of bioventing and biosparging to address deep soil and groundwater contamination, with the possibility of adding steam-enhanced extraction for the deep contamination if groundwater remediation does not meet the cleanup schedule.

Surface soil contamination cleanup has begun

To meet WSDOT's schedule to complete the NSC project, removing contaminated surface soil needed to start in 2018. We held a comment period June 4 – July 3, 2018, to allow the public to review the details, which are explained again below. You may view the comments and our responses online: <https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=75772>.

Contaminated soil within the top 15 feet of three surface soil contamination areas (SSA-1, 4, and 5, Figure 1) was excavated and disposed at an approved offsite facility in 2018. A portion of a fourth (SSA-2) was also excavated. The remaining areas (SSA-2 and 3) were too close to the existing BNSF railroad and will be cleaned up in the same manner as soon as the existing tracks are relocated and operational. Excavation may extend deeper if workers find readily accessible, highly contaminated soil.

Deep contamination cleanup

The primary method for cleaning up the deep contamination (soil and groundwater contamination deeper than 15 feet below ground surface) will be bioventing/biosparging in the medium and high restoration time frame (RTF) areas (brown and orange areas, respectively, Figure 1). Bioventing and biosparging are cleanup technologies in which air is forced underground through wells into soil and groundwater to speed up biodegradation. This provides micro-organisms that degrade petroleum more oxygen, which increases their activity and the rate of petroleum degradation. In their Remedial Investigation and Feasibility Study, the PLPs estimated that this method would take 14 years to clean up the site and cost \$5.5 million.

Ecology and the PLPs will assess whether the petroleum contamination is degrading at a rate that will meet the goal of completing cleanup within 20 years. If not, the PLPs will expand and optimize the bioventing/biosparging system, and we will further assess progress. If petroleum is still not degrading quickly enough, then steam-enhanced extraction, if technically feasible, will be added to the cleanup methods in the high RTF area (orange area, Figure 1).

With steam-enhanced extraction, steam is injected underground through wells to heat up the thick petroleum, so it can be pumped to the surface through extraction wells and processed to separate petroleum and water. The PLPs estimated that the combination of bioventing/biosparging and steam-enhanced extraction will take 10 years to clean up the site and cost \$19.5 million.

In the low RTF areas (yellow areas, Figure 1), natural source zone depletion will clean up the soil and groundwater contamination. Natural source zone depletion relies upon natural processes (volatilizing into air, dissolving into water, and biodegrading) to eliminate petroleum products. The PLPs estimated that petroleum contamination in the low RTF area will biodegrade in seven years. The rate of biodegradation will be monitored to ensure this goal is met. Groundwater monitoring data will be used to evaluate deep contamination cleanup progress.

Toxics Cleanup Program

Site history and contamination

The site housed a 50-foot-diameter, above-ground, black tank that stored petroleum products, primarily the thick, heavy oil known as bunker C used for fueling trains. Later, the black tank stored asphaltic oil and other petroleum-based mixtures used by BNSF's tenants. Residual petroleum products were stored until 2006 when BNSF removed the tank and 10,270 tons of contaminated soil.

The site also had an above-ground, red tank that was used to store and transfer diesel. The diesel was used to thin bunker C so it could be pumped into trains and as a stand-alone fuel in later years of operation.

Past spills and leaks of petroleum products near these tanks and associated piping and dispensers resulted in contamination from the surface to the

groundwater, including five areas of soil contamination ranging from the surface to 15 feet underground. From 15 feet underground to the water table, a 9,150-square-foot column of soil is also contaminated. This is the pathway through which the petroleum traveled from the surface to groundwater. As a result, an approximate 7-acre plume of petroleum rests on groundwater about 170 feet underground.

Next steps

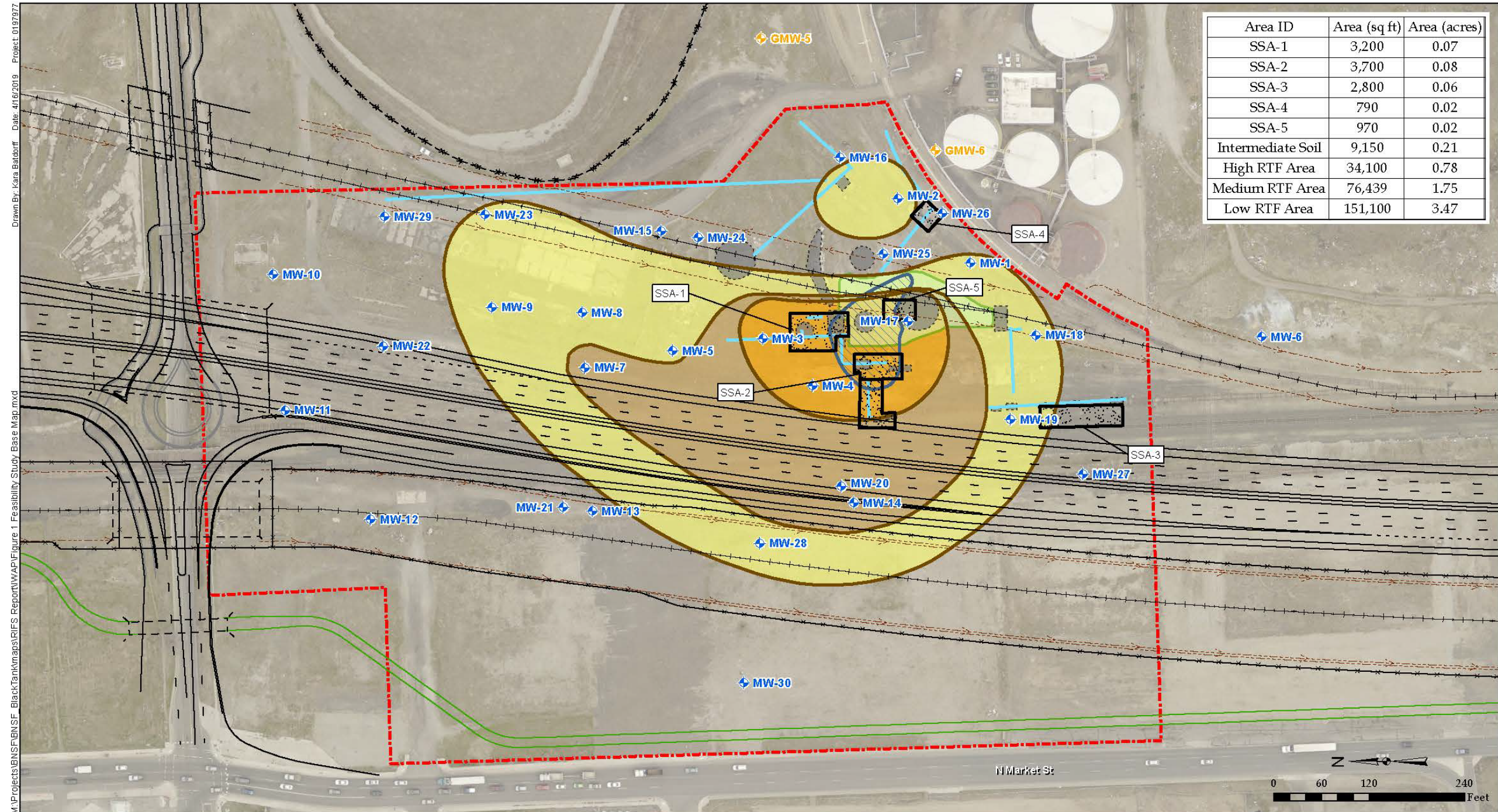
Ecology will review and respond to the comments we receive during the public comment period. We will publish our responses online and send them to the people who commented. If public input results in substantial changes to the draft documents, we will hold another comment period.

After the documents are final, the PLPs will begin site cleanup under our supervision and in coordination with WSDOT's NSC construction.



Black tank demolition, 2006.

Figure 1. BNSF Railway Black Tank Property cleanup site



Area ID	Area (sq ft)	Area (acres)
SSA-1	3,200	0.07
SSA-2	3,700	0.08
SSA-3	2,800	0.06
SSA-4	790	0.02
SSA-5	970	0.02
Intermediate Soil	9,150	0.21
High RTF Area	34,100	0.78
Medium RTF Area	76,439	1.75
Low RTF Area	151,100	3.47

Legend

- Monitoring Well - Black Tank Site
- Monitoring Well - SemMaterials Site
- Existing Piping, June 2016
- BNSF Black Tank Site Boundary
- TPH-D/HO in Intermediate Soil Exceeding the CUL
- Approximate Lateral Limits of Surface Soil Cleanup Areas
- Former Black Tank Excavation
- Historical Aboveground Storage Tank, Sump or Pump House
- WSDOT Proposed Highway Alignment (2018 Version)¹
- Proposed Railroad Alignment
- Centerline
- Bridge
- Fence
- Pedestrian Pathway
- Ditch
- Curb/Sidewalk
- High RTF Area
- Medium RTF Area
- Low RTF Area

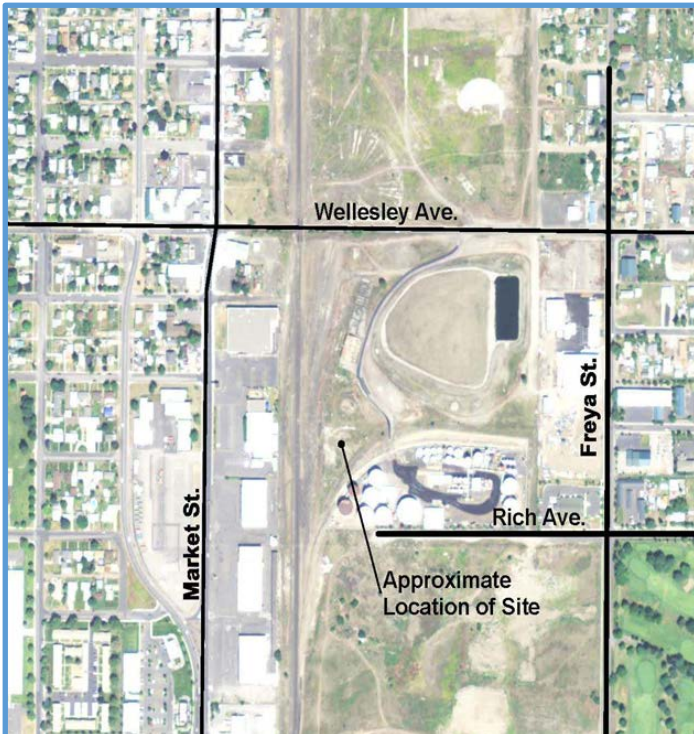
Notes:

- ¹ Alignment subject to change
- CUL = Cleanup Level
- LNAPL = Light Non-Aqueous Phase Liquid
- RTF = Restoration Timeframe
- TPH-D/HO = Combined Diesel and Heavy Oil-Range Petroleum Hydrocarbons
- CUL = 5,360 milligrams per kilogram
- WSDOT = Washington State Department of Transportation
- Aerial Photo: Spokane Image Consortium, 2018.

Figure 1
Cleanup Action Areas
BNSF Black Tank
Spokane, Washington

Toxics Cleanup Program
4601 North Monroe Street
Spokane, WA 99205

BNSF Railway Black Tank Property



Cleanup plan public comment period

May 13 – June 11, 2019

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3243>

Public meeting

May 22, 6:30 p.m.

Northeast Community Center, Assembly Room
4001 North Cook Street
Spokane, WA 99207

Accommodation Requests: To request Americans with Disabilities Act accommodation including materials in a format for the visually impaired, call Ecology at 509-329-3546 or visit <https://ecology.wa.gov/accessibility>. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.