

2014-LTR-1014

Attachment 3

[Permit Attachment AA]

Facility Description



Mixed Waste Facility

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PERMIT ATTACHMENT AA

Facility Description

**MIXED WASTE FACILITY
RCRA/TSCA PERMIT**

PFNW-R

Permit Number: WAR 0000 10355

Mixed Waste Facility

Attachment AA-Facility Description

Table of Contents

	Page
1.0 FACILITY DESCRIPTION AND GENERAL PROVISIONS.....	1
1.1 GENERAL DESCRIPTION.....	1
2.0 FACILITY DESCRIPTION.....	3
2.1 TOPOGRAPHIC MAP [B-2]	4
2.3 ROADWAYS [B-4]	4
2.4 RELEASES FROM SOLID WASTE MANAGEMENT UNITS [E]	4
2.5 SEISMIC CONSIDERATION [B-3]	4

Figures

Geographic Map	5
Mixed Waste Facility Layout	6

Acronyms

EPA	United States Environmental Protection Agency
GVB	Gasification/Vitrification Building
MWF	Mixed Waste Facility
MWNT	Mixed Waste Non-thermal Building
MWTH	Mixed Waste Thermal Building
PCB	Polychlorinated Biphenyls
PESI	Perma-Fix Environmental Services
PFNW-R	Perma-Fix Northwest Richland, Incorporated
RCRA	Resource Conservation and Recovery Act
STB	Stabilization Building
TSCA	Toxic Substance Control Act
WSB	Waste Storage Building

Mixed Waste Facility

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Mixed Waste Facility

1.0 FACILITY DESCRIPTION AND GENERAL PROVISIONS [B AND E] [WAC 173-303-806(4)(a)(i), (x), (xi), (xviii)]

This chapter briefly describes the Mixed Waste Facility (MWF) and provides an overview of the treatment and storage operations, including the following:

- General Description
- Facility Description
- Topography
- Traffic Information.

The MWF is located on the southeast corner of Logston and Battelle Boulevards in Richland, Washington. The 45 acre site is near the Hanford Site in an industrial area in the City of Richland and is approximately 0.8 kilometer (0.5 mile) south of Horn Rapids Road and 1.0 kilometer (0.7 mile) west of Stevens Drive in the northwest quarter of Section 22, Township 10 North, Range 28 East, Willamette Meridian. The property is situated within the Horn Rapids Triangle in northern Richland. The location of the site is shown on the topographic map (attached) in this section. The property is currently owned by Perma-Fix ~~Environmental Services~~ Northwest-Richland, Incorporated. The property is geographically situated within the Pasco Basin in the northern portion of the Columbia Plateau, east of the Cascade Mountains. The Yakima River passes approximately 3.2 kilometer (2 miles) to the southwest, and the Columbia River is approximately 2.4 kilometer (1.5 miles) to the east.

PFNW-R is a treatment and storage facility for radioactive Resource Conservation and Recovery Act (RCRA) waste and radioactive Toxic Substance Control Act (TSCA)-regulated Polychlorinated Biphenyls waste. Herein after mixed waste will mean RCRA or hazardous/dangerous constituents that are contaminated with radioactive constituents. Mixed TSCA regulated wastes are materials that are contaminated with PCBs and radioactive constituents. In addition, there is a third category of waste which is TSCA-regulated PCBs wastes which are contaminated with both radioactive and hazardous/dangerous constitutions.

A more detailed discussion of the waste types, known characteristics of the waste, and the methods of treatment and storage are provided in the following:

- Attachment BB (Part A),
- Attachment CC (Waste Analysis Plan),
- Attachment PP (Process Description for the Stabilization Building), and
- Attachment QQ (Process Description for the ~~GASVH~~TM-M~~WTH~~ Building).

1.1 General Description [WAC 173-303-806(4)(a)(i)] [40 CFR 270.14(b)(1)]

1.1.1 Facility Owner and Operator Information

The Perma-Fix Northwest Richland, Incorporated (PFNW-R) is both the owner and operator of the MWF.

Mixed Waste Facility

1 PFNW-R, Inc has responsibility for all administrative, operational, regulatory compliance, and other
2 responsibilities associated with activities under the Permit. These activities will be conducted at the
3 MWF, located in Richland, Washington. The EPA site identification number is WAR 00001 0355.
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1.1.2 Facility Name

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7 Perma-Fix Northwest Richland, Incorporated (PFNW-R)
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1.1.3 Owner

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11 Perma-Fix Northwest Richland, Incorporated
12 2025 Battelle Boulevard
13 Richland, Washington 99354
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1.1.4 Operator

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17 Perma-Fix Northwest Richland, Incorporated
18 2025 Battelle Boulevard
19 Richland, Washington 99354
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Mixed Waste Facility

2.0 FACILITY DESCRIPTION - MIXED WASTE FACILITY (BUILDING 13)

The MWF was permitted under the premise that the Stabilization Building (STB), the Waste Storage Building (WSB), and ~~Gasification/Vitrification Thermal (GASVIT™) Building (GVB MWTH) were going to be separate enclosed structures to provide the waste management operations protection from the environment. Instead, these buildings were constructed as one enclosed structure is also~~ known as Building 13. Hereinafter, this chapter will use the phrases Stabilization Area, ~~GASVIT™ Thermal Area Building~~, Waste Storage ~~Area Building~~, Truck Bay Area and Access Corridor Area respectively, to distinguish between the different areas within ~~Building 13 the MWF~~.

The STB is comprised of a building that existed previously and a newly constructed annex. The existing building had a floor area of approximately 15,000 square feet divided into three 5,000 square feet (appropriate) rooms. The newly constructed annex increased the size by 6,820 square feet. The configuration of the fire walls in ~~Building 13 the MWF~~ have been kept intact, but additional partitions and access doors have been added as needed to support the new functions. The existing building 13 concrete floors were modified to provide equipment foundation support and secondary containment features.

The STB treatment lines are primarily non-thermal operations. Brief descriptions of what is located in each room, the main function, ingress/egress, and typical operations, are presented in Attachment PP Process Description for the Stabilization Building.

The ~~GVB-MWTH~~ is a new structure, immediately adjoining the southern wall of the newly constructed STB annex. The ~~MWTHGVB~~ area is an enclosed structure providing a roof with four outside walls to provide protection from the environment. The ~~MWTHGVB~~ has a floor area of approximately 13,500 square feet.

The ~~GVB~~ treatment line is primarily thermal operations. Brief descriptions of what is located in each room, the main function, ingress/egress, and typical operations, are presented in Attachment QQ Process Description for the ~~MWTHGasVit™~~ Building.

The WSB is ~~a new structure~~, separated from the ~~MWTHGVB~~ structure by the access corridor area. Three of the storage bays are located across and west of the ~~MWTHGVB~~. The fourth storage ~~bay building~~ is the southern-most area of ~~Building 13 the MWF~~. Waste storage ~~bay buildings~~ 1, 2, and 3 have a combined floor area of approximately 13,100 square feet. Waste Storage ~~Bay building~~ #4 has a floor area of approximately 7,070 square feet. ~~The original design of WSB #4 was as a covered storage pad (i.e. would only provide a roof structure). Instead WSB#4 was constructed as an enclosed structure to provide protection of the waste in storage from the environment.~~ All four ~~bays buildings~~ have a combined floor area of approximately 20,200 square feet.

~~Building 13 The MWF~~ is steel frame metal-sided building. The walls and a roof plus the concrete substructure are adequate to prevent rain from reaching the mixed waste. The floors of ~~Building 13 the MWF~~ are entirely constructed of concrete with an eight (8) inch concrete curb(s) to provide for containment. There are no personnel access doors or roll-up doors openings flush with the outside environment. Where there are personnel entries, there are either sloped ramps or steps to allow exit from the door or entry. Roll-up doors provide entry ways for material handling equipment such as carts and fork-lift ~~trucks~~. To allow the access for large material handling equipment the roll-up door areas have sloped ramps allowing equipment to cross the concrete curbs.

Mixed Waste Facility

The design and construction of the floors within Building 13 the MWF was to preclude waste from migrating to surface water, soil or groundwater. The floors within Building 13 have been constructed entirely of concrete. There are no drain valves, floor drains, sewer lines or other opening that will allow liquids to flow from the curbed areas. Chemical resistant water-stops made of polyvinyl chloride or rubber was used for all construction joints. The construction joints were sealed with a heat-resistant silicone sealant, and most of the floors within the MWF Building 13 are sealed with epoxy coatings to prevent infiltration of any waste that may be released.

Several areas or floors within the MWF Building 13 are not sealed with epoxy coatings and these areas are as follows:

- Access Corridor Area
- Waste Storage Bay #uilding-04
- SB-03
- Truck Bay Area (sealed with waterproof sealant.)

The floors in the STB, MWTHGV Areas and WSB-01 through 03 were sealed with one coat of NSP 100 EPOXY concrete sealer (or equivalent) and two coats of NSP 122 (or equivalent) floor coating. The NSP 100 system is designed to resist direct contact with most acids, alkalis and most petroleum products.

The MWF Building 13 is located on a topographical high area and the local relief is such that Building 13 will easily shed surface runoff. The site has been designed to accommodate the 25-year, 24-hour precipitation. Additionally, the area around Building 13 has been graded to promote drainage away from the building to protect the treatment and storage areas from precipitation, and, therefore does not generate runoff.

The facility also includes two loading and unloading areas for tanks and containers. The rail loading area and truck loading area are designed and constructed to capture and contain any spills or leaks while rail cars or trucks are loaded or unloaded in accordance with WAC 173-303-395(4). In addition, tanker trucks with bulk hazardous wastewater are unloaded into storage tanks located inside the MWTH building and treated in the evaporation system. The tanker trucks will drive over and park in the secondary containment associated with the MWTH building. In addition, portable secondary containment structures may be used to segregate tankers during the unloading process.

2.1 TOPOGRAPHIC MAP [B-2]

The topographic map is included in section.

2.3 ROADWAYS [B-4]

Areas of the MWF staffed by employees and contractors include the Access Control Building (ACB or Building 17), the Stabilization Area, the Waste Storage Area, and the GASVIT™ Mixed Waste Thermal Area. Under normal operating scenario, the operations in the MWF are staffed nine (9) to ten (10) hours per day, four (4) to five (5) days per week. Occasionally, operations will run 24 hours per day.

2.4 RELEASES FROM SOLID WASTE MANAGEMENT UNITS [E]

Mixed Waste Facility

1 Information concerning the location of solid waste management units (SWMUs) can be found in
2 Attachment BBB Site Hazard Assessment for MWF.

3 4 **2.5 SEISMIC CONSIDERATION [B-3]**

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6 The MWF is located in Benton County, Washington, which is not one of the political jurisdictions
7 identified in 40 CFR 264, Appendix VI, and is, therefore assumed to be in compliance with this criterion.
8 This criterion relates to the location of the facility relative to any faults which have had displacement
9 during the Holocene time. Appendix VI of 40 CFR 264 identified political jurisdictions in which
10 compliance with the parallel federal regulation 40 CFR 264.18(a) must be demonstrated.

Mixed Waste Facility

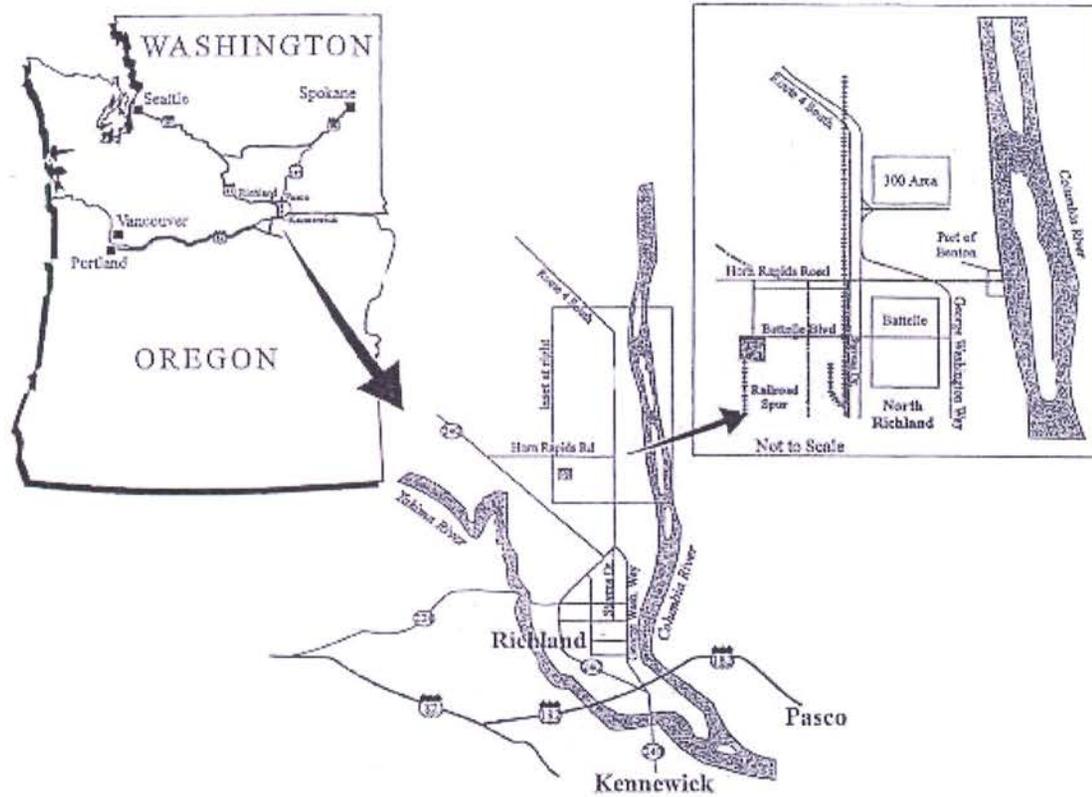


Figure 1.0
Geographic Layout

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Mixed Waste Facility

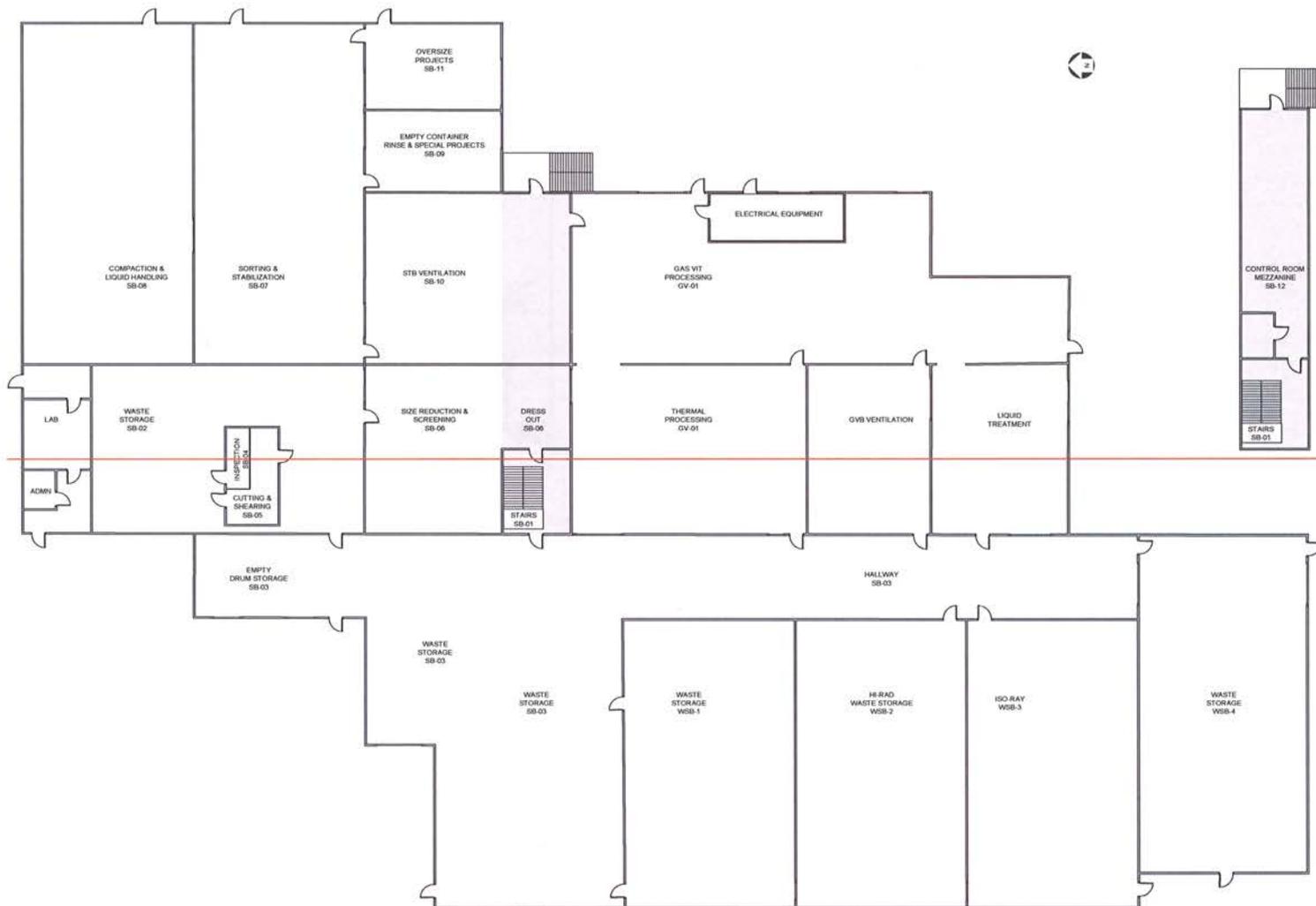


Figure 2.0
Mixed Waste Facility Layout

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