



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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April 21, 2016

Mr. John Cermak, Jr.  
Attorney for International Paper Company  
BakerHostetler  
11601 Wilshire Boulevard, STE 1400  
Los Angeles, CA 90025-0509

**Re:** Ecology Comments on the *Feasibility Study Addendum, B-36 Area, Tacoma Metals Site, Tacoma, Washington*, dated June 2015, prepared by AECOM, Former Tacoma Metals Site, Agreed Order DE 97-5435, Facility/Site No. 1257, Cleanup Site ID No. 3910.

**Ref:** *Revised Augmented Remedial Investigation and Feasibility Report, Former Tacoma Metals Site, Tacoma, Washington*, dated September 2014, prepared by Kennedy/Jenks Consultants.

E-mail from Mary Henley, city of Tacoma to Ty Schreiner, Kennedy/Jenks, February 12, 2015, *re: Former Tacoma Metals Site*.

April 18, 2016, Letter from Steve Teel, Ecology, to Mr. Loren Dunn, *Ecology Comments on the Revised Augmented Remedial Investigation and Feasibility Report, dated September 2014*.

Dear Mr. Cermak:

Thank you for submitting the above-referenced Feasibility Study Addendum (FSA) for our review. Please revise the FSA to incorporate the following comments and then resubmit for our review within 60 days of the date of this letter.

1. **Preferred Remedy:** Ecology is in agreement that Alternative 2, In-Situ Solidification, is the preferred cleanup action alternative for the B-36 Area of the Site provided that there are no issues with critical Areas, buffers, floodways, and floodplain (*see* below comment #7).
2. **Site Description:** The description of the Site is incorrectly described in the FSA. Please revise to indicate that the Site includes both the Tacoma Metals "On-Property" area (used for metals recycling by General Metals of Tacoma and Tacoma Metals, Incorporated), APNs

8950000352, 0320032043, and 8950000390 and the “Off-Property” areas including the City of Tacoma 18<sup>th</sup> Street right-of-way and the Simpson Tacoma Land Company parcel (Simpson Property; APN 8950000390).

According to Kennedy/Jenks, there appears to be some question about whether or not the contamination extends onto JJ Port, LLC property because the contamination is located on a wedge-shaped parcel of unknown ownership (*see* Sheet 1 in Attachment 1 of the “Response to Comments Provided in Ecology’s 3 January 2014 Letter”, prepared by Kennedy/Jenks Consultants, April 30, 2014).

3. Section 1.2, RI/FS Report Exposure Pathways and Cleanup Standards:

- a. Because the coke production enterprise was liquidated in 1944, the correct number of years since creosote and/or coke was used at the Site should be “approximately 72” instead of “approximately 65.”
- b. Revise the exposure pathways description to indicate that the groundwater to surface water and groundwater to sediment pathways are “potentially complete.”

4. Section 1.2 and Table 1-1, Cleanup Levels: This section references cleanup levels from Table 3 of the 2014 *Revised Augmented Remedial Investigation and Feasibility Study Report* (RI/FS) for the Site. These cleanup levels are not sufficient because they do not account for additive risk [as required by WAC 173-340-706(4)] and because they do not include soil remediation levels (RELs) that will be protective for the direct contact pathway for the likely human health exposure scenario (excavation worker). Ecology has developed potential human health direct contact (excavation worker) RELs that also accounts for additive risk. These RELs are summarized in Table 1 below and are presented in more detail in Attachment A of Ecology’s April 18, 2016 letter (referenced above).

**Table 1 - Remediation Levels (RELs) for Industrial Use, Excavation Worker Scenario, Tacoma Metals Site**

Chemical	REL (mg/kg)
Benzene	6,900
Toluene	150,000
Ethylbenzene	190,000
Total xylenes	770,000
Naphthalenes	54,000
Benzo(a)pyrene	18/12*
PCBs	810

Arsenic	670
Barium	370,000
Cadmium	1,900
Total chromium (Cr VI)	22,000
Copper	300,000
Lead	2,000
Mercury	87
Selenium	3,700
Silver	26,000
TPH-D/O	2,000

Rounded to two significant digits.

\*See below comment 4b.

Please revise the text and table to include the RELs that apply to the B-36 Area of the Site and also make the following changes:

- a. Table 1-1 shows total petroleum hydrocarbons – diesel range (TPH-D) and –oil range (TPH-O) cleanup levels of 2,000 milligrams per kilogram (mg/kg), each. However, to ensure that residual saturation is not exceeded and to also be in compliance with Toxics Cleanup Program Implementation Memorandum #4 (available at: <https://fortress.wa.gov/ecy/publications/summarypages/0409086.html>), the REL is a combined TPH value of 2,000 mg/kg. Therefore, the TPH-D and –O cleanup levels for non-pyrogenic sources also need to be adjusted downward to a combined TPH value of 2,000 mg/kg. Please revise the table accordingly.
  - b. For additional protection of groundwater, the REL for carcinogenic polycyclic aromatic hydrocarbons (cPAHs) for the B-36 Area of the Site shall be equal to the preliminary cleanup values that are shown in Table 1-1 (12 mg/kg for depths less than 6 feet below ground surface and 18 mg/kg for depths from 6 to 15 feet below ground surface). The excavation worker cPAH REL of 220 mg/kg is not considered to be sufficiently protective of groundwater.
  - c. Several chemicals of concern (CoCs) for the B-36 Area are missing from Table 1-1. These consist of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and naphthalenes. Please add these and include a column for their RELs.
5. Figure 1-1: Change/modify the figure to more clearly show that the Tacoma Metals Site includes the Tacoma Metals property, the City of Tacoma Right-of-Way, the Simpson property, and the wedge-shaped parcel of unknown ownership.

6. Multi-Component – Alternative 3: This alternative does not appear to be sufficiently protective of groundwater because soil contamination that exceeds the cPAH CUL/REL will remain in contact with groundwater. Depth to groundwater at well MW-31 (B-36) has been measured as shallow as 6.3 feet below ground surface (bgs) at high-tide (April 11, 2008) and the full extent of groundwater fluctuation is not known. Please modify this alternative to treat and/or remove soil that exceeds the CUL/REL above a depth of 15 feet bgs.
7. Critical Areas, Buffers, Floodways, and Floodplain:
  - a. As noted by Henley (2015, referenced above), portions of the site are impacted by critical areas, buffers, floodways, and floodplain. Please add maps that illustrate the locations of these areas. These factors need to be considered in designing cleanup alternatives.
  - b. According to Henley (2015), the Site is located within the S-9 Puyallup River Shoreline District. “The intent of the S-9 Puyallup River Shoreline District is to encourage recreational development of the riverfront, ecological restoration activities that restore historic floodplain processes and functions, while allowing industrial development of adjacent upland areas, and to encourage preservation of Clear Creek, its associated wetlands, and related ecosystems. Permitted industrial uses will develop and operate in a manner that is compatible with shoreline ecological functions.” Please discuss this in the FS and include this consideration in the cleanup alternatives.
  - c. Floodways restrictions are particularly significant because residual contamination above unrestricted land use CULs would not be allowed to remain within a mapped floodway area. Therefore, unrestricted land use CULs should also be shown on Table 1-1 if contamination is located within a mapped floodway area. Unrestricted land use CULs and RELs also need to be account for additive risk as required by WAC 173-340-708[5]).
  - d. Industrial CULs may also not be appropriate for some buffer areas because industrial uses will not be allowed. Please revise the cleanup alternatives and the discussion of cleanup levels to take these factors into account.
8. Comparison and Ranking of Alternatives, Section 3.2 and Table 3-4:
  - a. Please explain the scoring rationale in the text and in a table footnote. The scoring method that you are using (the lower the numerical value, the higher the ranking) may be counter intuitive to some readers.

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We suggest that you instead refer to the individual category results as scores instead of ranks and we recommend that a scoring method be used that assigns the highest score to the most favorable result (instead of the least favorable).

- b. Protectiveness Rank: As stated above, Ecology does not agree that Alternative 3 is sufficiently protective of groundwater.
9. Section 4, References: Please add "Ecology 2007" to the reference list. This reference was called-out in Section 3.2.1.1 but is not shown on the list.

If you have questions about this letter, please contact me at (360) 407-6247 or via e-mail at [steve.teel@ecy.wa.gov](mailto:steve.teel@ecy.wa.gov).

Sincerely,

*SS Teel*

Steve Teel, LHG  
Cleanup Project Manager/Hydrogeologist  
Toxics Cleanup Program  
Southwest Regional Office

By certified mail [9171999991703627959590]

cc: See distribution list

