

ADDENDUM TO
INTERIM MEASURE WORK PLAN
2010/2011 SOIL AND STORMWATER MANAGEMENT PLAN,
DEMOLITION OF BUILDINGS 2-41, 2-44 AND 2-49

Boeing Plant 2
Seattle/Tukwila, Washington

Prepared for:

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LIST OF ABBREVIATIONS/ACRONYMS

Abbreviation/Acronym	Definition
Boeing	The Boeing Company
CMS	Corrective Measures Study
EPA	United States Environmental Protection Agency
IM	interim measure
Order	Administrative Order on Consent
PCB	polychlorinated biphenyls
PPM	parts per million
RCRA	Resource Conservation and Recovery Act
TMCL	Target Media Cleanup Level
TSCA	Toxic Substances Control Act

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1.0 INTRODUCTION

The *Interim Measure (IM) Work Plan, 2010 Soil and Stormwater Management, Demolition of Buildings 2-44 and 2-49* (Golder 2010a) was submitted by The Boeing Company (Boeing) to the Environmental Protection Agency (EPA) in July 2010 and approved by EPA in September 2010. The IM Work Plan was subsequently modified by Boeing to address building demolition sequence and schedule changes, and to update the work plan to reflect the draft soil and groundwater Target Media Cleanup Levels (TMCLs) developed by the EPA. Boeing submitted the *Modification to Interim Measure IM Work Plan, 2010/2011 Soil and Stormwater Management Plan, Demolition of Buildings 2-41, 2-44 and 2-49* (Golder 2010b) to EPA in October 2010, and EPA approved the plan in December 2010. Contained herein is an Addendum to the approved IM Work Plan, to address concrete management during demolition.

This Addendum to the IM Work Plan has been prepared on behalf of Boeing for the Plant 2 facility in Seattle/Tukwila, Washington. The IM Work Plan has been prepared, and the planned IM will be performed, in accordance with Administrative Order on Consent (Order) No. 1092-01-22-3008(h) between Boeing and the EPA Region X. The Order is issued pursuant to Section 3008(h) of the Solid Waste Disposal Act as amended, also referred to as the Resource Conservation and Recovery Act (RCRA).

Boeing intends to demolish and remove the 2-40s series buildings and the 2-60s/2-66 area concrete slabs at Plant 2 between approximately December 2010 and December 2011. The demolition will be performed as part of Boeing's overall redevelopment of the 2-40s and 2-60s/2-66 Areas of Plant 2. This Addendum to the IM Work Plan summarizes the management of concrete that Boeing will implement during the demolition of the buildings and foundations.

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2.0 DEMOLITION CONCRETE MANAGEMENT

The concrete foundation will be managed in the following manner.

- Concrete identified as containing >50 ppm PCBs will be segregated and disposed as Toxic Substances Control Act (TSCA) waste, as detailed in the *Work Plan, TSCA Material Management, Plant 2 Demolition Area, Seattle Washington* (Landau 2010), submitted by Boeing to EPA in May 2010.
- The remaining concrete will be crushed and re-used as backfill, provided the PCB concentration of the material does not exceed the draft Industrial TMCL of 19 ppm. Preliminary estimates indicate approximately 52,000 cubic yards of concrete will be demolished. The material will be crushed to an approximate size of 1¼ inch minus.
- Engineering controls will be implemented to suppress dust potentially containing PCBs. Water misting nozzles will be mounted and located in a number of areas at the crusher. Additionally, fire hoses and misting nozzles will be used elsewhere as needed for dust suppression.
- The crushed concrete will be sampled and analyzed for PCBs to provide a record of the PCB concentration in the material that is re-used as backfill. Samples will be collected during crushing and/or as the crushed material is placed.
- The sampling frequency will be in accordance with Washington State Department of Ecology's *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*, Table 5.3, "Minimum Number of Samples from Stockpiled Excavated Soil", which stipulates that for >2,000 cubic yards of material, the minimum number of samples required is 10 plus 1 sample for each additional 500 cubic yards of material.
- Initial sample size will be approximately 0.7 cubic feet (5 gallons) of crushed material. A sample splitter will then be used to reduce the sample volume to two one-quart samples. One of the one-quart samples will be submitted to the analytical laboratory for PCB analysis (EPA method 8082), and the other sample will be archived for potential additional testing.
- Backfill will be placed only in areas that will remain in industrial usage (Figure 3 of the approved IM Work Plan, Golder 2010b) and at an elevation approximately 1.5 feet above the level of groundwater. The locations where concrete backfill is placed will be documented and correlated with corresponding analytical results. A map will be prepared to record the distribution of analytical results in the concrete fill material.
- A modern stormwater treatment system will be installed throughout the area to manage the transport and discharge of rainfall. The industrial area ground surface will be graded and paved to permeability standards consistent with the documented levels of contamination, the TMCLs as finalized by EPA, and applicable institutional controls, e.g., restrictive covenants. The industrial area surface will either be paved in final form in areas intended for parking, or be fenced with temporary paving until future redevelopment is realized.

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- The plan for all engineering and institutional controls, along with the placement locations and analytical results for the concrete backfill (and all other constituent data for the property), will be documented in the Plant 2 Corrective Measures Study (CMS) Report, which will be submitted to EPA for review and comment and maintained under the Plant 2 RCRA Administrative Order on Consent.
- At the completion of the demolition project, potential impacts to groundwater will be evaluated downgradient of the concrete backfill at selected A Level monitoring wells in the shoreline monitoring program. PCB analysis will be added to the semiannual suite of analyses for selected shoreline monitoring wells. For cases where paired original and replacement monitoring wells exist (e.g. PL2-015A and PL2-015AR) only the replacement well (the "AR" well) will have PCB analyses added to its existing constituent list. Shoreline monitoring wells that will be sampled for PCBs include PL2-607A, PL2-030A, PL2-015AR, PL2-425A, PL2-420A, and PL2-443A. Shoreline wells PL2-036A and PL2-036AR are already sampled semiannually for PCBs and this practice will continue. Analytical results for PCB analyses in samples from the wells listed above will be included in semiannual shoreline monitoring reports.

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3.0 REPORTING

Upon completion of the 2010/2011 demolition activities described above and in the *Modification to Interim Measure IM Work Plan, 2010/2011 Soil and Stormwater Management Plan, Demolition of Buildings 2-41, 2-44 and 2-49, Boeing Plant 2, Seattle/Tukwila, Washington (Golder 2010b)*, an IM Completion Report will be prepared for submittal to EPA documenting the work performed, the excavations completed, the concrete management described herein, and the field records maintained. At a minimum, the report for the 2010/2011 demolition will include the following elements:

- Introduction
- Purpose
- Demolition Activities and Soil Excavations
- Concrete Management
- Deviations
- Summary
- Attachments
 - Figures
 - Analytical Data
 - Field Notes
 - Photographs

The report will be prepared in a manner facilitating the use of data and information during CMS Report development.

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4.0 SCHEDULE

The 2010/2011 demolition and excavation activities described in the IM Work Plan Modification (Golder 2010b) and the concrete management activities described herein are currently scheduled to begin in December 2010. Depending on progress, it is anticipated that Building 2-41 (demolition management areas 68, 69, 701, and 71), Building 2-44 (demolition management areas 61, 62, and 63), and Building 2-49 (demolition management area 60), will be demolished during this phase of the project, with the exception of the floor slabs within 100 feet of the waterway, which will be addressed during the sediment phase of Plant 2 remediation. The schedule for the work and subsequent reporting are presented below.

Task	Description	Due Date
1	Submit Addendum to EPA.	December 10, 2010.
2	Receive EPA approval of the Addendum.	TBD (estimated December, 2010).
3	Begin Plan implementation.	December 2010
4	Submit draft IM Completion Report.	Submit to EPA 60 calendar days after: <ol style="list-style-type: none">1. Completion of 2010/2011 demolition and excavation activities, and2. Receipt, quality assurance, and data management of analytical data.

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5.0 REFERENCES

Golder Associates Inc. (Golder). 2010a. *Interim Measure Work Plan, 2010 Soil and Stormwater Management Plan, Demolition of Buildings 2-44 and 2-49, Boeing Plant 2, Seattle/Tukwila, Washington*. Prepared for The Boeing Company. July.

Golder. 2010b. *Modification to Interim Measure IM Work Plan, 2010/2011 Soil and Stormwater Management Plan, Demolition of Buildings 2-41, 2-44 and 2-49, Boeing Plant 2, Seattle/Tukwila, Washington*. Prepared for The Boeing Company. October.

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