## **Operations and Maintenance Plan**

Walmart Store #2187-03 Expansion 2000 North Wenatchee Avenue Wenatchee, Washington

> November 15, 2011 Project No. 81087036

> > Prepared for: PACLAND

Seattle, Washington

Prepared by:

Terracon Consultants, Inc. Mountlake Terrace, Washington

Offices Nationwide Employee-Owned Established in 1965 terracon.com



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### 1.0 INTRODUCTION

### 1.1 Purpose

The purpose of this Operations and Maintenance (O&M) Plan is to provide guidance for long-term management of the protective barriers installed to mitigate exposure risks associated with soils impacted with chlorinated pesticides (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin), lead, and arsenic at concentrations exceeding respective Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A and B cleanup levels. No organochlorinated herbicides or organophosphoric pesticides were identified in site soils.

The intent of the O&M Plan is to mitigate the potential risk of exposure for maintenance workers and site occupants at the site. The O&M Plan includes provisions for maintaining the protective barriers at the site, notification procedures, best management practices for workers, inspection procedures, and protocols for breaching the protective barriers at the site.

### 1.2 Previous Investigations

Terracon completed the following previous reports pursuant to identifying the contaminants of concern (COC) for the site, characterizing areas of impact:

- Limited Site Investigation Proposed Wenatchee #2187 Expansion 2000 N.
   Wenatchee Avenue, Wenatchee, Chelan County, Washington, dated April 23, 2009;
- Addendum to Limited Site Investigation Proposed Wenatchee #2187 Expansion
   2000 N. Wenatchee Avenue, Wenatchee, Chelan County, Washington, dated
   February 26, 2010;
- Limited Shallow Soil Sampling Letter Proposed Wenatchee #2187 Expansion –
   2000 N. Wenatchee Avenue, Wenatchee, Chelan County, Washington, dated
   March 29, 2011.

A summary of findings and recommendations and remedial actions taken during construction was presented in our *Soil Remediation Report – Wenatchee #2187 Expansion – 2000 N. Wenatchee Avenue, Wenatchee, Chelan County, Washington,* dated November 9, 2011.



### 1.3 Site Description

The site is an approximate 16.21-acre tract of land that consists of one tax parcel identified as 232028340050 located at 2000 North Wenatchee Avenue in Wenatchee, Chelan County, Washington. The site was originally developed as an orchard from at least the 1960s until 1992 when it was developed with the existing Walmart store. During site use as an orchard, three residential buildings and associated outbuildings were previously located on the northwest corner, northeast corner, and the south-central portion of the site, respectively. The residential structures and outbuildings were demolished as a part of site development activities in 1992.

Prior to site redevelopment the site consisted of an approximately 120,838-square foot Wal-Mart retail store building constructed in 1992. The western site boundary consists of a 2-to-1 cut-slope. The remainder of the site is gently sloping to the east. The current redevelopment project consisted of additions to areas on the north and west sides of the existing building that expanded the store an additional approximate 34,963 square feet and included relocation of the truck loading dock, re-grading of the paved parking lot, and re-development of the bioswale area on the eastern portion of the site. Prior to redevelopment, the ground surfaces in areas of the additions consisted of asphalt-paved surfaces and graded land. The site also included paved parking, landscaped areas, a loading dock, a greenhouse, and a Subway restaurant.

Based previous investigations, Terracon identified on lead. arsenic, Dichlorodiphenyltrichloroethane (DDT), p-p-Dichlorodiphenyldichloro-ethylene (DDE), Dichlorodiphenyldichloroethane (DDD), and dieldrin impacts to soil at concentrations exceeding respective MTCA cleanup levels. Impacted soils were identified in the eastern portion of the site beneath paved parking areas at depths ranging from approximately 2½ to 11½ feet below ground surface. In addition, lead and arsenic were identified in near surface soils (1/2 to 1 foot bgs) in existing landscaped areas in the north-central and south-central portions of the site. See Figure 5 for areas of confirmed impacted soils.

Although confirmed impacted soils were not identified beneath the building, Terracon's understanding of the pre-development site configuration and the results of our site characterization efforts suggest that impacted soils may be present beneath the building footprint. As a result, the building footprint, consisting of concrete footings and floor slabs is considered a protective barrier from impacted soils which may be present beneath the eastern portion of the building.

A detailed description of the protective barriers in place at the site to prevent exposure to impacted soils is provided in section 3.0 below.

### 2.0 NOTIFICATION PROCEDURES

Notifying personnel whose duties have the potential to disturb site soils is the most effective way



to mitigate inadvertent worker exposure, damage to protective barriers, or off-site migration.

Guidelines for communication, health and safety, and maintenance are presented in the sections below. As stated below, a hazard communication program shall be prepared in accordance with 29 CFR 1910.1200 to inform workers of site conditions and potential exposure risks in respective working environments.

### 2.1 Maintenance and Landscape Workers

It is not likely that maintenance and landscape workers performing routine tasks will encounter impacted soils during site work. On the other hand, during non-routine tasks such as replacement of trees or larger shrubs, in particular in the parking lot area on the eastern portion of the site, workers may come into direct contact with impacted soils.

In the event, a hazard communication program shall be established to notify employees or subcontractors who may be expected to encounter impacted soils of the presence, locations, and concentrations of COCs in site soils. Workers should be informed of appropriate health and safety precautions for working in such areas and how to repair or replace protective barriers to maintain the integrity of capping materials at the site.

### 2.2 Occasional Site Worker and Contractors

Occasional site workers and contractors who are charged with completing specific tasks at the site may come into contact with impacted soils. This will be largely dependent on the nature of the task. Specifically, some tasks to be completed in a work environment that does not require damage to or destruction of protective barriers or will not be in the area of impacted soils (i.e. painting, sign repair, etc.) will not result in direct contact to said soils. On the other hand, other tasks such as underground utility work or earthwork, will require strict prior planning, careful excavation, and repair and/or replacement of any protective barriers that may have been compromised. To the extent possible, site soils should be managed on-site beneath protective barriers as defined herein. In the event, if soils need to be exported as part of specific site tasks, soils should be subject to strict handling and management and should be disposed of in accordance with local, state, and federal regulations.

In the event, a hazard communication program shall be established to notify employees or subcontractors who may be expected to encounter impacted soils of the presence, locations, and concentrations of COCs in site soils. Workers should be informed of appropriate health and safety precautions for working in such areas and how to repair or replace protective barriers to maintain the integrity of capping materials at the site.



### 2.3 Environmental Covenant

An Environmental Covenant will be recorded to ensure the protective barriers installed at the site are maintained.

A draft Environmental Covenant is included in Appendix B below. The final version of the Environmental Covenant will be included the final version of the O&M Plan.

### 2.4 Transfer of Title

In the event that conveyance of any interest in the property (lease, title, easement, or other) to another legal entity is proposed, sufficient provision should be made to ensure the continued maintenance of protective barriers at the site. This should include, at a minimum, notification of interested parties about site conditions and distribution of a copy of the O&M Plan to all appropriate parties.

### 3.0 SITE CONTROLS

During site redevelopment, and in accordance with the Soil Management Plan, protective barriers were installed to cap areas of the site with confirmed impacts of chlorinated pesticides, lead, and arsenic to soils.

### 3.1 Capped Surfaces

In accordance with the Soil Management Plan, areas of the site with confirmed pesticide, lead, and arsenic impacts to soil were capped with protective barriers to mitigate potential risk of exposure to human health and the environment. Protective barriers installed at the site included impermeable surfaces such as concrete paved areas, the building footprint, and asphalt paved parking areas. In landscaping areas, protective barriers consisted of the installation of a demarcation layer, in the form of a geotextile fabric, and a minimum of one foot of clean fill material. The demarcation layer is intended to provide a visual barrier between clean and impacted soils at the site.

Capped areas of the site include the building footprint (including the expansion area), concrete paved areas on the north side of the building in the area of the truck loading bay, asphalt paved parking areas and drive lanes, and landscaped areas managed in accordance with the Soil Management Plan. See Figure 2 for the approximate locations of capped surfaces discussed herein.

Protective barriers shall be maintained in good condition for the life of the buildings and current site operations. Inspection procedures for capped surfaces are discussed further in Section 3.3. In the event that replacement of protective barriers (or a portion thereof) is required, an



environmental professional should be consulted to develop appropriate procedures and protocols for completion of such work.

### 3.2 Uncapped Surfaces

Portions of existing landscaped areas on the perimeter of the site were confirmed to be absent of lead, arsenic, and pesticides impacts to soil. As a result, soils these areas of the site did not required strict management beneath protective barriers in accordance with the Soil Management Plan. See Figure 2 for the approximate locations of these landscaped areas.

### 3.3 Inspection Procedures

As discussed above, impacted soils have been managed on-site beneath protective barriers or were removed during site redevelopment. As result, there is no current risk of exposure to human health or the environment. In order to prevent future exposure, the following inspection procedures should be performed to maintain protective barriers for the life of the current site operations.

Protective barriers should be inspected semi-annually to assess for potential damages that may have occurred throughout the year. Inspections should be completed in either the spring or the fall to identify and repair any damages directly after or before the next winter season.

### **Asphalt and Concrete Surfaces**

Inspection of asphalt and concrete surfaces should be completed to identify any areas of significant cracking, voids, notable gouges, or other breaches that may result in exposure to impacted soils.

Minor surface cracking that does not penetrate the depth of the asphalt or concrete does not require repair under this plan. Major imperfections that result in exposure of the subgrade or underlying site soils should be repaired as soon as feasible in accordance with pavement design criteria.

### **Engineered Landscaping Areas**

Inspection of engineered landscaping areas for indications of damage and/or erosion of clean fill soils overlying the geotextile fabric demarcation layer. If noted, the depth and areal extent of erosion should be reported and addressed in a manner consistent with the Soil Management Plan. The landscaping areas are engineered such that the geotextile fabric should not be exposed at the surface. As a result, visual inspection of fabric may not be feasible during routine inspections.



### 4.0 WORKER PROTECTION

Should maintenance or repair work at the site require working in areas of impacted soils, safe work practices and engineering controls can be exercised to mitigate potential exposure to said soils.

### 4.1 Fugitive Dust Control

Just as site redevelopment required strict control of fugitive dust during earthwork construction activities, any maintenance and/or repair or future earthwork at the site that requires working in contaminated soils should include provision for dust control.

A dust control plan should be prepared during planning phases of future site earthwork, as necessary, to mitigate potential worker exposure or offsite migration. Such a plan may include procedures for wetting soils and soil stockpiles for dust suppression. In addition, performing work during periods of calm weather conditions (i.e. little to no wind) will reduce the potential for fugitive dust entering the breathing space or leaving the site.

### 4.2 Work Area Best Management Practices

When maintenance or repair is planned, best management work practices for strict management of contaminated soils shall be implemented. In general, routine maintenance at the site will not result in a breach of protective barriers at the site. However, if proposed site work will result in earthwork in areas of impacted soils, strict management and handling of said soils will be undertaken to mitigate exposure risks and to repair and/or replace protective barriers at the completion of such work. In particular, work practices outlined below are suggested to manage soils and repair barriers:

- Lay plastic sheeting on all sides of the proposed excavation ground surface. Sheeting should extend approximately 5 to 10-feet from proposed excavation edge, depending on estimated amount of material removed. Lap plastic sheeting seams so that dust and soil cannot become lodged or migrate underneath the plastic.
- Place traffic barriers or other identification around the perimeter of the work area to prevent inadvertent access to the area during excavation.
- 3. Place the sod or bark with the upper 4-inches of topsoil; or fabric and gravel; on one side of the excavation. This is the clean capping material.
- 4. Place the remaining subgrade soil excavated to facilitate the maintenance or landscaping activity on the side of the excavation opposite of the sod. This is the





soil potentially impacted with agricultural chemicals.

- Complete the required maintenance or landscaping activity.
- Replace soil potentially impacted with agricultural chemicals in the excavation.
- 7. Offsite disposal of excavated material is prohibited. Contact an environmental and health profession to determine disposal requirements if excess excavated materials requires transportation offsite.
- 8. Clean tools, equipment, and protective clothing of remaining soils by dry brushing damp soil followed by wet cleaning. Place the accumulated soil in the excavation.
- Replace the clean capping topsoil, compacting as necessary.
- 10. If the distance from the replaced soil surface to the ground surface exceeds the thickness of the sod, bark, or gravel then place additional clean soil imported from offsite sources into the excavation until the depth discrepancy matches the sod, bark, or gravel thickness.
- 11. Replace the sod; fabric and bark; or fabric and rock.
- Remove the plastic sheeting.
- 13. Thoroughly wash hands and face to remove any remaining soil.

The contractor shall make every effort to replace impacted soils in work areas at the site. In the event this is not possible, an environmental professional should be consulted to evaluate appropriate off-site disposition of impacted soils.

The contractor shall implement strict decontamination protocols for both workers and machinery to prevent worker exposure and potential tracking of impacted soils outside of work areas.

### 4.3 Decontamination

The contractor shall implement decontamination procedures to reduce potential worker exposure and prevent off-site migration of fugitive dust. Cleaning of tools, equipment, and workers shall be required for work tasks that will result in breaching protective barriers. In particular, wet cleaning of tools and equipment used to remove residual soils shall be a component of decontamination. Once work is complete, workers shall utilize a wash station and thoroughly wash boots, clothes, and exposed surfaces to remove residual dust and soils.



### 5.0 PROCEDURES FOR BREACHING PROTECTIVE BARRIERS

As stated above, for routine maintenance tasks there is little risk of breaching protective barriers at the site. In the event that proposed site work will result in breaching protective barriers (e.g. utility work), proper prior planning should be completed before beginning site work. In particular, a review of this plan should be completed to determine if procedures outlined herein provide sufficient guidance for contractors to complete site tasks. If the proposed site work appears to warrant further guidance for unique handling of site soils, an environmental professional should be consulted to review project plans and provide recommendations.

### 6.0 CONCLUSIONS

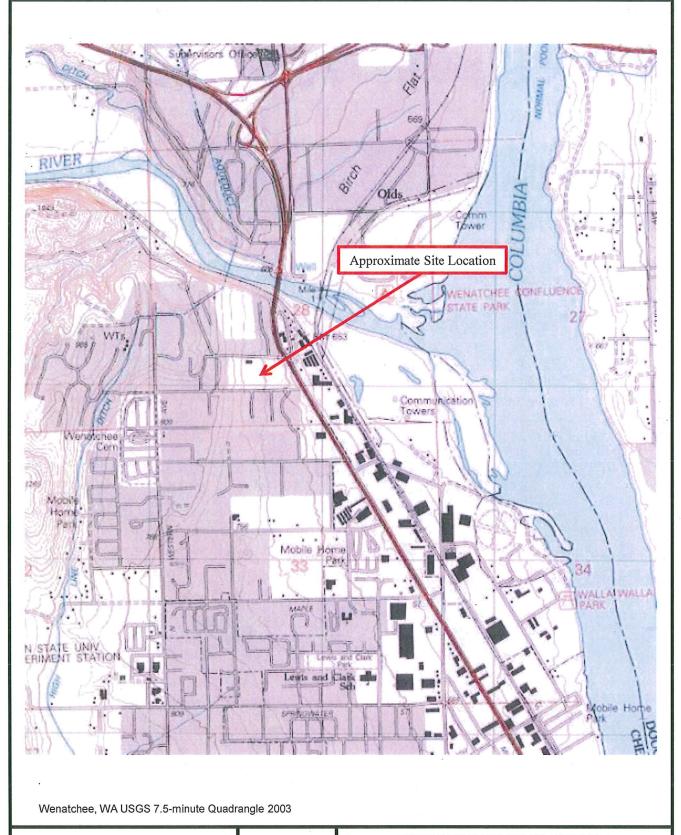
Terracon's previous investigations identified chlorinated pesticides (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin), lead, and arsenic at concentrations exceeding respective Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A and B cleanup levels in site soils.

During site redevelopment, impacted soils were managed and re-used as fill soils onsite. In areas of confirmed soil impacts, surfaces were capped with protective barriers in accordance with the Ecology approved Soil Management Plan and there is no immediate threat to human health or the environment.

This O&M Plan describes measures that should be taken to maintain the protective barriers and summarizes what should be done in the event the barriers are breached.

### **APPENDIX A**

Figures



**Not to Scale** 



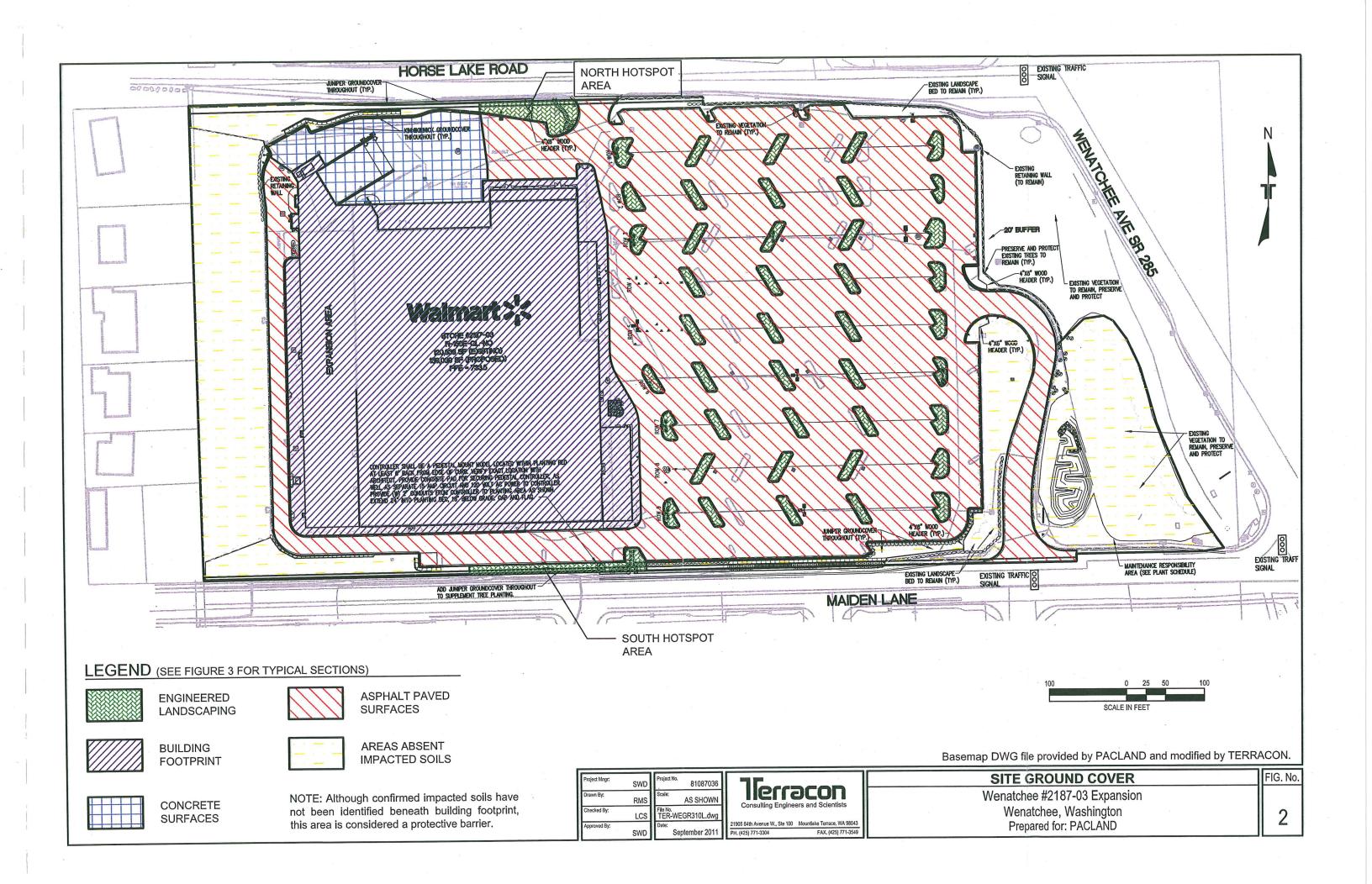


TERRACON PROJECT NO.: 81107724

### **Topographic Map**

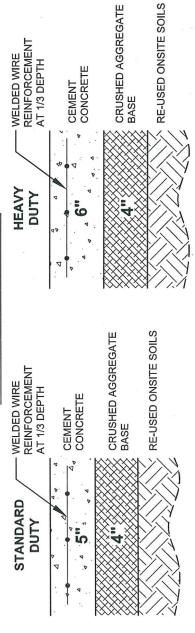
Wenatchee Retail Phase I ESA 2000 North Wenatchee Avenue Wenatchee, Chelan County, Washington

April 2010

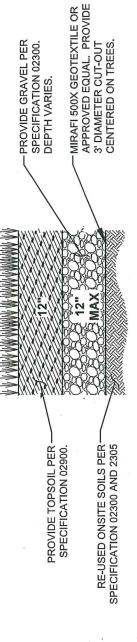




## CONCRETE SURFACES



# **ENGINEERED LANDSCAPE**



TYPICAL SECTION DIAGRAMS	Wenatchee #2187-03 Expansion	Wenatchee, Washington	
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FIG. No.

3

Wenatchee #2187-03 Expansion	Wenatchee, Washington	Prepared for: PACLAND

TYPICAL SECTION DIAGRAMS	Wenatchee #2187-03 Expansion	Wenatchee, Washington	CINA IOACI AND	Liepaieu IOI. FACENIAD
Consulting Engineers and Scientists G4th Avenue W., Ste 100 Mountake Terrace, WA 98043 FAX, (425) 771-3304				
		enigna grining	21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043	PH. (425) 771-3304

File No. CappedSections.dwg October 2011

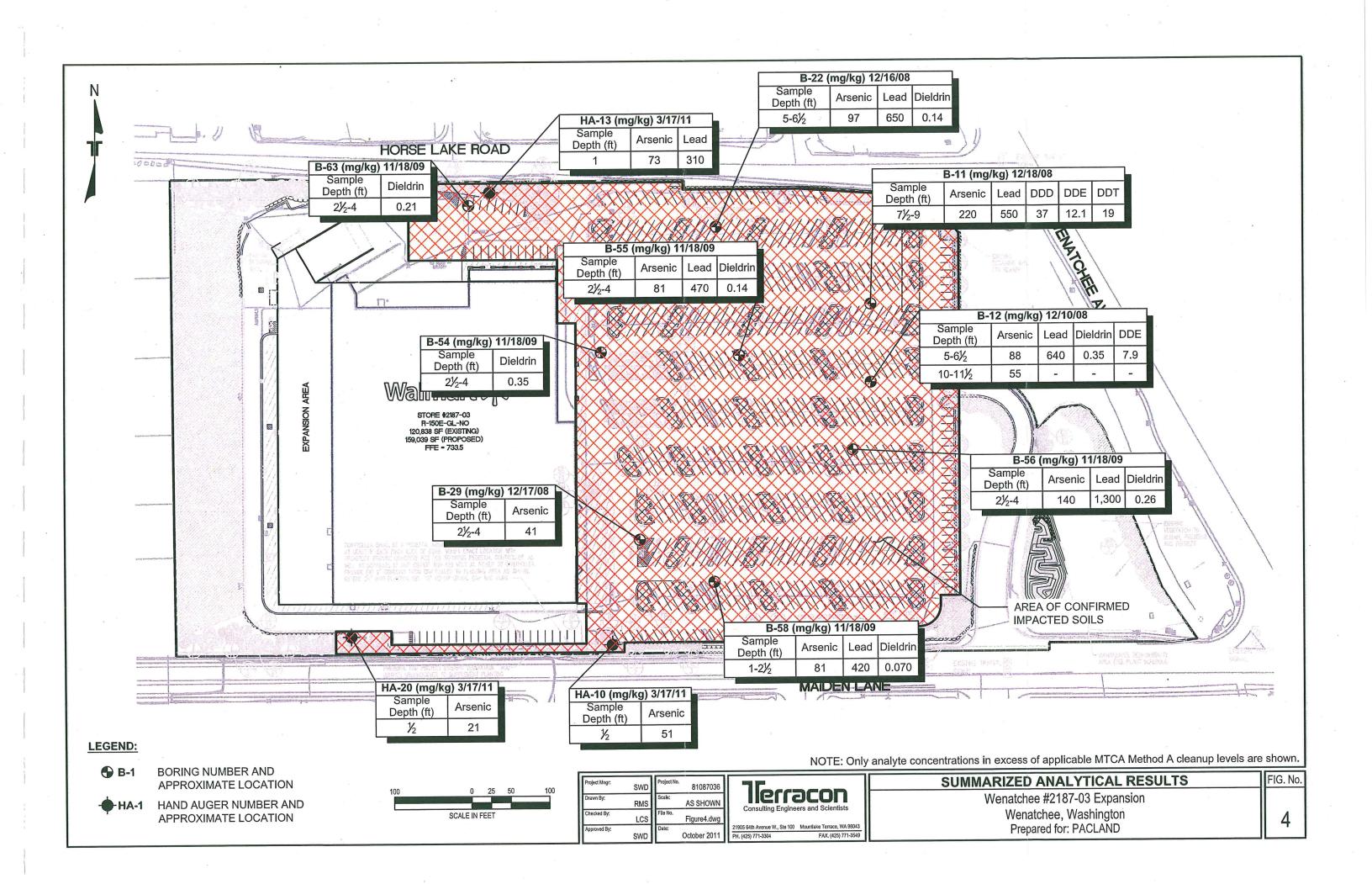
CS

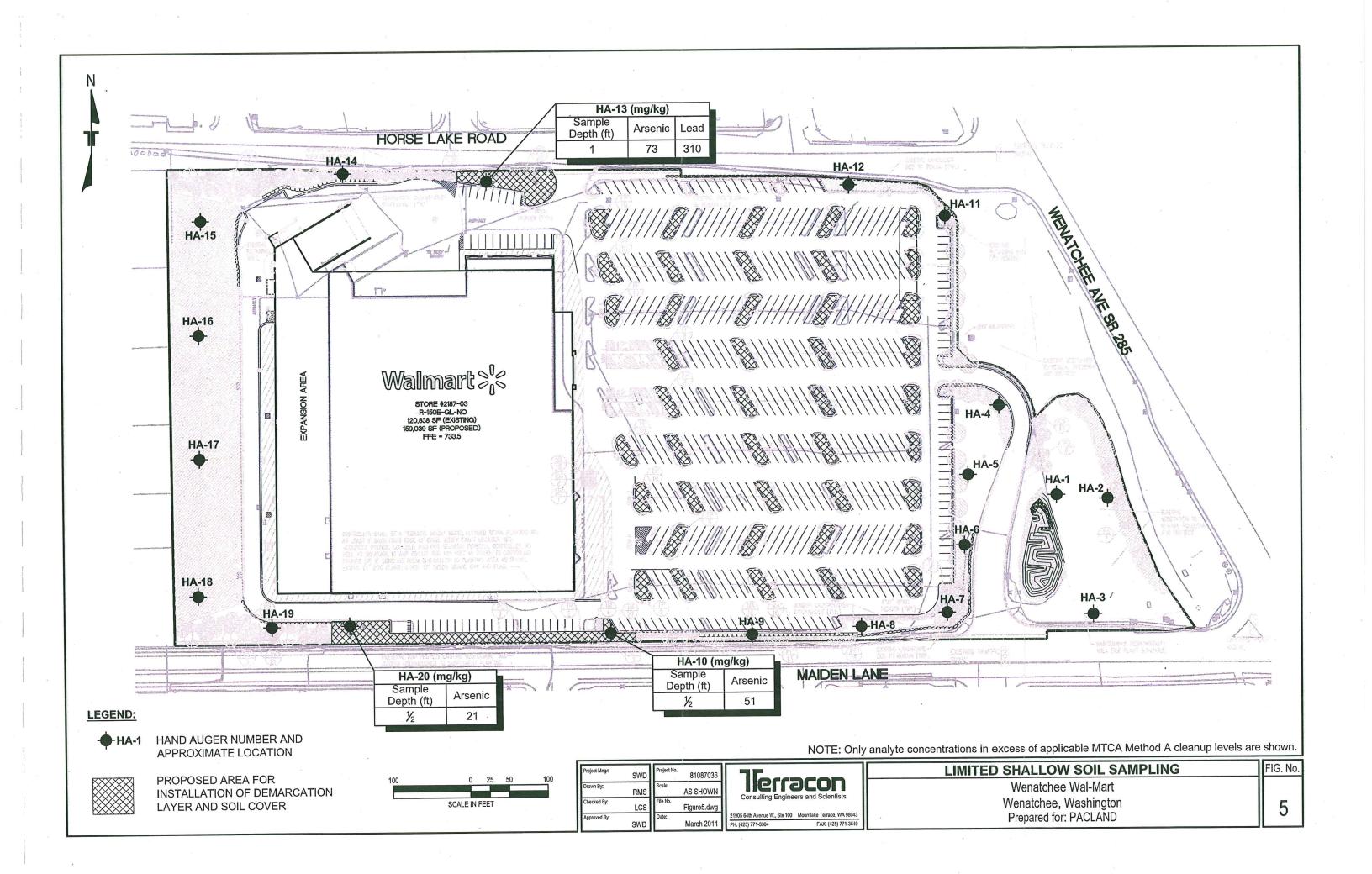
Checked By:

SWD

Not to Scale 81087036

SWD RMS





### **APPENDIX B**

**Environmental Covenant** 

After Recording Return to: Laura Klasner Department of Ecology 15 W. Yakima Ave, Ste 200 Yakima, WA 98902

### **Environmental Covenant (Draft Version)**

Grantor: Wal-Mart Stores, Inc.

Grantee: State of Washington, Department of Ecology

Legal: NESESW LESS HWY Tax Parcel Nos.: 232028340050

Grantor, Wal-Mart Stores, Inc., hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this day of \_\_\_\_\_\_\_, 201\_ in favor of the State of Washington Department of Ecology (Ecology). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Grantor, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

A remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Covenant. The Remedial Action conducted at the property is described in the following document[s]:

Soil Remediation Report – Proposed Wenatchee #2187 Expansion – 2000 N.
Wenatchee Avenue, Wenatchee, Chelan County, Washington, dated November 15, 2011.

This document is on file at Ecology's Central Regional Office.

This Covenant is required because the Remedial Action resulted in residual concentrations of lead, arsenic, Dichlorodiphenyltrichloroethane (DDT), p-p-Dichlorodiphenyldichloro-ethylene (DDE), Dichlorodiphenyldichloroethane (DDD), and dieldrin which exceed the Model Toxics Control Act Method A or B Cleanup Level(s) for Soil established under WAC 173-340-740. Wal-Mart prepared an Operations and Maintenance Plan that provides guidelines for maintaining protective barriers installed to cap residual contaminants in soils at the site. A copy of this Operations and Maintenance Plan is also available at Ecology's Central Regional Office.

The undersigned, Grantor, is the fee owner of real property (hereafter "Property") in the County of Chelan, State of Washington, that is subject to this Covenant. The Property is legally described as stated above under 'Legal Description'.

Grantor makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

<u>Section 1</u>. (This Section must describe with particularity the restrictions to be placed on the property.)

- a. As shown on Exhibit A, a portion of the Property contains lead, arsenic, Dichlorodiphenyltrichloroethane (DDT), p-p-Dichlorodiphenyldichloro-ethylene (DDE), Dichlorodiphenyldichloroethane (DDD), and dieldrin contaminated soil located beneath buildings, pavement, sidewalks, or other protective barriers. The Owner shall not alter, modify, or remove the existing structure[s] or protective barriers in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology.
- b. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any

equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

<u>Section 2</u>. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

<u>Section 3</u>. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

<u>Section 4</u>. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

<u>Section 5</u>. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property.

<u>Section 6</u>. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

<u>Section 7</u>. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

<u>Section 8</u>. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

wal-Mart Stores, Inc.
[Name of Signatory] [Title]
Dated:
STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1
4
[Name of Person Acknowledging Receipt] [Title]
Dated:

### [CORPORATE ACKNOWLEDGMENT]

STATE OF		
COUNTY OF		
On this	day of	, 20, I certify that
personally appeare	d before me, acknowl	edged that <b>he/she</b> is the of
	1 <del>-</del> 20	and foregoing instrument, and signed said instrument
±		f said corporation, for the uses and purposes therein
		she was authorized to execute said instrument for said
corporation.		
corporation		
	,	Notary Public in and for the State of
		Washington, residing at
		My appointment
		expires

Exhibit A
Site Ground Cover [Figure 2 from Soil Remediation Report]

