GEODESIGN INC

Addendum Transmittal

To:	Steve Teel	From:	Kyle R. Sattler, L.G.
Company:	Washington Department of Ecology	Date:	July 9, 2008
Address:	Southwest Region Office P.O. Box 47775 Olympia, WA 98504-7775		

cc:	Ron Skov, ROF Evergreen JV, LLC (via email only) Michelle Limon, ATC Associates, Inc. (via email only)

GDI Project:	BonesConst-7-01
RE:	The Village at Evergreen

Original File Name	Date	Document Title
BonesConst-7-01-061308-envr-CleanupAction.doc	6/13/08	Cleanup Action Report, The Village at Evergreen, 13800 to 14114 SE Mill Plain Boulevard, Vancouver, Washington

Addendum Number	Date	Description
1	7/9/08	Cleanup Action Report (attached)

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GEODESIGN INC

July 9, 2008

Washington State Department of Ecology
Southwest Regional Office
P.O. Box 47775
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Attention: Mr. Steve Teel, LHG

Addendum 1
Cleanup Action Report
The Village at Evergreen
13800 to 14114 SE Mill Plain Boulevard
Vancouver, Washington
Ecology VCP Identification Number: SW0915
GeoDesign Project: BonesConst-7-01

INTRODUCTION

This addendum to the Cleanup Action Report (GeoDesign, 2008a) provides formal responses and additional information to address the Washington Department of Ecology's (Ecology's) five comments presented in their June 3, 2008 Opinion on the proposed cleanup action for the former Evergreen Airport. In Ecology's June 3 letter, Ecology determined that the proposed cleanup action is likely to be sufficient to meet the substantive requirements contained in the Model Toxics Control Act (MTCA) and its implementing regulations, Chapter 70.105D Revised Code of Washington and Chapter 173-340 Washington Administrative Code (WAC), for characterizing and addressing the contamination at the project site provided their comments were incorporated into the Cleanup Action Plan.

Ecology's comments presented in the June 3, 2008 Opinion letter were based on their review of the following documentation:

- December 18, 2007, GeoDesign. *Revised Cleanup Action Plan and Supplemental Characterization, Evergreen Landing Development, 13800 - 14114 SE Mill Plain Boulevard, Vancouver, Washington*
- March 6, 2008, GeoDesign. *Supplemental Characterization, Proposed Evergreen Landing Development, 13800 - 14114 SE Mill Plain Boulevard, Vancouver, Washington*
- May 1, 2008, GeoDesign. The Village at Evergreen - SW0915, PCE results at Robertson's Paint Shop, e-mail from Mr. Kyle Sattler to Mr. Steve Teel, Ecology

Ecology's five comments are presented in italics below. Our responses to each comment are also provided below.

ECOLOGY'S COMMENTS AND GEODESIGN RESPONSES

1. *Table 6, Sampling and Analysis Plan, Cleanup Area 2 (Robertson's Paint Shop): The analytical constituents for the underground sump area, wastewater settlement cells and gutter, and the 55-gallon drum area need to include: SVOCs, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), VOCs, metals (arsenic, cadmium, chromium, lead, zinc, copper, tin, and mercury), petroleum hydrocarbons (gasoline, diesel, and oil ranges), organochlorine pesticides, and chlorinated herbicides.*

   As presented in the June 13, 2008 Cleanup Action Report (GeoDesign, 2008a), confirmation soil samples collected from the limits of the remedial excavation associated with the former sump area, wastewater settlement cells and gutter, and the 55-gallon drum area (identified as a drainage feature) were submitted for the analysis Ecology requested in comment #1, with the exception of chlorinated herbicides and the addition of polychlorinated biphenyls (PCBs). Based on a May 2008 telephone conversation with Mr. Teel, it was our understanding that Ecology requested the additional pesticide analysis since select pesticides were detected in a sample collected during the characterization phase (GeoDesign, 2008b), and the additional PCB analysis was requested since select PCBs were originally detected in the liquid contained in the former sump. Ecology also verbally requested this same suite of analysis for the groundwater samples that were collected from the existing monitoring well network on May 12, 2008.

   The above analytical suite was conducted on the confirmation soil samples collected from the limits of the remedial excavation associated with the former sump area, wastewater settlement cells and gutter, and drainage feature, as documented in Progress Report No. 8, submitted to Ecology on May 12, 2008. On May 6, 2008, Mr. Teel confirmed via email that the above analytical suite (volatile organic compounds [VOCs], semi-volatile organic compounds [SVOCs], polynuclear aromatic hydrocarbons [PAHs], petroleum hydrocarbons, metals, pesticides, and PCBs) was appropriate for the groundwater analysis. Consequently, neither the confirmation soil samples nor the groundwater samples were submitted for analysis of chlorinated herbicides.

   In our opinion, analyses of chlorinated herbicides in soil and groundwater samples are not necessary based on the following:

   - Soil sample "GeoDesign 4808-001," collected immediately beneath the former drainage feature during the characterization activities (GeoDesign, 2008a) exhibited the highest concentrations of detected contaminants, including petroleum hydrocarbons, VOCs (including tetrachloroethene [PCE]), several pesticides, and select SVOCs (GeoDesign, 2008a). Chlorinated herbicides were not detected in soil sample "GeoDesign 4808-001." Therefore, it is reasonable to conclude that chlorinated herbicides are not present at the current limits of the remedial excavations associated with the former sump, drainage feature, and wastewater settlement cells and gutter.

- Groundwater data collected to date indicate that site-related constituents, including those detected in soil sample GeoDesign 4808-001, have not impacted groundwater beneath the project site. Therefore, since chlorinated herbicides were not detected in soil sample "GeoDesign 4808-001," it is reasonable to conclude that chlorinated herbicides have not impacted groundwater beneath the project site.

2. *Table 6, Sampling and Analysis Plan, Cleanup Area 6: The analytical constituents for Cleanup Area 6 need to be the same as the dry well analytical constituents in Cleanup Areas 2 and 4.*

   As presented in the June 13, 2008 Cleanup Action Report, the analytical constituents for Cleanup Action Area 6 are the same as the dry well analytical constituents in Cleanup Action Areas 2 and 4. These constituents consist of petroleum hydrocarbons, VOCs, SVOCs, PAHs, and metals (including arsenic, cadmium, chromium, lead, zinc, copper, tin, and mercury).

3. *Groundwater Monitoring: Organochlorine pesticides were detected from soil samples collected beneath the 55-gallon drum area (Cleanup Area 2). An additional round of groundwater monitoring needs to be performed that includes organochlorine pesticides plus the other site constituents of concern (see above comment #1).*

   As described in the June 13, 2008 Cleanup Action Report, an additional round of groundwater monitoring and sampling was completed on May 12, 2008. This recent groundwater sampling event included analysis of organochlorine pesticides. Petroleum hydrocarbons, VOCs, SVOCs, PAHs, PCBs, pesticides, and dissolved metals were not detected in any of the groundwater samples collected from the existing monitoring well network. The only total metal detected was zinc in monitoring well MW-3 at a concentration of 5.72 milligrams per liter (mg/L), which is significantly less than the corresponding Method B protective value of 4,800 mg/L. The analytical results of the May 12, 2008 groundwater sampling event are consistent with the analytical results of previous events.

   As described in our response to comment #1, the groundwater samples were not submitted for analysis of chlorinated herbicides. Analysis of chlorinated herbicides in groundwater is not warranted since chlorinated herbicides were not detected in soil sample "GeoDesign 4808-001." Further, as described above, those constituents that were detected in soil sample "GeoDesign 4808-001," as well as other soil samples collected from the project site, have never been detected in any of the groundwater samples (with the exception of some naturally occurring metals).

4. *According to Joe Ellingson, Clark County Health Department, a domestic well is located directly downgradient from the site, at 13919 SE Mill Plain Boulevard. We recommend that this well be sampled to determine if groundwater is impacted. This well is constructed of 6-inch diameter steel casing. Currently the upper portion of the steel casing is bent and is filled-in with dirt. However, it is likely that the damaged section of well casing can be replaced and the well cleaned-out to yield water samples. Following*

water sampling, if the well is not be used and is no longer needed for monitoring it should be decommissioned according to WAC 173-160. Analytical constituents should be the same as for the site groundwater monitoring wells. According to the Clark County assessor's database, the owner of the property where the well is located is 139 Mill Plain Partners, LLC, 1230 SW 1st Avenue, Portland, Oregon 97204.

GeoDesign identified several concerns with regard to sampling the above-referenced damaged domestic well in an email response to Mr. Teel on June 4, 2008. These concerns included the following:

- The domestic well is damaged, "plugged with soil," and currently out of compliance with Washington State regulations.
- Although a driller may be able to restore the well, groundwater quality may have already been compromised due to the damage and/or unknown "housekeeping." Potential contaminants detected in future groundwater samples collected from this well would not provide useful information with regards to contaminants from the project site.
- The location of the well is located directly south of the former Evergreen Airfield Office building, south-southeast of Cleanup Action Area 3 (the former fueling area). Based on the historical and recent inferred groundwater flow directions, the damaged domestic well is located approximately 600 feet west (cross gradient) of monitoring well MW-2 and the former Robertson's Paint Shop.
- The inferred groundwater flow direction, based on the May 12, 2008 monitoring data, was determined to be south-southwest. Based on the recent inferred groundwater flow direction, existing monitoring well MW-2 is located approximately 40 feet directly down gradient of the former sump and drainage feature at Robertson's Paint Shop. Given the inferred groundwater flow direction as determined during the May 12, 2008 monitoring and sampling event, it is more appropriate to evaluate groundwater conditions from groundwater samples collected from monitoring well MW-2 rather than the damaged domestic well.

As described in our response to comment #1 and in previous correspondence and the June 13, 2008 Cleanup Action Report, further groundwater monitoring and sampling is not warranted based on the following:

- Chlorinated herbicides were not detected in soil sample "GeoDesign 4808-001." Therefore, it is reasonable to conclude that chlorinated herbicides have not impacted groundwater beneath the project site.
- PCE-impacted soil was limited in extent in the vicinity of the former sump and drainage feature, and was not present in the soil samples collected approximately 2 and 4 feet beneath the sample that exhibited the presence of PCE (sample "GeoDesign 4808-001") nor in the confirmation soil samples collected from the final limits of the remedial excavation associated with the former sump, wastewater settlement cells and gutter, and drainage feature (GeoDesign, 2008a).

- Given the inferred groundwater flow direction determined during the May 12, 2008 groundwater monitoring and sampling event, monitoring well MW-2 is located approximately 40 feet down gradient of the former sump and drainage feature.
- PCE was not detected in soil samples collected at depths of 90 and 175 feet below the ground surface (BGS) during installation of monitoring well MW-2.
- PCE was not detected in shallow perched water (encountered at approximately 86 feet BGS) in monitoring well MW-2.
- PCE was not detected in any of the groundwater samples collected from monitoring well MW-2 during any of the previous monitoring events.
- The concentration of PCE detected in soil sample "GeoDesign 4808-001" is less than the Method B protective value for direct contact (1.9 milligrams per kilogram [mg/Kg]).
- Based on the concentration of PCE detected in soil sample "GeoDesign 4808-001" (0.190 mg/Kg), the leaching concentration of PCE would not exceed 10 times the MTCA Method A groundwater cleanup level for PCE (0.050 mg/L) and would be less than the Method B non-carcinogenic groundwater protective value for PCE (0.08 mg/L) using an approximate 20-fold dilution.

5. *In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated for Independent Remedial Actions shall be submitted in both a written and electronic format. Additional information regarding electronic format requirements, see the website http://www.ecy.wa.gov/eim. All laboratory analyses shall be performed by the State of Washington Certified Laboratory for each analytical method used. Data must be submitted to Ecology in this format for Ecology to issue a No Further Action determination.*

   The June 13, 2008 Cleanup Action Report indicated that GeoDesign was in the process of submitting the data into Ecology's Environmental Information Management (EIM) system. GeoDesign has since completed loading the data into the EIM system.

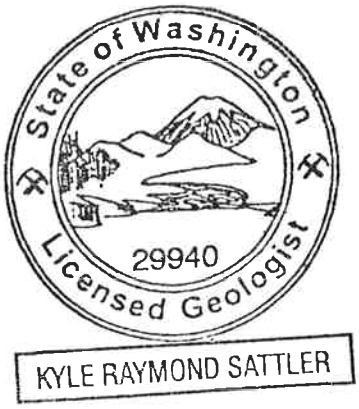
We trust the information provided in this addendum will allow Ecology to issue an Opinion of "No Further Action" for both soil and groundwater at the project site. We understand Ecology has 90 days from the time the Cleanup Action Report was received to review and provide comments. We respectively request that Ecology consider the information provided in this addendum in conjunction with the Cleanup Action Report so that we may resolve any outstanding issues as soon as possible, preferably before the end of the 90-day review period.

♦ ♦ ♦

Please contact us if you have questions regarding this submittal.

Sincerely,

GeoDesign, Inc.



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KRS:CWW:sms
Two copies submitted
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REFERENCES

GeoDesign, Inc., 2008a. *Cleanup Action Report, The Village at Evergreen, 13800 to 14114 SE Mill Plain Boulevard, Vancouver, Washington*, dated June 13, 2008. GeoDesign Project: BonesConst-7-01.

GeoDesign, Inc., 2008b. *The Village at Evergreen – SW0915, PCE Results at Robertson's Paint Shop*, electronic mail to Steve Teel on May 1, 2008. GeoDesign Project: BonesConst-7-01