ADDENDUM NO. 3

SAMPLING AND ANALYSIS PLAN
&
HEALTH AND SAFETY PLAN
FOR THE
LITTLE SQUALICUM PARK
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BELLINGHAM, WASHINGTON

Prepared for

City of Bellingham

Public Works Department
210 Lottie Street
Bellingham, Washington 98225

Parks & Recreation Department
3424 Meridian Street
Bellingham, Washington 98225

For submittal to

Washington Department of Ecology
Bellingham Field Office
1204 Railroad Avenue
Bellingham, Washington 98225

U.S. Environmental Protection Agency
Brownfields Program
1200 Sixth Avenue
Seattle, Washington 98101

Prepared by

integral consulting inc.
1201 Cornwall Avenue, Suite 208
Bellingham, Washington 98225

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I, Mark J. Herrenkohl, a professional engineering geologist in the State of Washington, certify that I have reviewed the geosciences portions of this addendum to the Work Plans.

Signature of Geologist: _____ Name: Mark J. Herrenkohl Date: October 2, 2006

1 INTRODUCTION

This document is Addendum No. 3 to the Sampling and Analysis Plan (SAP) and Health and Safety Plan (HASP) for the Little Squalicum Park (Park) Remedial Investigation/Feasibility Study (RI/FS) located in Bellingham, Washington (Integral 2005a). It outlines additional sampling and testing activities proposed for the Park site, activities supplementary to work conducted under the September 30, 2005 Little Squalicum Park RI/FS Work Plans (Integral 2005a), Addendums 1[1] (Integral 2005b) and 2[2] (Integral 2006).

The City of Bellingham (City) Public Works Department is collaborating with the Whatcom County Public Works Department in the preliminary design stage for construction of a new road. The proposed road would be located directly between the Oeser Company (Oeser) and Park sites, connecting West Illinois Street with Marine Drive via Timpson Way in Bellingham, WA. The completed roadway will allow for traffic to directly access existing industrial sites and the Bellingham Technical College without traveling through the surrounding residential neighborhood.

This addendum outlines an environmental site assessment (ESA) in support of the West Illinois Street Extension project. The purpose of the ESA is twofold. It will assist the City in evaluating the surface and subsurface soil quality along the proposed extension of West Illinois Street and it will provide supplementary environmental information for the Park RI/FS. This assessment is required before road construction can begin.

This addendum also contains information on proposed changes to the project HASP as it relates to worker and visitor safety during sampling activities at this location.

Integral is conducting this work under contract No. 2004-104D with the City of Bellingham, jointly through the Parks and Recreation and the Public Works Departments, with direction from both the Washington State Department of Ecology Toxics Cleanup program (Ecology) and U.S. Environmental Protection Agency, Region 10 Brownfields program (EPA). Sampling and testing methods will follow those described and approved by Ecology and EPA in the original project work plans (Integral 2005a) and Addendums 1 and 2, unless otherwise noted in this addendum.

[1] Addendum No. 1 provided information on the rationale and objectives for supplementary sampling and testing to identify the location and boundaries of the historical creek channel within Little Squalicum Park and to determine the extent of the petroleum contamination in soils identified at station TP-6. Sampling under Addendum 1 was completed in November 2005.

[2] Addendum No. 2 provided information on the rationale and objectives for the supplementary sampling and testing to delineate the extent of municipal landfill materials in the northeastern portion of the site and petroleum observed in the both the current and historical channels of Little Squalicum Creek. It also detailed how work described in the original project work plans – halted on November 17, 2005 – was to recommence in concert with the sampling event. Sampling under Addendum 2 was completed in May 2006.

Section 2 of this addendum describes the sampling approach proposed for the investigation. Section 3 presents a focused investigation of possible subsurface contamination in the area where the proposed road alignment intersects the Birchwood/Oeser stormline. Section 4 presents a focused investigation of the proposed road alignment adjacent to the active railroad tracks where shallow soil contamination may be present. Section 5 describes a brief letter report that will be prepared for the Addendum 3 investigation. Section 6 discusses additional health and safety considerations for this sampling effort. The proposed sampling and reporting schedule is presented in Section 7 followed by references in Section 8.

2 SAMPLING APPROACH

As stated above, the purpose of this ESA is to assist the City in evaluating the surface and subsurface soil quality along the proposed extension of West Illinois Street. The investigation will focus on areas where contamination is most likely to be present along the proposed road extension.

The field investigation will begin with the collection of subsurface soil samples using a hollow-stem auger (HSA) drill rig. The HSA borings will be advanced adjacent to the 36-inch diameter stormline that conveys water from the Birchwood neighborhood and the Oeser property to Little Squalicum Creek in order to assess subsurface soil quality in the vicinity of the stormline (Figure 1).

If extensive contamination[3] is observed in the first boring, the street extension construction project could be delayed and the remainder of the environmental field effort outlined in this Addendum postponed or terminated[4].

If extensive contamination is not observed in the soils of the Birchwood/Oeser stormline borings, the field effort will continue. Test pits will be excavated to assess the shallow soil quality of the portion of the road extension that trends east-west, parallel to the active railroad tracks/spurs (Figure 1).

The analytical results will be reviewed and compared to Model Toxics Control Act (MTCA) Level A (unrestricted use) levels and site-specific human health and ecological risk screening values established for the Park site. Findings will be presented in a brief letter report to Ecology. In addition, the findings will be summarized as part of the Park RI report. If the field investigation is terminated due to the presence of contamination in either of the Birchwood/Oeser stormline boreholes, the findings will still be presented in a brief letter report to Ecology for any samples collected and will include explanation for postponement or termination of site work.

[3] Similar to the petroleum contamination observed in some subsurface soils located in the upper creek area of the Park site.

[4] Extensive subsurface contamination would have to be addressed through further characterization and remediation. This would likely delay construction of the proposed road extension.

3 BORINGS ADJACENT TO THE BIRCHWOOD/OESER STORMLINE

During the Park investigation, petroleum contamination was observed in subsurface soils and groundwater at monitoring well SB-22 located adjacent to the concrete culvert and beneath the former railroad grade (now a park trail) (Figure 1). The concrete culvert conveys water via the Birchwood/Oeser stormline from the Birchwood neighborhood and the Oeser property to Little Squalicum Creek. The petroleum contamination was observed from approximately 27 ft below ground surface (bgs) to the top of a clay layer encountered approximately 30 ft bgs.

The purpose of the Birchwood/Oeser stormline boreholes is to characterize subsurface soils upgradient of borehole SB-22 and the Park. They will be located where the proposed West Illinois Street extension crosses the Birchwood/Oeser stormline.

3.1 Field Methods

The following sections discuss utility clearance, borehole locations, and drilling and survey methods.

3.1.1 Utility Clearance

Prior to commencing drilling operations, all proposed drilling locations will be cleared by the regional one-call utility locating service (1-800-424-5555). In addition, the City Parks and Recreation Department will clear the vegetation around the southern end of the culvert and the City Public Works Department will be contacted directly to accurately locate the Birchwood/Oeser stormline. Clearance of the locations will be documented in the field logbook and in digital photographs.

The purpose of the boreholes is to sample the soils immediately adjacent to the Birchwood/Oeser stormline. Accordingly, the boreholes will be advanced within 5-10 ft of the stormline. The proposed locations will be shown to the drillers during a site walk prior to beginning the work. Any concerns about underground utilities will be discussed by the drillers and Integral. If the proposed borehole location is close to an underground utility other than the Birchwood/Oeser stormline, the borehole will be moved or the driller will hand auger the first 5 ft to confirm the absence of the utility.

3.1.2 Borehole Locations and Methods

The proposed borehole locations are shown in Figure 1. The boreholes will be located in the approximate center of the proposed street alignment immediately adjacent to the west and east sides of the Birchwood/Oeser stormline. The location of the borings may be modified based on field conditions.

Each borehole will be advanced using a standard rubber tire mounted HSA drill rig in accordance with SOP 6 of the SAP (Integral 2005a). The boreholes will be advanced with 8.25 inch outside diameter (OD) by 4.25 inch inside diameter (ID) hollow-stem augers.

Drilling will proceed slowly and the drillers will stop if there are any changes in the drilling conditions that may be related to encountering the stormline (the stormline is estimated to be 15-20 ft bgs). The first borehole will be advanced to the gray clay layer, 50 ft bgs, or refusal, whichever comes first. If extensive contamination is observed in soils of the first borehole, the second borehole and the remainder of the field investigation may be terminated.

Soil samples will be collected with a 3-inch diameter, 18-inch long Dames & Moore (D&M) or equivalent sampler at approximately 2.5 ft intervals from each borehole. The boreholes will be logged by an Integral geologist in accordance with ASTM D2488 guidelines and each sample will be field screened for the presence of a sheen and VOCs using a PID and/or FID in accordance with SOP 8 in the SAP (Integral 2005a). Selected samples will be composited for analysis or archived.

The samples will be selected to target visually contaminated material from each boring. If no visual contamination is observed, samples will be collected for analysis from the interval just below the estimated depth of the Birchwood/Oeser stormline and from the interval immediately on top of the gray clay layer (if reached). Other selected samples will be collected and archived for up to 3 months at the analytical laboratory for possible future analysis.

Consistent with the Park RI work, soil cuttings and decontamination waters will be spread on the ground adjacent to the borehole. If visual contamination is encountered in the borings, the affected soil cuttings and decontamination waters will be drummed in Department of Transportation-approved 55 gallon drums for characterization and proper disposal.

3.1.3 Borehole Survey

Following completion, the boreholes will be marked with wooden stakes and the horizontal locations of the stations will be surveyed by a hand-held global positioning system (GPS) unit. The northing and easting coordinates will be provided in both North American Datum of 1927 (NAD 27) and 1983/with 1991 corrections (NAD 83/91).

3.2 Sample Analysis

If the field investigation is terminated due to the presence of soil contamination in the first borehole, two samples will be selected for analysis of Ecology's Northwest total petroleum hydrocarbons-diesel range organics (NWTPH-DRO/RRO[5], including heavier oils such as motor

[5] A silica gel cleanup will be conducted on all samples analyzed for petroleum hydrocarbons to remove natural organics before analysis.

oil) and one sample will be selected for a follow-up analysis of semivolatile organics (SVOCs) by EPA Method SW 8270 (low level method if necessary).

If the field investigation continues to completion, two samples will be selected from each soil boring for analysis of NWTPH-DRO/RRO and one sample will be selected for a follow-up analysis of SVOCs (low level method if necessary).

Since the purpose of this investigation is to assess the soil quality along the proposed street extension prior to road construction, the stringent data quality control presented in the Park's RI/FS work plans is not necessary. Although a full data package will be delivered by the analytical laboratory, the analytical data will not be validated as part of this investigation. One field duplicate sample will be collected from the borings but no other field quality control samples (i.e., equipment rinsate blanks) will be collected during this investigation. In addition, if there are less than 6 samples submitted to the analytical laboratory (i.e., if extensive soil contamination is encountered in one of the boreholes and the field investigation is terminated), no lab quality control will be conducted on the samples other than method blank and laboratory control samples. The remainder of the methodology, quality control, and reporting requirements will follow the Park RI/FS work plans (Integral 2005a).

4 TEST PITS ALONG CURRENT RAILROAD TRACKS

If extensive shallow contamination is not encountered in the boreholes described above, a total of 6 test pits will be advanced along the railroad tracks. The purpose of the proposed test pits is to test the shallow soil quality of the proposed street extension along these once active railroad tracks.

4.1 Field Methods

The following sections discuss utility clearance, test pit locations, and excavating and survey methods.

4.1.1 Utility Clearance

Prior to commencing excavation operations, all proposed locations will be cleared by the regional one-call utility locating service (1-800-424-5555). Clearance of the locations will be documented in the field logbook and in digital photographs.

The proposed locations will be shown to the excavating contractor during a site walk prior to beginning the work. Any concerns about underground utilities will be discussed by the excavation contractor and Integral. If the proposed station location is close to an underground utility, the station will be moved.

4.1.2 Test Pit Locations and Methods

The test pit stations will be spaced approximately 125 ft apart along the portion of the proposed street alignment that is adjacent to the active railroad tracks (Figure 1). The stations will be staggered on the north and south side of the proposed street extension to maximize spatial coverage. The station locations are subject to change based on field observations.

Each test pit will be excavated using a mini track-mounted excavator (e.g., Takeuchi TB135 or Kubota KX121) in accordance with SOP 1 in the SAP (Integral 2005a). The track-mounted excavator has a smaller footprint than the backhoe used in earlier investigations and site work, allowing greater accessibility. The test pits will be logged by an Integral geologist in accordance with ASTM D2488 guidelines and each sample will be field screened for the presence of a sheen and VOCs using a PID and/or FID in accordance with SOP 8 in the SAP (Integral 2005a). Soil samples will be collected every foot to 4 ft below ground surface (bgs) (i.e., 0-1 ft, 1-2 ft, 2-3 ft, 3-4 ft) and composited for analysis or archived at the analytical laboratory. Rail bed material, generally consisting of large gravels and cobbles, will be removed from the surface before sampling the underlying soils.

Consistent with the Park RI work, test pit soils will be returned to the excavation after samples are collected and decontamination waters will be spread on the ground near the test pits.

4.1.3 Test Pit Survey

Following completion, the center of each test pit will be marked with a wooden stake and the horizontal locations of the stations will be surveyed by a hand-held GPS unit. The northing and easting coordinates will be provided in both NAD 27 and NAD 83/91.

4.2 Sample Analysis

The surface (i.e., 0 to 1 ft) samples from each test pit and one of the two borings (7 stations total) and the 1 to 2 ft samples from 3 test pits will be analyzed for NWTPH-DRO/RRO[6] and total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc). A total of 10 samples will be analyzed. All other samples will be archived for up to 3 months at the analytical laboratory for possible future analysis.

A total of 2 (of the 10) samples will be selected for analysis of SVOCs based on the NWTPH-DRO results and professional judgment. A total of 2 (of the 10) samples will be selected for analysis of polychlorinated biphenyls (PCBs) and chlorinated pesticides, based on the NWTPH-DRO/RRO results and professional judgment.

The laboratory and field quality control for the test pits will be consistent with the borehole stations described above (see Section 3.2).

[6] A silica gel cleanup will be conducted on all samples analyzed for petroleum hydrocarbons to remove natural organics before analysis.

5 LETTER REPORT

Integral will provide a brief letter report of our findings, screening results, and recommendations. All sample results will be reviewed and compared to MTCA Level A (unrestricted use) levels and site-specific human health and ecological risk screening values established for the Park site. The report will briefly discuss the potential impacts of any surface or subsurface contamination found on road construction activities and long-term cleanup activities associated with the Park. In addition, the findings will be summarized as part of the Park RI report.

If the field investigation is terminated due to the presence of contamination in either of the Birchwood/Oeser stormline boreholes, the findings will still be presented in a brief letter report to Ecology for any samples collected and will include explanation for postponement or termination of site work. The results from the borehole(s) will also be incorporated into the RI report for the Park site.

6 HEALTH AND SAFETY CONSIDERATIONS

Integral will be working near active railroad tracks during the field investigation. It will be crucial for the field crew to follow the procedures identified in the project HASP (Integral 2005a), Addendum 1 (Integral 2005b), and Addendum 2 (Integral 2006) with the following addition:

- The proposed test pits and borehole locations are adjacent to active railroad tracks that are used by the Oeser facility immediately north of the proposed street extension. Personnel are required to wear traffic safety vests at all times and will stop, look both ways, and listen for trains if crossing the tracks. An Oeser site representative will also be notified when Integral and subcontractors are working near the active rail line.

7 FIELD AND REPORTING SCHEDULE

The field sampling described in Addendum 3 is tentatively scheduled (depending on subcontractor availability) to be completed October 9 through 13, 2006.

Oct 9:	Boreholes SB-40 and SB-41[7]
Oct 12-13:	Test Pits TP-26 through TP-31
Nov 17:	Letter Report Submitted to Ecology

[7] Borehole SB-41 and Test Pits TP-26 through TP-31 may not be completed if extensive visual contamination is observed in the soils of borehole SB-40.

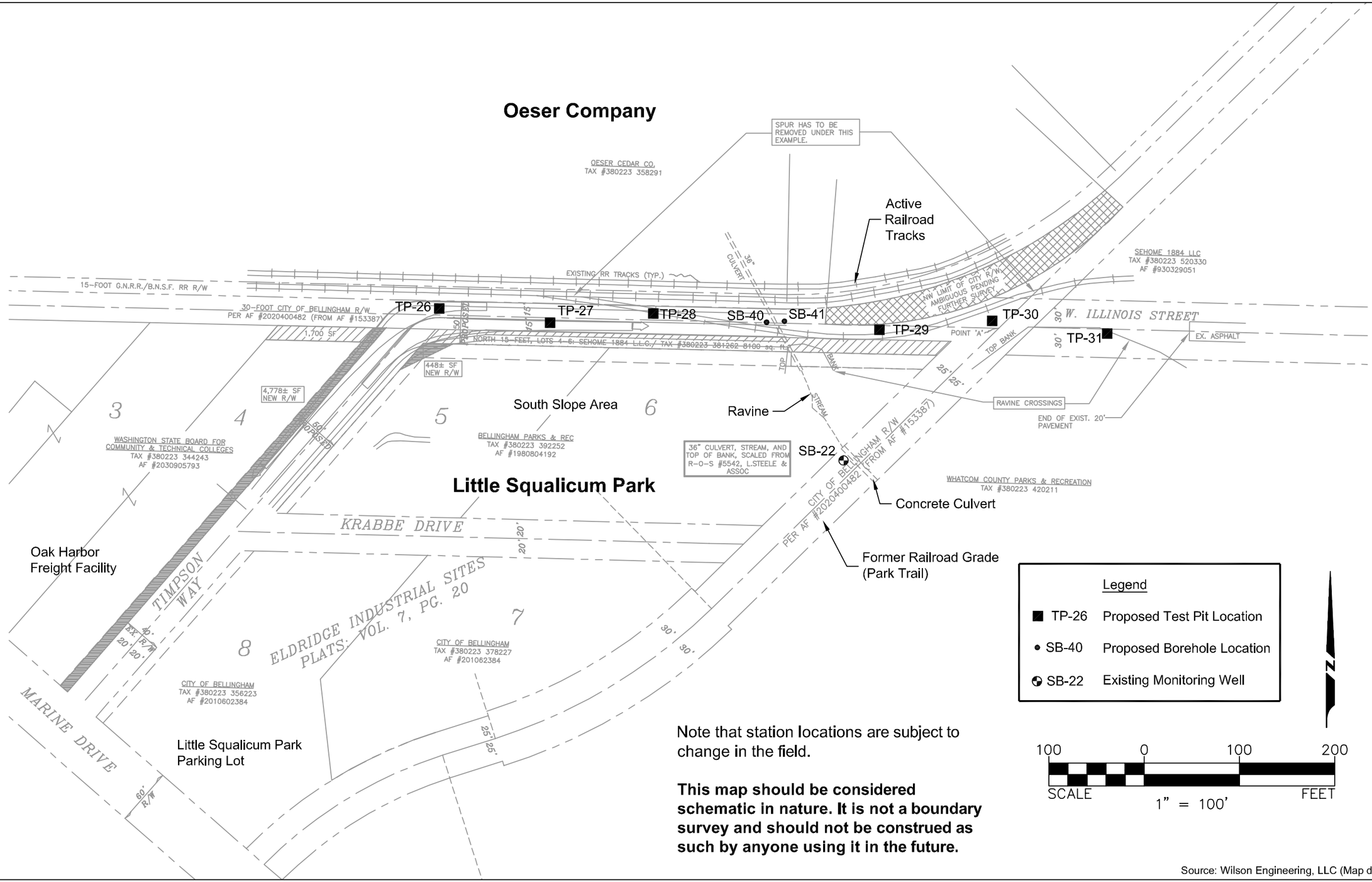
8 REFERENCES

ASTM. 2000. Standard practice for description and identification of soils (Visual-Manual Procedure). Designation: D2488-00. American Society for Testing and Materials, West Conshohocken, PA.

Integral. 2005a. Final Work Plans. Little Squalicum Park Remedial Investigation/Feasibility Study, Bellingham, Washington. Prepared for the City of Bellingham, Parks & Recreation Department, Bellingham, Washington. Prepared by Integral Consulting Inc., Bellingham, Washington. September 30, 2005.

Integral. 2005b. Addendum 1 to the Sampling and Analysis Plan. Little Squalicum Park Remedial Investigation/Feasibility Study, Bellingham, Washington. Prepared for the City of Bellingham, Parks & Recreation Department, Bellingham, Washington. Prepared by Integral Consulting Inc., Bellingham, Washington. November 14, 2005.

Integral. 2006. Addendum 2 to the Sampling and Analysis Plan. Little Squalicum Park Remedial Investigation/Feasibility Study, Bellingham, Washington. Prepared for the City of Bellingham, Parks & Recreation Department, Bellingham, Washington. Prepared by Integral Consulting Inc., Bellingham, Washington. January 24, 2006.



Note that station locations are subject to change in the field.

This map should be considered schematic in nature. It is not a boundary survey and should not be construed as such by anyone using it in the future.

Source: Wilson Engineering, LLC (Map date 8/27/2004).

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Figure 1
Proposed Test Pit and Borehole Locations