



associated
earth sciences
incorporated

July 16, 2020
Project No. 20170017H001

Lakeside Industries, Inc.
6505 226th Place SE, Suite 200
Issaquah, Washington 98027

Attention: Ms. Karen Deal

Subject: Supplemental Response to King County Comments dated November 18, 2019
King County File COMM18-0014 & SHOR18-0032
Maple Valley Asphalt Facility
18825 SE Renton-Maple Valley Road
Renton, Washington

Associated Earth Sciences, Inc. (AESI) is pleased to present this letter in response to comments provided by King County Permitting Division in a letter dated November 18, 2019 for the proposed Lakeside Asphalt Facility. This letter provides additional discussion to supplement our June 8, 2020 letter which also responded to King County Comments dated November 18, 2019. This letter expands on our response to the comment stated below from King County.

Comment:

Page 4, Site Engineering Comments, item 5. The project is located within groundwater protection areas. These include but are not limited to critical aquifer recharge areas (CARAs), wellhead protection areas or zones (including 1, 5 and 10 year time of travel zones for municipal well protection areas, if available), and sole source aquifers. Provide explanation on how you meet the groundwater protection criteria as described in page 5-51 to 5-53 of the 2016 KCSWDM.

Summary of 2016 KCSWDM Requirements:

GROUNDWATER PROTECTION Page 5-51 KCSWDM

The protection of groundwater quality is recognized as an issue of importance equal to surface water quality. Safeguards are required to avoid contaminating groundwater. The applicant should check the Critical Aquifer Recharge (CARA) map, sole source aquifer designations, and

wellhead protection areas and/or 1, 5 and 10 year time of travel zones for municipal well protection areas (if available), mapped by the Washington State Department of Health, to determine if the project lies within a groundwater protection area. The groundwater protection requirements of this manual set forth in Chapter 1 call for implementing one of the following actions when infiltrating runoff from pollution-generating surfaces:

- 1) For industrial sites, provide water quality treatment prior to infiltration as specified in Core Requirement #8 and Special Requirement #5.
- 2) For projects infiltrating within ¼ mile of a sensitive lake, provide water quality treatment prior to infiltration as specified in Core Requirement #8 and Special Requirement #5.
- 3) For all other sites:
 - a) Provide water quality treatment prior to infiltration as specified in Core Requirement #8 and Special Requirement #5, OR
 - b) Demonstrate that the soil beneath the infiltration facility has properties that reduce the risk of groundwater contamination from typical stormwater runoff. Such properties are defined in below and are dependent on whether the project is located outside of or within a groundwater protection area.

1.2.8 CORE REQUIREMENT #8: WATER QUALITY FACILITIES

All proposed projects, including redevelopment projects, must provide water quality (WQ) facilities to treat the runoff from those new and replaced pollution-generating impervious surfaces and new pollution-generating pervious surfaces targeted for treatment as specified in the following sections. These facilities shall be selected from a menu of water quality facility options specified by the area specific facility requirements in Section [1.2.8.1](#) (p. 1-71) and implemented according to the applicable WQ implementation requirements in Section [1.2.8.2](#) (p. 1-80). *Biofiltration, pre-settling vault, large sand filter employed in a WQ treatment train.*

1.3.5 SPECIAL REQUIREMENT #5: OIL CONTROL

Projects proposing to develop or redevelop a high-use site must provide oil controls in addition to any other water quality controls required by this manual. Such sites typically generate high concentrations of oil due to high traffic turnover, on-site vehicle or heavy or stationary equipment use, some business operations, e.g. automotive recycling, or the frequent transfer of liquid petroleum or coal derivative products. *Coalescing Plate oil/water separators employed for oil control.*

Response:

The underlying purpose of the Critical Aquifer Recharge Areas (CARAs) description contained in AESI's September 20, 2018 CAA letter-report was to disclose the project site's high susceptibility rating to contamination of area groundwater resources. The letter-report specifically discloses the relevant King County CARA code (KCC 21A.06.253C), which identifies both areas with a high susceptibility and medium susceptibility to contamination. The

referenced *King County Code* (KCC) specifically identifies the relationship between high or medium susceptibility and “wellhead protection areas for a municipal or district drinking water system” well. King County adopted a CARA map under KCC 21A.24.311. Figure 5 of the letter-report includes the map areas identified by King County as having either a high susceptibility or medium susceptibility. The map indicates the entire Cedar River valley classifies as either high or medium susceptibility, with most of the Cedar River valley and the northern portion of the project site classified as high susceptibility.

The CAA disclosed the high susceptibility to contamination rating of the project site and indicated the KCWD #90 wells are located within the 5-year time of travel (TOT) from the project site. The *King County Water District #90 2014 Wellhead Protection Plan* (WHPP) prepared by Pacific Groundwater Group (PGG) indicates the project site is located in the 10-year TOT. The CAA used the conservative assumption of a 5-year TOT. The WHPP specifically states “*The supply aquifer is confined by 22 to 33 feet of overlying silt and clay, which pressurizes groundwater levels at the wellfield to approximately 12-13 feet above ground surface*”. The CAA conservatively assumes the wells are **not** protected by any intervening low-permeability units. The CAA considered the project site to have a high susceptibility rating for groundwater contamination, assumed the most conservative estimate for TOT for KCWD #90 wells, and did not attempt to suggest the KCWD #90 wells or any other wells in the Cedar River valley would be protected by confining layers.

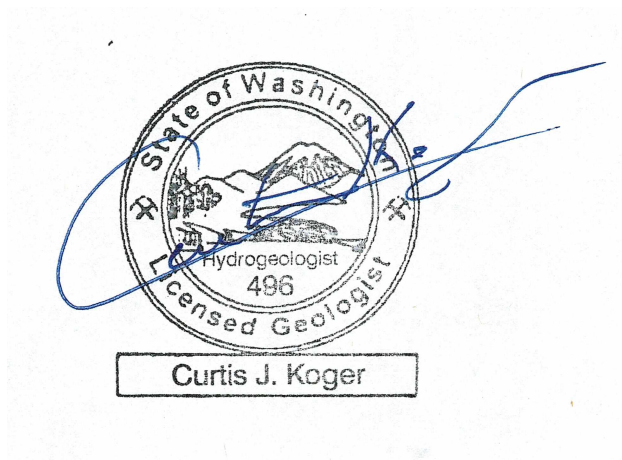
The project water quality treatment train does not depend on the underlying soil to provide any water quality treatment. All water quality treatment is achieved prior to “release” into the soil horizon beneath the infiltration facility and prior to contact with the underlying shallow groundwater system. Since stormwater runoff will be infiltrated the project must comply with KCSWDM Core Requirement #8 and Special Requirement #5 to avoid contaminating groundwater. Core Requirement #8 requires water quality treatment. The project is considered “high use”, therefore *Enhanced Basic* water quality treatment is the applicable standard. This standard is met by provision of the large sandfilter alone. The project proposes to exceed this standard through a treatment train of a grass-filter swale, pre-settling vault, and sand-filter prior to infiltration to groundwater. Special Requirement #5 requires Oil Control. The project proposes to satisfy this requirement by incorporating two coalescing plate oil/water separators upstream of the pre-settling vault.

Areas mapped as highly susceptible to contamination are considered Category I, and medium susceptibility areas are considered Category II under KCC 21A.24.313. Development standards in CARAs are identified under KCC 21A.24.316. The CARA discussion discloses the proposed use of two 30,000-gallon heated asphalt cement storage tanks, one 10,000-gallon diesel tank, and one 10,000-gallon emulsified asphalt tank. As required under KCC 21A.24.316.A.8, the proposed aboveground storage tanks for hazardous substances will be protected with primary and secondary containment areas. This mitigation requirement was described in the CAA. The CAA also identified that a spill prevention and response plan would be developed in accordance with the General Permit.

The project proposes to provide a stormwater quality treatment train designed to exceed the requirements of the 2016 KCSWDM criteria and is therefore protective of groundwater resources. In addition, the project will develop a spill prevention and response plan in accordance with the General Permit. Therefore, it is our opinion the project design meets the underlying goal of avoiding adverse impacts to groundwater resources, and will maintain beneficial uses of groundwater resources.

We appreciate the opportunity to be of service to you on this project. Should you have any questions regarding this letter or other hydrogeologic or geotechnical aspects of the site, please call at your earliest convenience.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington



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