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i n c o r p o r a t e d

September 1, 2016
Project No. KE080257B

Emerald Heights
c/o Lawton PMG
7520 2nd Avenue NE
Seattle, Washington 98115

Attention: Ms. Julie Lawton

Subject: Critical Aquifer Recharge Areas Update
Emerald Heights
Redmond, Washington

Dear Ms. Lawton:

As requested, Associated Earth Sciences, Inc. (AESI) presents this update to our *Critical Aquifer Recharge Areas Report* (CARA report), dated March 24, 2011. The CARA report was written in accordance with Appendix 20D-2 of the *Redmond City Code*, published in December 2004. The CARA Code was updated on April 16, 2011, and includes additional reporting requirements. The new reporting requirements are limited to the Level 2 CARA reporting, and include the following excerpts (revised requirements are underlined, and information to fulfill the reporting requirements are italicized). In AESI's opinion, this letter, in conjunction with the CARA report, satisfies the requirements of the current code for CARA reporting.

3.c. Predictive evaluation of ground water (recharge, elevation, dewatering feasibility, constructability, discharge permitting, etc.) on the proposed project.

This topic is addressed in Section 5.1 of the CARA report. There will be no project-related impacts to ground water. Water and sewer service for the project is provided by the City of Redmond. Stormwater runoff management includes appropriate water quality BMPs and the use of detention facilities, which collect and meter stormwater runoff to off-site

stormwater facilities or surface water. Construction dewatering is not anticipated beyond pumping small volumes of seepage from open excavations where encountered. These seepages, if encountered, would not represent any regional aquifer, but rather perched, discontinuous water within the lodgement till or fill soils.

4. Identification of the type and quantities of any deleterious substances or hazardous materials that will be stored, handled, treated, used, produced, recycled, or disposed of on the Site, including but not limited to materials such as elevator lift/hydraulic fluid, hazardous materials used during construction, materials used by the building occupants, proposed storage and manufacturing uses, etc.

This topic is addressed in Section 5.2 of the CARA report. In addition to the construction-generated pollutants, including suspended solids and trace petroleum hydrocarbons; roadway runoff, and landscaping chemicals, the project uses hydraulic elevators. The project also has a swimming pool and a central laundry facility.

The elevators in the new construction will be hydraulically operated, using “holeless jacks,” wherein the machinery is mounted at the top of the elevator shaft, rather than in the ground (email communication, J. Lawton, August 31, 2016). This system does use hydraulic fluid, but less than in the older hydraulic systems. In the event of a hydraulic leak, all fluid would be contained within the water-proofed and sealed elevator shaft enclosure, preventing a release to the environment. If the system loses enough fluid, elevator performance would be degraded, and then Emerald Heights maintenance personnel would manually shut the elevator down and call for maintenance. Emerald Heights has a quarterly maintenance contract with KONE Elevator, who inspects all elevators and makes repairs as needed (telephone communication with Randy Monkley of Emerald Heights and Mitchell of KONE, August 31, 2016). No spare elevator hydraulic fluid or other materials are stored on site.

Swimming pool chemicals include chlorine liquid and bromine tablets. The chlorine liquid is stored in gallon jugs in a chemical cabinet with secondary containment. The volume of chlorine on site at any time ranges between 2 and 5 gallons. Laundry chemicals, specifically, chlorine bleach, is stored on site in 5-gallon buckets. In a recent site visit by City of Redmond personnel, they recommended secondary containment for the laundry chemicals. The secondary containment has been ordered, but is not in place yet (telephone communication, Randy Monkley of Emerald Heights, September 1, 2016).

The available data indicate there is no potential for the proposed project to cause a significant adverse impact to water quality at any nearby wells.

5. Proposed methods of storing any of the above substances, including containment methods to be used during construction and/or use of the proposed facility.

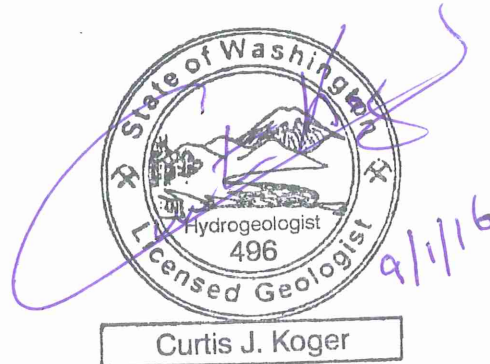
As discussed in Section 5.5 of the CARA report, the proposed development is limited to residential land use. Quantities of deleterious substances and hazardous materials are unlikely to exceed standard household quantities. Specifics regarding storage of these materials is not warranted. As noted above, spare elevator hydraulic fluid will not be stored on site, and pool and laundry chemicals will be stored appropriately with secondary containment.


8. A complete discussion of past environmental investigations, sampling, spills, or incidents that may have resulted in or contributed to contaminated soil or ground water at the site. Attach copies of all historical and current reports, and sampling results.

There is no record of past environmental investigations, sampling, spills, or incidents that may have contributed to soil or ground water at the site. Prior to its use as a senior living facility, the property was a natural, forested parcel. (telephone communication, J. Lawton, August 29, 2016).

If you should have any questions concerning this letter, please do not hesitate to call our office.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington




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