SDA

November 26, 2012

CITY OF MONROE
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COMMUNITY DEVELOPMENT

Brad Feilberg, P.E.
Director of Public Works
City of Monroe
806 West Main Street
Monroe, Washington 98272

RE: Eaglemont Subdivision
Response to Project/SEPA Public Comments

Dear Mr. Feilberg:

In response to public comments regarding the above referenced project application, I have the following responses. I have included a summary of the comment/concern followed by my response.

- There was some concern regarding the Detention Pond design, specifically seepage out of/thru the pond berm, and if this berm needed to meet EPA Damn safety requirements due to volume of water retained behind the berm.

  The threshold for Damn safety requirements to apply to a berm design is for the berm to detain 10 acre-feet or more behind the proposed berm. The maximum height of the berm varies from 15' to 10' at the cross section of the berm at its maximum height. With the total of the detention volume at 11.5 acre feet, the volume detained by the berm is a percentage of this as approximately 20% of the pond volume will be cut into the hillside. The volume of water that is proposed to be behind the fill embankment is determined to be approximately 9.15 acre feet, and below the damn safety requirements threshold. It should also be noted that the detention pond is being designed to have a riser overflow, a primary emergency overflow into the release structure by overtopping the release structure in case the main outlet pipe to the release structure plugs, and a secondary emergency overflow that will flow over the berm into the adjacent wetland.

  The pond berm will be constructed of material of a specific gradation and technique as discussed in the project Geotechnical Report Supplement dated September 18, 2012. The bottom of the berm will be "keyed" into the Vashon Till layer to prevent any seepage under the pond berm. The Vashon Till material when placed and compacted correctly is a very effective berm as this material compacts to a very dense state. The Geotechnical Engineers for the project, "Associated Earth Sciences", will be on site during the berm construction. The berm material will be tested to ensure the proper sand and silt proportions as stated in the geotechnical report prior to its use as berm material, and then compaction tested during its placement. As an additional precaution, we will construct a French drain into this fresh till layer upstream of lots 64, 65 and 66 of Sinclair Heights that will flow west to east and daylight into the adjacent wetland.

  The portion of the geotechnical report supplement discussing the pond berm and its construction is included below.

DETENTION POND CONSIDERATIONS

Based on conversations with Mr. Andrew Reaves of Site Development Associates, LLC., we understand that construction of the pond will include a maximum excavation depth of approximately 18 feet below the existing grade and a perimeter fill berm with a maximum height of approximately 16 feet above existing grade. Preparation for placement of structural fill for pond berm construction will entail stripping of the surficial topsoil and excavation of the proposed fill area to firm, stable subsoil as described in the "Site Preparation" section of our geotechnical report. Fill soils used for pond berm construction should contain a maximum of 60 percent sand, a minimum of 30 percent silt, and nominal gravel and cobble content. The on-site lodgement till sediments should satisfy these criteria. The pond berm fill should be placed as structural fill, compacted to a minimum of 95 percent of its maximum dry density as determined by *American Society for Testing and Materials* (ASTM):D 1557, as described in the "Structural Fill" section of our geotechnical report. Due to their high silt content, compaction of fill soils meeting the stated specification may be difficult to achieve during wet weather. The suitability of all pond berm fill should be verified by AESI prior to its use, using appropriate laboratory testing.

Interior perimeter pond berm slopes should be constructed at a maximum inclination of 3H:1V (Horizontal:Vertical). Exterior perimeter berm slopes should be constructed at a maximum inclination of 2H:1V. The perimeter pond berm should have a minimum top width of 6 feet. A key excavation equal in width to the top of berm width (6-foot-width minimum) at a minimum of 3 feet deep should extend below the base of the pond berm. Additionally, pond berm geometry should conform to City of Monroe design standards.

- There was a letter written from a property owner to the west of the site expressing a concern regarding their existing on-site well and what effect the subject project will have on its ability to function.

  The stormwater runoff from the site does now and will continue to in the future percolate thru the first 2 (two) to 4 (four) feet of weathered Vashon Till and then flow laterally on the underlying Vashon Till. This Till layer is very dense and thick in nature as the ice flows from the ice age moved directly over this layer, thus its exceptionally dense (and impervious) nature. The surface water from this site will not permeate thru this Till layer, but instead will flow in what is called the "interflow" between the weathered till and the fresh till. This water will not, as a result of this fresh till layer, enter the aquifer that is 40' deep where the adjacent properties well is located. Thus, the amount and quality of the groundwater available for the well on the adjacent property should not be affected.

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- Some concern has been stated by the adjacent plat of Sinclair Heights regarding the lack of emergency vehicle access to the Sinclair Heights project, and to the now proposed Eaglemont project. Specifically that there is only one road into and out of the aforementioned projects.

  The project of Eaglemont is constructing a secondary access road to the north that will connect with Chain Lake Road. This will provide a secondary access point for both projects and will alleviate this issue.

If you have any questions or comments, do not hesitate to contact me at (425) 486-6533, ext. 111., or via email at areaves@sdaengineers.com.

Sincerely,
SDA

Andrew C. Reaves, P.E.
Principal

Cc: Land Resolutions
File