

City of Monroe
806 W. Main St.
Monroe WA 98272

March 29, 2021

Attention: Community Development

Re: Eaglemont Division 7 Preliminary Plat/PRD
Storm Water Site Plan Comments

To Whom It May Concern:

This letter is being submitted by property owners who are members of the Eaglemont Home Owners Association (EHOA). The purpose is to provide data on MainVue WA, LLC's (MainVue) compliance with and the City of Monroe's (City) enforcement of Storm Water Site Plan requirements in the Eaglemont Development and to request that these post-construction soil depth requirements be fully complied with in the construction of Eaglemont Division 7.

Storm Water Requirements

The soil depth requirements that are the subject of this letter are defined in the Washington Department of Ecology's 2012 Stormwater Management Manual for Western Washington as Amended in December 2014 (SWMMWW2012), BMP T5.13: Post Construction Soil Quality and Depth (BMP T5.13).

These comments specifically address the soil depth requirements in BMP T5.13. The following sections of the Division 7 Storm Water Site Plan reference these soil depth requirements (unrelated text is not included below).

- 2.1 Analysis of Minimum Requirement, No. 5: On-site Storm Water Management

All soil in the lawn and landscaped areas for the site will be amended to meet the *post-Construction Soil Quality and Depth requirement*.

- 5.3 Performance Standards and Goals

The project is subject to the provisions of the City of Monroe's design standards and guidelines, as well as the SWMMWW2012, by the Washington State Department of Ecology. This report, along with the accompanying plans, are intended to satisfy the Stormwater Site Plan preparation requirements outlined in the regulatory documents listed above. This project has opted to use the List #2 per the Flow Chart for Determining LID MR #5 Requirements (Figure 5.3.2), located within this section of the report. In order to meet the requirements for List #2 all individual on-site lots will have the following BMPs on top of the 60% maximum impervious surface coverage per lot. *All soil in the lawn and landscaped areas for the site will be amended to meet the post-Construction Soil Quality and Depth requirement.*

The objectives of the post-construction soil depth requirements are to establish minimum soil quality and depths so as to provide improved on-site management of storm water flow and quality. The specifically related requirements of BMP T5.13 are as follows:

All areas subject to clearing and grading that have not been covered by impervious surface, incorporated into a drainage facility, or engineered as structural fill or slope, shall, at project completion demonstrate:

- *The topsoil layer shall have a minimum depth of eight inches except where tree roots limit the depth, and*
- *Subsoils below the topsoil layer should be scarified at least 4 inches with some incorporation of the upper material to avoid stratified layers, where feasible.*

These requirements are graphically depicted in the attached Figure V-5.3.3 Planting Bed Cross-Section from the SWMMWW2012, BMP T5.13.

Storm Water Soil Depth Compliance in the Eaglemont Development

The Eaglemont Development has occurred in seven phases (Divisions 1 through 6 and Sky View Ridge). Since 2015, the individual lots in Eaglemont have been permitted for construction and Certificates of Occupancy issued for each home. Discussions with the City of Monroe Engineering and Construction staff indicate that all seven of these construction phases have been subject to the soil depth requirements described earlier. The inclusion of these requirements is documented in City approved Site Plans prepared for each lot (see the attached example Site Plan, Eaglemont Div 5 Lot 1). City staff also indicated that all of the development's approved Site Plans include the following requirement: "Storm Notes: 3. Topsoil per WDOE - BMP T5.13 (Eff. 12" Depth)." To further document that this requirement has been applied development wide, a FOIA request has been submitted to the City requesting copies of the Site Plans for two or three randomly selected lots within each of the seven phases. As of this time, copies of approved Site Plans have been received that show this requirement is present for lots in Divisions 4, 5, and 6. The Site Plans for the earlier phases are to be available by March 31st.

Eaglemont residents have anecdotally reported the lack of compliance with soil depth requirements in numerous conversations, posts on the EHOA Facebook site, and direct observations during landscaping installation.

Eaglemont Development Soil Depth Investigation

To document the degree of compliance with the soil depth requirements, an investigation to measure the soil depths as installed by MainVue was conducted. A total of 9 lots were sampled with a focus on more recent phases as follows:

- Division 5 – Lot 9
- Division 4 – Lots 98 and 111
- Sky View Ridge – Lots 20 and 32

- Division 3 – Lot 1
- Division 2 – Lot 1
- Division 1 – Lot 49

At each lot, samples were taken at one location each in the front and back yards, one location in a barked area, and one location in a graveled area. Holes approximately 4 to 5 inches square were excavated to refusal (top of the underlying glacial till) and measurements taken of the depths of:

- Topsoil (including sod)
- Fill soil (underlying disturbed soil from excavation of foundations used to final grade the lot)
- Bark
- Gravel

The results have been tabulated in the attached Table 1. Eaglemont Development – Soil Depth Sampling Results. Pictures were taken to document the results at each of the sampling locations and depth measurements. The pictures taken at one of the lots (Division 4, Lot 98) is attached and is an example of what was done at the other 8 lots. Copies of the pictures for all the sampling locations at all nine lots have been included on a memory stick submitted with this letter.

CONCLUSIONS

The conclusions that can be made based on the data reported in Table 1 are as follows:

- Lawn Areas:
 - Topsoil – The depths ranged from 2.5 to 4.5 inches and averaged 3.0 inches versus the 8.0 inches required.
 - Fill Soil – The depths ranged from 0.0 to 4.0 inches, and averaged 2.0 inches. None of these underlying soils appeared to be topsoil and was believed to be reformed glacial till from the foundation excavations used during final grading. Also, none of these fill soils appeared to incorporate any organic mulch that would qualify this fill as allowable topsoil.
 - Though an average of 5.0 inches of top and fill soils existed before reaching refusal at the top of the underlying, highly impermeable glacial till, only the top 3.0 inches qualified as topsoil in meeting the 8.0 inches of required topsoil (including sod).
- Bark Areas:
 - The bark depth averaged 2.8 inches and was underlain by an average of 1.7 inches of fill soil versus the required 2.0 inches of bark.
 - Though an average of 4.5 inches of bark and fill soils existed before reaching refusal at the top of the underlying, highly impermeable glacial till, nothing was present that met the required 12.0 inches of top and transition zone soils.
- Gravel Areas:
 - The gravel depth averaged 2.6 inches, though there is no required depth in rock or gravel areas

- In all locations, the sampling excavations immediately met refusal at the top of the underlying, highly impermeable glacial till. Nothing was present that met the required 12.0 inches of top and transition zone soils.

RECOMMENDATIONS

Based on the anecdotal reporting and the soil sampling investigation, it is clear the MainVue did not comply with the requirements of SWMMWW2012), BMP T5.13 and as identified on the City approved Site Plans. Additionally, it is clear that the City did not enforce these requirements before issuing Certificates of Occupation. We ask that MainVue be required to comply with the post-construction soil depth requirements in all areas not covered by impermeable surfaces (includes all lawn, bark, and gravel/rock areas) as a condition of approval of the Eaglemont Division 7 Preliminary Plat/PRD and that the City be required to inspect and document compliance with these requirements prior to issuing any Certificates of Occupancy.

RELATED CONCERNS

During this investigation and as the result of reviewing the Stormwater Site Plan and the requirements of SWMMWW2012, BMP T5.13, additional concerns were identified:

- In addition to soil depth requirements, BMP T5.13 also addresses soil quality. Because soil depth were not previously inspected, it is likely that compliance with topsoil quality requirements has not been documented. We ask that MainVue be required to submit the appropriate documentation for City approval prior to issuance of any Certificates of Occupancy.
- The sod installed by MainVue was assumed to qualify as topsoil; therefore the sod should also be included in the soil quality submittals and approvals.
- The required topsoil and underlying transition soil profile is one of the assumptions made when determining the required stormwater retention volumes. If the soil depth requirements are not met, additional runoff will occur and retention capacity will have to be expanded.

Sincerely,

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Enclosures: 3 Attachments
Memory Stick with Sampling Pictures