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From: Thomas Westbrook <tjw@buddbaylaw.com>
Sent: Wednesday, January 30, 2019 4:45 PM
To: mscheibmeir@localaccess.com
Cc: Cathy Hitchman; kfriend@localaccess.com; Michael Young; James R. Tomlinson; Allen T. Miller; 'Alex Vo'; Chris Merritt; leungnick1@gmail.com
Subject: Wellington Heights Hearing
Attachments: ABS response to Skillings-Connolly report.pdf

Dear Hearing Examiner Scheibmeir,

Please see attached for your consideration prior to the hearing on Monday. This is my client's response to the Skilling-Connolly drainage evaluation in case you are including that evaluation in the hearing record, then we ask that you also include our response. It has been sent to the City Planning folks as well.

Let me know if you have any questions for me.

Sincerely,

Tom

Thomas J. Westbrook
Attorney at Law



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January 30, 2019

Paula Smith, Associate Planner
City of Olympia
PO Box 1967
Olympia, WA 98507

Re: Wellington Heights - #18-1315
Response to Skillings-Connolly Drainage Evaluation, dated January 10, 2019
OE No. 17096

Dear Ms. Smith:

This letter is in response to the Drainage Evaluation prepared by Skillings-Connolly (hereinafter "Drainage Evaluation"), dated January 10, 2019, for Mr. Titus.

1. The Drainage Evaluation states that the surface water from the Wellington Heights parcels has historically "infiltrated uniformly across the development property" and that the Wellington Heights project will now be collecting, concentrating, and directing that surface water into drywells and/or the development's stormwater pond.

Response

Based on the soils that were logged across the site, a restrictive layer (glacial till) exists, on average, approximately 39" below-grade. The depth to the restrictive layer is fairly consistent indicating that it generally follows the slope of the surface down towards Mr. Titus' parcel.

While surface water has historically infiltrated uniformly across the site, this infiltration can only temporarily take place in the surface soils above the restrictive layer. The soils would become saturated and water cannot infiltrate through the restrictive layer. As a result, it can be expected that the water will flow laterally along the restrictive layer until it finds a break in the restrictive layer and/or until it daylights out. Mr. Titus has reported that he has witnessed some seepage in the cut slope along the north side of his parcel and this can be attributed to water flowing along the restrictive layer where it daylights out onto the cut slope.

The Wellington Heights project will be infiltrating stormwater runoff from all new public roadway areas along with the roof areas from Lots 38-56 into a below-grade stormwater facility located in proposed Tract E, below the restrictive layer. As a result, runoff from approximately 21% of the overall parcel area will be directed to beneath the restrictive layer. All proposed sidewalks, driveways, and the private access lanes will be constructed of permeable pavement which is intended to directly infiltrate rainfall (store and spread out the infiltration). All new lawn/landscape areas will contain soils meeting the city's soils requirements. These soils are intended to help reestablish natural infiltration, water storage/transmission, pollutant decomposition, etc.

A report prepared by Materials Testing & Consulting (MTC) states that the lateral projection of water infiltrating out of the proposed stormwater infiltration facility will fall below the toe of the slope along Mr. Titus' parcel. Therefore, infiltrated water from this facility will not impact Mr. Titus' parcel.

Per WWHM computer modeling software, the post-developed surface water runoff rate will be less than the pre-developed runoff rate. This is due to the existing soil type (poor soils have a higher runoff rate), existing ground cover (a partially forested site has a higher runoff rate than a fully forested site), and by infiltrating a significant amount of runoff beneath the restrictive layer.

Additionally, while not required, the project will meet the Low Impact Development (LID) Performance Standard based on current WWHM results. This Standard is intended to mimic natural hydrologic conditions, especially for smaller storm events, and is the highest achievable standard in the city's storm drainage manual.

The proposed stormwater measures will lessen the amount of water being directed towards Mr. Titus' parcel, especially to the existing cut slope along the north side.

2. The Drainage Evaluation states that the existing ditch on Mr. Titus' parcel does not have capacity to carry the pass-through flow of 44-cfs plus the anticipated emergency overflow from the Wellington Heights stormwater infiltration facility and there are concerns about scouring. The Drainage Evaluation recommends the existing ditch be redesigned and reconstructed to carry the anticipated flow, including cleaning and regrading of the north ditch to restore positive drainage in the ditch from east to west, and that a downstream analysis from the development site to Percival Creek be completed.

Response:

Condition/Mitigation #3 in the city's MDNS clearly states that "to mitigate off-site stormwater impacts, the applicant shall make improvements to an existing conveyance system so that it can convey the existing pass-through flows..., provide an emergency overflow route for the proposed on-site infiltration system, and protect downstream properties from stormwater impacts."

As such, the affected portion(s) of the ditch(es) located on Mr. Titus' parcel will be upgraded as needed to meet these requirements. As mentioned in the city's MDNS, the existing ditch along the north side of Mr. Titus' parcel will be bypassed; therefore, mitigation is not necessary for this ditch. However, the developer is proposing to regrade the western portion of this ditch as needed to ensure it has positive drainage into the westerly ditch (which it currently does not have).

Based on preliminary calculations, only the northern portion of the existing ditch along the west side of Mr. Titus' parcel will require modifications to carry the anticipated flows. To the best of our knowledge, there have been no reports of problems with the ditch along the west side of Mr. Titus' parcel or within the city's stormwater system downstream of Mr. Titus' parcel. We are only aware of issues with the northerly ditch which will be remedied by rerouting the pass-through flows downstream of this ditch.

The city requested the downstream analysis end at the 48" diam. culvert located beneath Mr. Titus' western driveway approach/connection. Per the city's response memorandum, dated January 24, 2019, to the Drainage Evaluation, to retrofit the downstream storm conveyance system is beyond the expectations of what the city would require of a developer. Additionally, the only increase in stormwater runoff that would be directed to Mr. Titus' western ditch would be an emergency overflow of a complete failure of the Wellington Heights stormwater facility located in Tract E. Based on preliminary calculations, the 100-year flow rate from a complete

failure of this stormwater facility would only be 1.75-cfs. For reference, 44-cfs of existing pass-through flow is currently being discharged to Mr. Titus' ditch (per Wellington West Drainage Report prepared by Howard Godat & Associates, dated April 1, 1998).

The proposed stormwater infiltration facility is currently oversized by approximately 20% and is based on a conservative design infiltration rate calculated by MTC. Additionally, the facility is currently designed to provide 2.2-feet of freeboard depth, 1.2-feet more than the minimum requirement of 1-foot, and there is space to expand the facility if needed. As required by the city's drainage manual, the proposed stormwater infiltration facility will be monitored through at least one wet season to evaluate its performance. If it is found to be underperforming, the facility will be expanded as needed.

The project would only increase stormwater runoff to Mr. Titus' ditch during a complete failure of the Wellington Heights stormwater facility and this increase is minimal compared to what is currently being discharged to the ditch and downstream system. The city's MDNS conditions and proposed stormwater measures adequately address the concerns.

3. The Drainage Evaluation states that insufficient measurements were taken to establish the groundwater table and resulting groundwater mounding height below the bottom of the proposed stormwater infiltration facility and is recommending a thorough analysis of the seasonal water table variation be conducted.

Response:

MTC found no evidence of groundwater on-site to a depth of 30-feet below-grade in February 2018. A boring conducted by Geotechnical Testing Laboratory (GTL) in March 2006 for the residential development abutting the north side of Wellington Heights found no evidence of groundwater to a depth of 35-feet below-grade. Two borings by GTL for the business park abutting the south side of Wellington Heights found no evidence of groundwater to depths of 31-feet. A boring was conducted in March 2018 for Mullinax Ford to the south of Wellington Heights and there was no evidence of groundwater to a depth of 50-feet. MTC researched other well logs in the general area and the logs suggest that the regional groundwater table is at least 35-feet below-grade, even in the wet season.

The groundwater mounding calculations prepared by MTC indicate at least 20-feet of vertical separation between the mounding stormwater and the slope surface and their report states that the analysis represents a generalized worst-case scenario.

All of the above-mentioned borings were conducted in the wet season. The collected data is more than sufficient, no further analysis is warranted, and the mounding calculations prepared by MTC do not require revision.

4. The Drainage Evaluation is recommending a French Drain be installed along the top of the slope above Mr. Titus' parcel to intercept seepage.

Response:

Per MTC, there is no current or past evidence of slope instability. The amount of runoff directed towards the slope will be reduced as a result of the proposed stormwater measures (mainly from infiltrating a large portion of the stormwater runoff from the site into a facility located below the restrictive layer). The developer is proposing to regrade the western portion of the

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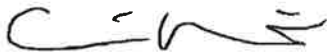
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Again, the city's MDNS conditions/mitigations already address the majority of the Skillings-Connolly concerns and we have adequately addressed the remaining concerns. The proposed mitigating stormwater measures will have no negative impact to Mr. Titus' parcel.

Please let me know if you have any questions or comments.

Sincerely,

Olympic Engineering

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Chris Merritt, PE
Principal Engineer



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January 30, 2019

Paula Smith, Associate Planner
City of Olympia
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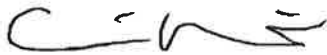
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Olympic Engineering

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Chris Merritt, PE
Principal Engineer