



July 18, 2022

Ms. Nabila Comstock
Assistant Planner
City of Puyallup Planning Services
333 South Meridian
Puyallup, WA 98371

Re: 808 14th Street SW: Third-Party Review of Critical Areas Assessment and Spring 2022 Hydrology Monitoring Letter

Dear Ms. Comstock:

This memorandum summarizes findings and recommendations from Confluence Environmental Company (Confluence) biologists' third-party review of the June 6, 2022, Spring Hydrology Monitoring letter created for the Mullan property at 808 14th Street SW, Puyallup, WA 98371 (tax parcel number 5505300831) by Habitat Technologies (Habitat Technologies 2022). The letter was prepared in response to our review of the October 2021 Critical Areas Assessment – Biological Evaluation created for the project (Habitat Technologies 2021).

PREVIOUS REQUEST FOR ADDITIONAL INFORMATION

In our review of the critical areas report (Habitat Technologies 2021), we found several instances of missing information that were not addressed in the hydrology monitoring letter (Habitat Technologies 2022). To complete our review, we will need to review the following information that has yet to be provided:

- All wetland determination forms and a map of all sample plots. If field notes were used rather than wetland determination data forms, then the field notes should be provided or wetland determination data forms filled out based on the field notes. Providing field data as part of a critical areas study report is a requirement of Puyallup Municipal Code.
- A discussion of design alternatives and additional avoidance and minimization measures, as appropriate. Based on the site plan provided, it appears that proposed structures could be moved to avoid impacts to the floodplain and floodplain storage.

REVIEW OF HYDROLOGY MONITORING LETTER

In our review of the hydrology monitoring letter, we did not find a map of the locations where wetland hydrology was monitored. We understand that the areas evaluated might be slightly

different for each site visit; however, a map showing the general locations of the 4 monitoring locations is essential to our review.

The hydrology monitoring letter did not discuss the general climatic conditions at the time of the study. This is important information to know so that we can determine if the hydrology observed occurred in normal climatic conditions or in wetter than normal or drier than normal conditions. Again, this is essential information needed for our review. Because this information is essential, Confluence did a climatic conditions analysis using Climate Analysis for Wetlands Tables (WETS Tables; NRCS 2022).

Table 1. WETS Tables Analysis for March, April, and May of 2022

Month	30% < ^a	Avg ^a	30% > ^a	PPT ^b	Condition ^c	Condition Value	Month Weight Value	Product								
March	3.46	4.58	5.34	4.92	N	2	1	2								
April	2.53	3.51	4.14	3.69	N	2	2	4								
May	1.76	2.67	3.20	3.56	W	3	3	9								
Sum								15								
<p>Notes</p> <p>Growing Season: There is a 70% chance of the growing season (24° F or higher) occurring between 1/30 and 12/13 (317 days).</p> <p>If sum is:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">6 – 9 then prior period was drier than normal</td> <td style="width: 50%;">Condition Values:</td> </tr> <tr> <td>10 – 14 then prior period was normal</td> <td>Dry (D) = 1</td> </tr> <tr> <td>15 – 18 then prior period was wetter than normal</td> <td>Normal (N) = 2</td> </tr> <tr> <td></td> <td>Wet (W) = 3</td> </tr> </table> <p>^a AgACIS for McMillin Reservoir, WA WETS Station (NRCS 2022)* ^b AgACIS for Parkland 0.9 NE, WA (CoCo RaHS) (NRCS 2022)* ^c Conditions are considered normal if they fall within the low and high range around the average. *NOTE that different stations are used due to data availability.</p>									6 – 9 then prior period was drier than normal	Condition Values:	10 – 14 then prior period was normal	Dry (D) = 1	15 – 18 then prior period was wetter than normal	Normal (N) = 2		Wet (W) = 3
6 – 9 then prior period was drier than normal	Condition Values:															
10 – 14 then prior period was normal	Dry (D) = 1															
15 – 18 then prior period was wetter than normal	Normal (N) = 2															
	Wet (W) = 3															

Based on the WETS Tables analysis, climatic conditions during the hydrology study were slightly wetter than normal, due primarily to precipitation in May.

Although the hydrology monitoring letter did not explicitly state the following, this is our interpretation of the letter:

- The vegetation and soils have been historically disturbed, and continued maintenance of this disturbed state (i.e., residential lawn) has resulted in vegetation and hydric soil indicators that are not reliable indicators to determine the presence of wetlands.
- As such, wetland hydrology is the only indicator that should be used to determine the presence or absence of wetlands.

- Based on their hydrology monitoring, groundwater or saturated soils were not present within 12 inches of the surface for a continuous period of time sufficient to meet the definition of wetland hydrology.
- If results of this study were extrapolated to the entire growing season, there would never be wetland hydrology.

The hydrology monitoring letter did not detail or explain the following considerations, which are important in the analysis of the data:

- According to the Corps of Engineers Wetlands Delineation Manual, “An area has wetland hydrology if it is inundated or saturated to the surface continuously for at least 5% of the growing season in most years (50% probability of recurrence)” during normal climatic conditions (Corps 1987).
- Based on the WETs Table information, the growing season is 317 days long at the site. Thus 5% of the growing season equates to about 16 days. Therefore, for an area to meet the wetland hydrology criterion, saturated soils or groundwater would need to be present for 16 consecutive days during the growing season.
- Based on Habitat Technologies’ hydrology study, there were not 16 days of continuous wetland hydrology during the 46-day study.
- The hydrology study occurred during slightly wetter than normal climatic conditions; therefore, extrapolation of its results to normal climatic conditions would indicate that there are even fewer days when saturated soils or groundwater are within 12 inches of the surface during the growing season.

In summary, we found that the hydrology monitoring letter excluded some important information needed to interpret their results. While we provide this information in this letter, the hydrology study should be updated to at least include a map of the general location of the 4 monitoring locations.

In addition, the critical area study still needs to be updated to provide a complete report with the following information:

- Wetland determination forms
- Map showing location of sample plots

Respectfully yours,



KERRIE McARTHUR, PWS, CERP
Senior Biologist
206.999.6201
kerrie.mcarthur@confenv.com



SUZANNE VIEIRA, WPIT
Project Ecologist
415.306.4121
suzanne.vieira@confenv.com

REFERENCES

Corps (U.S. Army Corps of Engineers). 1987. Corps of Engineers wetlands delineation manual. Corps Environmental Laboratory, Waterways Experiment Station, Vicksburg, Mississippi. Technical Report Y-87-1.

Habitat Technologies. 2022. Spring 2022 hydrology monitoring; parcel 5505300831, 808—14th Street SW, City of Puyallup. Bryan W. Peck and Thomas D. Deming, Habitat Technologies, Puyallup, Washington for Kristian and Joann Mullan, Puyallup, Washington.

Habitat Technologies. 2021. Critical areas assessment – biological evaluation; parcel 5505300831, 808—14th Street SW, City of Puyallup. Bryan W. Peck and Thomas D. Deming, Habitat Technologies, Puyallup, Washington for Kristian and Joann Mullan, Puyallup, Washington.

NRCS (Natural Resources Conservation Service). 2022. AgACIS climate Data [online database]. NRCS, USDA, Washington D.C. Available at: <https://www.nrcs.usda.gov/wps/portal/wcc/home/climateSupport/agAcisClimateData/> (accessed July 6, 2022).

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