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By Virgil Amick at
2:40 pm, July 29, 2026

TECHNICAL MEMORANDUM

June 15, 2026

To:	Michelle Branley Bullfrog Flats LLC 18300 Redmond Way Suite 120 Redmond WA. 98052
From:	Kolten Kusters, M.S., SPWS Wetland Scientist Raedeke Associates, Inc.
RE:	Bullfrog Flats LLC Buffer Averaging Plan (RAI Project No. 2019-084-200)

Raedeke Associates, Inc. visited the Bullfrog Flats LLC project site on June 5, 2026, to evaluate buffer conditions in the vicinity of Wetlands 4, 5, and 6, where the project is proposing wetland buffer averaging to accommodate a new roadway. Specifically, the proposed wetland buffer averaging will be in the Bullfrog Flats Phase P-4 project area. This report outlines how the project will meet the buffer averaging requirements set forth in the City of Cle Elum (2026) critical area code.

PROJECT LOCATION

The Bullfrog Flats LLC project site totals approximately 1,100 acres in size and is situated in portions of Sections 27, 28, 29, 30, 31, and 32, Township 20 North, Range 15E, W.M. The site is generally bounded by Bullfrog Road on the north and west, I-90 on the south, and SR 903 on the east, in the City of Cle Elum, Kittitas County, Washington.

This report focuses on the proposed work for a new road alignment (Saddleback Drive) located in the Bullfrog Flats Phase P-4 portion of the site.

METHODS

Wetlands

The U.S. Army Corps of Engineers (USACE) wetland definition was used to determine if any portions of the project area could be classified as wetland. A wetland is defined as an area “inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Federal Register 1986:41251).

We based our investigation upon the guidelines of the U. S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and subsequent amendments and clarifications provided by the USACE (1991a, 1991b, 1992, 1994), as updated for this area by the regional supplement to the USACE wetland delineation manual for the Western Mountains, Valleys, and Coast Region (USACE 2010). The USACE wetlands manual is required by state law (WAC 173-22-035, as revised) for all local jurisdictions, including the City of Cle Elum. As outlined in the USACE wetland delineation manual, wetlands are distinguished by the presence of three diagnostic characteristics: hydrophytic vegetation (wetland plants), hydric soil (wetland soil), and wetland hydrology.

FIELD SAMPLING

Raedeke Associates, Inc. staff visited the study area on June 5, 2026. We visually examined vegetation, soils, and hydrology in representative portions of the study area according to the procedures described in the Regional Supplement (USACE 2010).

Plant identifications were made according to standard taxonomic procedures described in Hitchcock and Cronquist (2018), with nomenclature as updated by the U.S. Army Corps of Engineers National Wetland Plant List (USACE 2020). We estimated the percent coverage of each plant species. Wetland classification follows the USFWS wetland classification system (Cowardin et al. 1992). We determined the presence of a hydrophytic vegetation community using the procedure described in the Regional Supplement (USACE 2010), which requires the use of the dominance test, unless positive indicators of hydric soils and wetland hydrology are also present, in which case the prevalence index or the use of other indicators of a hydrophytic vegetation community as described in the Regional Supplement (USACE 2010) may also be required.

We excavated pits to at least 18 inches below the soil surface to describe the soil and hydrologic conditions throughout the study area. We sampled soil at locations

corresponding to vegetation sampling areas and potential wetland areas. Soil colors were determined using the Munsell Soil Color Chart (Munsell Color 2009). We used the indicators described in the Regional Supplement (USACE 2010) to determine the presence of hydric soils and wetland hydrology.

Existing Conditions

The wetland boundaries, categories, and buffers for Wetlands 4, 5, and 6 were previously reviewed and approved by the City of Cle Elum as part of the Bullfrog Flats Development in 2025. Each of the wetlands met the criteria of Category III with a habitat score of 6 points. The City of Cle Elum requires a 110-foot-wide buffer for Category III wetlands that score 6 or 7 points for habitat function.

During our June 5, 2026 site visit, we collected notes on the existing upland conditions adjacent to wetlands to assess if any impacts would result from the proposed buffer averaging plan. The habitat adjacent to the wetlands is characteristic of an eastern Washington upland forest with an overstory of ponderosa pine (*Pinus ponderosa*, FACU) and Douglas-fir (*Pseudotsuga menziesii*, FACU), with an understory of snowberry (*Symphoricarpos albus*, FACU), oceanspray (*Holodiscus discolor*, FACU), dull oregongrape (*Mahonia nervosa*, FACU), cluster rose (*Rosa pisocarpa*, FAC), hairy brackenfern (*Pteridium aquilinum*, FACU), bluebunch wheatgrass (*Pseudoroegneria spicata*, FACU) and Idaho fescue (*Festuca idahoensis*, FAC).

Soil in the upland areas are not hydric and consist of up to 8 inches of dark brown (10YR 3/3) sandy loam soils over dark yellowish brown (10YR 3/4) gravely sandy loams to a depth greater than 12 inches. We did not observe any primary indicators of wetland hydrology, including a shallow groundwater table, saturation, or surficial ponding during our investigation. In addition, we did not observe any secondary indicators of wetland hydrology, such as water-stained leaves, drift deposits, cracked soil surfaces, geomorphic position, or algal mats in the areas proposed for buffer averaging.

Buffer Averaging

The project is proposing buffer averaging to accommodate the Saddleback Drive alignment in proximity to Wetlands 5 and 6 and a portion of the future Bullfrog Flats Phase M residential development in proximity to Wetland 4. The project would reduce portions of the Wetland 4, 5, and 6 from the 110-foot-wide standard buffer to no less than 82.5 feet wide. Specifically the wetland buffer would be reduced north of Wetland 4, south of Wetland 5, and north, east, and south of Wetland 6. In total, the project will encroach on approximately 31,591 square feet of wetland buffer. To compensate for the buffer encroachment, the project would provide approximately 38,047 square feet of

additional wetland buffer south of Wetland 4, north of Wetland 5, and west of Wetland 6 (see Buffer Averaging Plan, attached).

The City of Cle Elum (2026) Code Section 18.01.070.A.8 allows for wetland buffer averaging on a case-by-case basis. Where the city allows modification of standard wetland buffer width, this modification may only be allowed where a qualified wetlands professional demonstrates that:

- a. It will not reduce wetland functions or values;
- b. The wetland contains variations in sensitivity due to existing physical characteristics, or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;
- c. The total area contained in the buffer area after averaging is equal to the area required without averaging; and
- d. The minimum width of the buffer at any given point is at least seventy-five percent of the standard width unless the applicant demonstrates an acceptable, reasonable use as described in CEMC Section 18.01.090. Total buffer area after averaging must equal the area required without averaging.

Specifically, the project will ensure that all the requirements outlined above are met through the following:

- a. The proposed buffer averaging plan will not reduce wetland functions or values. Vegetation in the proposed buffer addition area is similar in composition to the area that would be impacted by the reduction. The additional buffer provided as part of the proposed averaging plan would provide a similar level of hydrologic, water quality, and habitat functions as the vegetation community is similar in composition to the areas that would be impacted. In addition, the project proposes to provide a larger total buffer area after averaging, increasing the habitat protected as part of the conservation easement.
- b. The proposed buffer intrusion will occur primarily downslope of the wetlands. Thus, the reduced buffer would not adversely affect the water quality or hydrologic functions of the wetlands, as runoff would be naturally directed away. As noted above, the buffer addition areas proposed are comprised of a similar vegetation community with forested overstory and scrub-shrub understory that would continue to provide

protection and screening to the wetlands, as well as provide habitat for wildlife species.

- c. The total wetland buffer area after averaging would be greater than the area of the standard buffer. The project would encroach into approximately 31,591 square feet of wetland buffer and would provide approximately 38,047 square feet of additional buffer (see Buffer Averaging Plan, attached).
- d. The project proposes that the 110-foot-wide standard buffer will not be reduced to less than seventy-five percent of its standard buffer at any location. The minimum buffer width to be retained as part of the proposed wetland buffer averaging will be at least 82.5 feet (seventy-five percent of the standard buffer). As noted above, the total area of the wetland buffer after averaging will be greater than the area of buffer required without averaging.

The project proposes to employ wetland buffer averaging to accommodate a portion of the proposed development and new roadway alignment in the Bullfrog Flats Phase 4 P-4 project area. The project meets all the required elements for buffer averaging as outlined in the City of Cle Elum (2026) Critical Areas Code Section 18.01.070.A.8. We do not anticipate any negative impacts from the proposed wetland buffer averaging plan.

LIMITATIONS

We have prepared this report for the exclusive use of Bullfrog Flats LLC and their consultants. No other person or agency may rely upon the information, analysis, or conclusions contained herein without permission from Bullfrog Flats LLC.

The determination of ecological system classifications, functions, values, and boundaries is an inexact science, and different individuals and agencies may reach different conclusions. With regard to wetlands, the final determination of their boundaries for regulatory purposes is the responsibility of the various agencies that regulate development activities in wetlands. We cannot guarantee the outcome of such determinations. Therefore, the conclusions of this report should be reviewed by the appropriate regulatory agencies.

We warrant that the work performed conforms to standards generally accepted in our field and prepared substantially in accordance with then-current technical guidelines and criteria. The conclusions of this report represent the results of our analysis of the information provided by the project proponent and their consultants, together with information gathered in the course of the study. No other warranty, expressed or implied, is made.

Michelle Branley
Bullfrog Flats LLC
June 15, 2026
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Thank you for the opportunity to prepare this material for you. If you have any questions about this information, please call me at (206) 525-8122.

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- Cowardin, L., F. Golet, V. Carter, and E. LaRoe. 1992. Classification of wetlands and deepwater habitats of the United States. U.S.D.I. Fish and Wildlife Service Publ. FWS/OBS-79/31. 103 pp.
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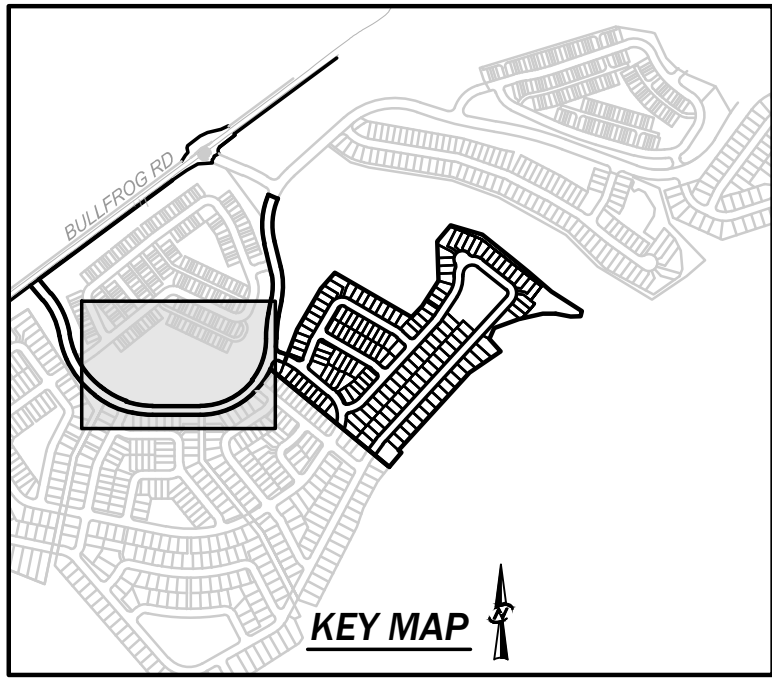
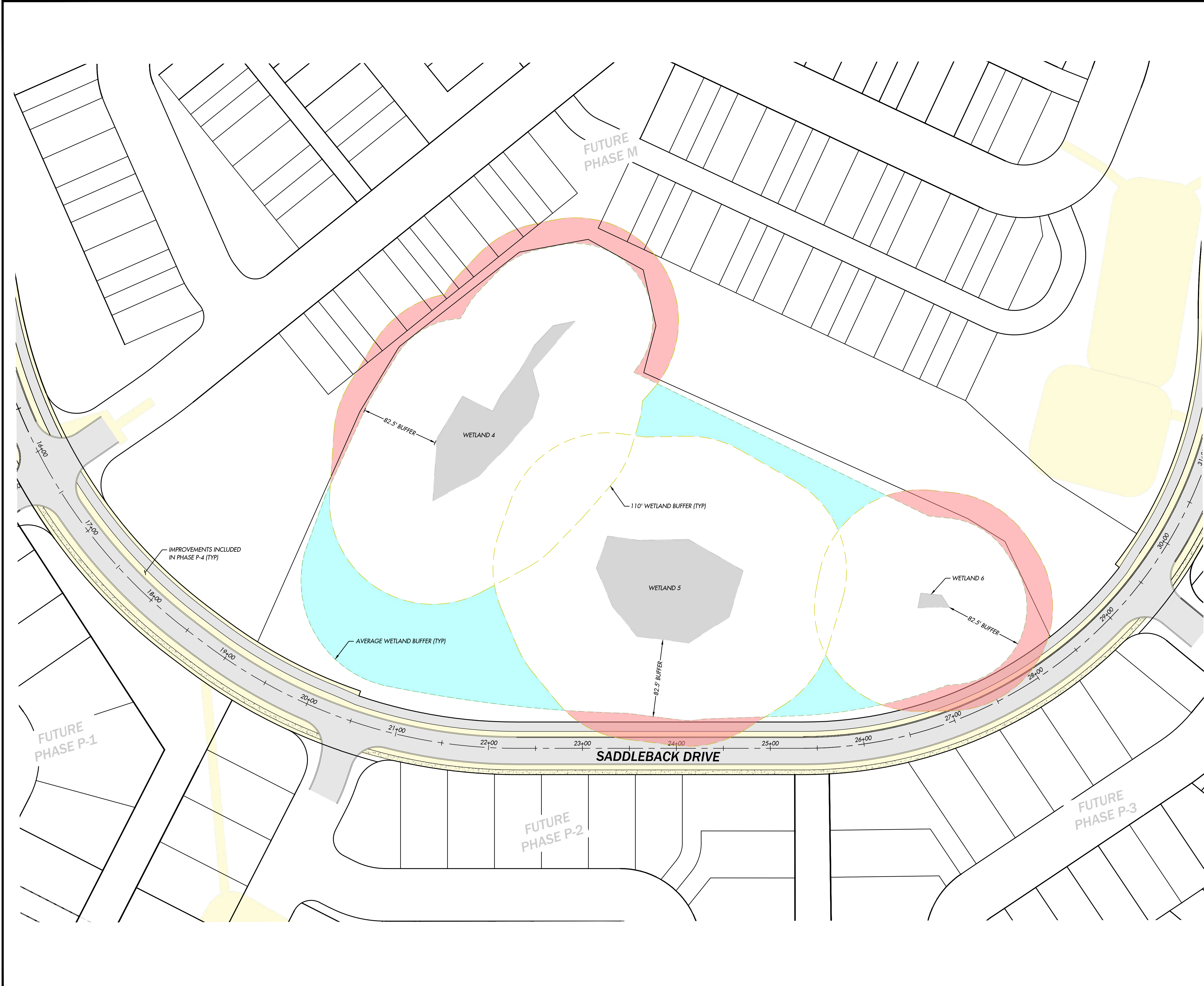
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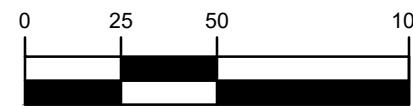
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ERDC/EL TR-10-3. U.S. Army Engineer Research and Development Center,
Vicksburg, MS.

6/15/2026 11:12 AM OCHAMBERS A 2026 26035 ENGINEERING PRELIMINARY SHEETS 26035 C1.41 DWG C1.41



SCALE: 1" = 50'



SITE LEGEND

- PROPERTY BOUNDARY
- RIGHT OF WAY
- LOT LINE
- WETLAND
- AVERAGE WETLAND BUFFER
- 110' WETLAND BUFFER
- BUFFER GIVE (38,047 SF)
- BUFFER TAKE (31,591 SF)

NOTES

WETLANDS DELINEATED BY RAEDEKE ASSOCIATES, APRIL 2020. WETLANDS 4, 5, AND 6 HAVE HABITAT SCORE 6, REQUIRING 110' BUFFERS PER CEMC TABLE 18.01-1. BUFFERS HAVE BEEN AVERAGED PER CEMC SECTION 18.01.07(C)(1)(i) AS FOLLOWS:

BUFFER AREA WITH 110' BUFFER: 237,356 SF
BUFFER AREA WITH AVERAGING: 243,812 SF
BUFFER EXCESS WITH AVERAGING: 6,456 SF

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BUFFER AVERAGING PLAN
BULLFROG FLATS - PHASE P-4

BULLFROG FLATS, LLC
18300 REDMOND WAY, SUITE 120
REDMOND, WA 98032

DATE		SEE STAMP DATE	
DESIGNED		QUENTIN CHAMBERS, PE	
DRAWN		KAYLIN MAYHEW	
APPROVED		HOLI HEAVRIN, PE	
		HOLI HEAVRIN, PE	
		PROJECT MANAGER	
DRAWING NUMBER			
C1.41			
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PROJECT NUMBER			
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2026/06/15