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AOA
Environmental
Planning &
Landscape
Architecture

February 20, 2023

AOA-6806

Jens Wegner
jdwegner@hotmail.com

SUBJECT: **Critical Areas Alteration Exception (PREA22-0029)**
Parcel 252406-9066, King County, WA

Dear Jens:

We have prepared this Critical Areas Study associated with your proposed single-family residence on the subject property (**Figures 1 through 10**). The property (398,547 s.f. in size) is undeveloped, mostly forested, and generally slopes down from north to south. Access to the property is from the east via an existing driveway off 277th Way SE. Since nearly the entire property is encumbered by landslide and steep slope hazard areas, the buffers of the existing wetlands and streams extend through the hazards, thereby encumbering the parcel to the extent that a Critical Area Alteration Exception (CAAE) is required to develop the residence.

1.0 EXISTING WETLANDS AND STREAMS

Two wetlands (Wetlands A and B) and three streams (two Type F and one Type O) are located on or adjacent to the property. The boundaries of the wetlands and streams were delineated and rated by The Watershed Company as part of an approved Critical Area Designation (CADS20-0240).

1.1 Wetland A and Wetland B

Wetlands A and B are located in the southeastern portion of the site and are both Category III wetlands with 110-foot standard buffers that extend to the top of the steep slope or landslide hazard area.

1.2 Aquatic Areas

The eastern driveway access on the site is crossed by two Type F aquatic areas with buffers of 165 feet. One Type O stream with a buffer of 25 feet crosses the northeast corner of the site and under the existing driveway. All stream buffers extend to the top of the landslide hazard area or steep slope buffer.

2.0 BUFFER IMPACTS

The proposed project consists of the development of the site with a single-family residence and associated workshop and ADU utilizing the CAAE process. The proposed single-family residence would be accessed via an existing driveway that enters the northeast corner of the site. The residence will be constructed in the northeast corner of the site and has been designed to avoid all direct impacts to wetlands and streams on the site. Buffer impacts have been minimized to the extent feasible and still maintain the desired goal of the project (house, shop, and small yard).

The total permanent buffer impact outside of septic drainfields is 16,363 s.f. and the total permanent buffer impact for the primary and reserve drainfields is 7,308 s.f. for a total buffer impact of 23,671 s.f. In addition, 3,327 s.f. of buffer will be temporarily impacted and restored as part of the project. Buffer areas impacted for the project consist primarily of historically disturbed partially open areas and mixed forest.

Since the impacted on-site buffer is located on a slope that does not currently receive stormwater discharges, the primary function of the impacted buffer is as a habitat component of the overall open space associated with the site and adjacent undeveloped areas.

3.0 WILDLIFE HABITAT ASSESSMENT

The Washington Department of Fish and Wildlife Priority Habitats and Species database (PHS) indicates that most of the property is part of a biodiversity corridor (**Attachment A**). In addition, the PHS database indicates the potential presence of listed federal or state endangered, threatened, sensitive, or candidate species in the vicinity of the site. All of the listings are on a Township wide basis and include: 1) Gray Wolf (*Canis lupus*), 2) Big brown Bat (*Eptesicus fuscus*), 3) Little Brown Bat (*Myotis lucifugus*), 4) Townsend's Big-eared Bat (*Corynorhinus townsendii*), and 5) Yuma Myotis (*Myotis yumanensis*).

No site specific locations for any of the listed species are known to occur on the property. In addition, no active breeding sites for species listed in KCC 21A.24.382.B through J were observed during an August 22, 2022 field investigation.

Townsend's Big-eared Bats are listed in KCC 21A.24.382.B.I and require a buffer from any known hibernacula or roosting site.

I. *For a Townsend's big-eared bat*:

1. Between June 1 and October 1, the wildlife habitat conservation area is an area with a four-hundred-fifty-foot radius from the entrance to a cave or mine, located outside of the urban area, with an active nursery colony

2. Between November 1 and March 31, the wildlife habitat conservation area is an area with a four-hundred-fifty-foot radius around the entrance to a cave or mine located outside the urban growth area serving as a winter hibernacula;

3. Between March 1 and November 30, a building, bridge, tunnel, or other structure used solely for day or night roosting may not be altered or destroyed;

4. Between May 1 and September 15, the entrance into a cave or mine that is protected because of bat presence is protected from human entry; and

5. A gate across the entrance to a cave or mine that is protected because of bat presence must be designed to allow bats to enter and exit the cave or mine

Since there are no caves, mines, or structures known to contain breeding or roosting sites, there should be no specific buffer requirements for this species or any of the other listed species. For all of the listed bat species the management recommendations should center on preserving as many large trees and snags as possible.

To maintain potential utilization of the site by bats, all existing significant trees located outside of the currently proposed clearing limits should be retained. Although I do not believe it necessary to create snags from any of the existing live healthy trees on the property, if any other trees on the site are deemed hazardous and must be removed for safety concerns, then it is my recommendation that a snag be created from that tree at the tallest appropriate point. Furthermore, any trees within the preserved portions of the site that naturally become snags should remain in place and not be removed unless they become a safety concern.

3.1 Wildlife Habitat Recommendations for Lighting

To minimize the project's potential to impact wildlife (including bats) from light and glare the following measures should be implemented:

- Exterior lighting on the back of the residence should be on a timer that automatically shuts off within 15 minutes after use.
- Only low-wattage directional lighting with narrow angles of illumination for lighting should be utilized.
- Metal hoods should be added to all exterior lights to direct lighting down and not out from fixtures.

4.0 CRITICAL AREA ALTERATION EXCEPTION APPROVAL CRITERIA

Any approval of a CAAE must meet the criteria of KCC 21A.24.070.A.3:

a. *there is no feasible alternative to the development proposal with less adverse impact on the critical area*;

The proposed residence has been designed to minimize impacts to the extent feasible by keeping the house in the northeast portion of the site as far from the wetlands as possible and to utilize the existing driveway access.

The project also includes the construction of an associated workshop/garage. The orientation and location of the garage was designed specifically to allow optimal solar access. The sloped roof must face south for maximum efficiency and will contain approximately 1,000 sq. ft. of solar panels.

It is my understanding that any other location or orientation of the garage will considerably diminish the solar efficiency. Furthermore, the shop roof is situated to have no trees or other light blockages in front of the building. In addition, the garage is within a few feet of the power transformer. It is also my understanding that the closer the panels are to the transformer, the more efficient the power will be and less costly the system is to install and operate. The alternative to placing solar panels on the south facing garage roof would be to place them on the ground facing south, thus negating any impervious surface removal gained by moving the garage and further reducing solar efficiency.

In addition to the solar requirements, the proposed garage cannot be located closer to the proposed residence due to vehicle access requirements. As part of your business needs larger trucks, as well as emergency vehicles, must have room to safely enter and exit the property. The turnaround area for these vehicles has been reduced from previous versions and is currently the smallest feasible to accommodate the goal of the project and to allow safe entry and exit.

Finally. a preliminary location of the garage/shop was depicted in front of the kitchen window of the associated ADU for your mother. Since the structure would have been 14 to 15 feet tall and only 15 feet away from the kitchen, it would have blocked light, ventilation, and view from windows in the only living space for the entire structure facing in that direction. The location of the workshop/garage was therefore shifted north as currently proposed for this reason and the reasons outlined above.

b. *the alteration is the minimum necessary to accommodate the development proposal;*

The residence and shop will contain a relatively small yard area compared to the overall size of the site to minimize buffer impacts. In addition, the total site alteration area (outside of the primary and reserved drainfield) is only 4.1% and is well below the maximum 10% site alteration area threshold.

c. *the approval does not require the modification of a critical area development standard established by this chapter, except as set forth in subsection A.2.i. of this section*;

No critical area development standards will be modified by the proposal.

> d. *the development proposal does not pose an unreasonable threat to the public health, safety or welfare on or off the development proposal site and is consistent with the general purposes of this chapter and the public interest;*

The proposed single-family residence is consistent with adjacent land uses and does not pose a threat to public health, safety, or welfare on or off the development site.

> e. *for dwelling units, no more than five thousand square feet or ten percent of the site, whichever is greater, may be disturbed by structures, building setbacks or other land alteration, including grading, utility installations and landscaping, but not including the area used for a driveway or for an on-site sewage disposal system*;

The parcel is 398,547 s.f. in size and 10% of the parcel is 39,857 s.f. The site alteration area outside of the drainfields is 16,363 s.f. in size and the proposal is well below the threshold requirement.

> f. *to the maximum extent practical, access is located to have the least adverse impact on the critical area and critical area buffer;*

Access to the residence will be from the existing driveway and has been designed to minimize impacts to the extent feasible.

> g. *the critical area is not used as a salmonid spawning area;*

The impacted critical area buffer is not used as a salmonid spawning area.

5.0 BUFFER MITIGATION

Mitigation for the buffer impacts on the site will occur through the enhancement of existing degraded buffer areas on the property. Enhancement will consist of removal of invasive species and the planting of a variety of native trees and shrubs to increase the plant species and structural diversity of the buffer areas.

These plantings should increase the habitat quality of the site over current conditions. In addition, the proposed plantings would also provide an increased physical and visual screen to the wetlands from the proposed residence.

5.1 Goal, Objectives, and Performance Standards for Enhancement Area

The primary goal of the enhancement plan is to increase the habitat functions of the buffer. To meet this goal, the following objectives and performance standards will be incorporated into the design of the plan:

Objective A: Increase the structural and plant species diversity within the enhancement areas.
Performance Standard: There will be 100% survival of all woody planted species throughout the enhancement areas at the end of the first year of planting. Following Year 1, success will be based on an 80% survival rate or areal cover of planted or recolonized native species of 15% after Year 1, 20% after Year 2, and 30% after Year 3.

Objective B: Limit the amount of invasive and exotic species within the enhancement areas.
Performance Standard: After construction and following every monitoring event for a period of at least three years, exotic and invasive plant species will be maintained at levels below 10% total cover in all planted areas.

5.2 Construction Management

Prior to commencement of any work in the enhancement area, all existing vegetation to be saved will be clearly marked. A pre-construction meeting will be held at the site to review and discuss all aspects of the project with the landscape contractor, consultant, and/or owner.

Any necessary significant modifications to the design that occur as a result of unforeseen site conditions will be jointly approved by King County and the consultant prior to their implementation.

5.3 Monitoring Methodology

The monitoring program will be conducted for a period of three years, with annual reports submitted to King County. Vegetation will be recorded on the basis of relative percent cover of the dominant species within the vegetative strata.

Photo-points will be established from which photographs will be taken throughout the monitoring period. These photographs will document general appearance and progress in plant community establishment in the enhancement area. Review of the photos over time will provide a visual representation of success of the plan.

5.4 Contingency Plan

All dead plants will be replaced with the same species or an approved substitute species that meets the goal of the enhancement plan. Plant material shall meet the same specifications as originally installed material. Replanting will not occur until after reason for failure has been identified (e.g., moisture regime, poor plant stock, disease, shade/sun conditions, wildlife damage, etc.). Replanting shall be completed under the direction of the consultant, King County, or the owner.

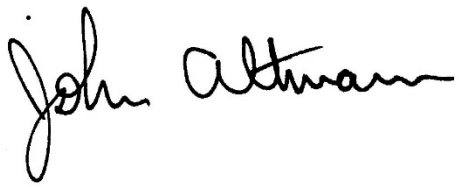
5.5 As-built Plan

Following completion of construction activities, an as-built plan for the enhancement area will be provided to King County. The plan will identify and describe any changes in relation to the original approved plan.

If you have any questions regarding the buffer impacts or proposed enhancement plan, please give me a call.

Sincerely,

ALTMANN OLIVER ASSOCIATES, LLC

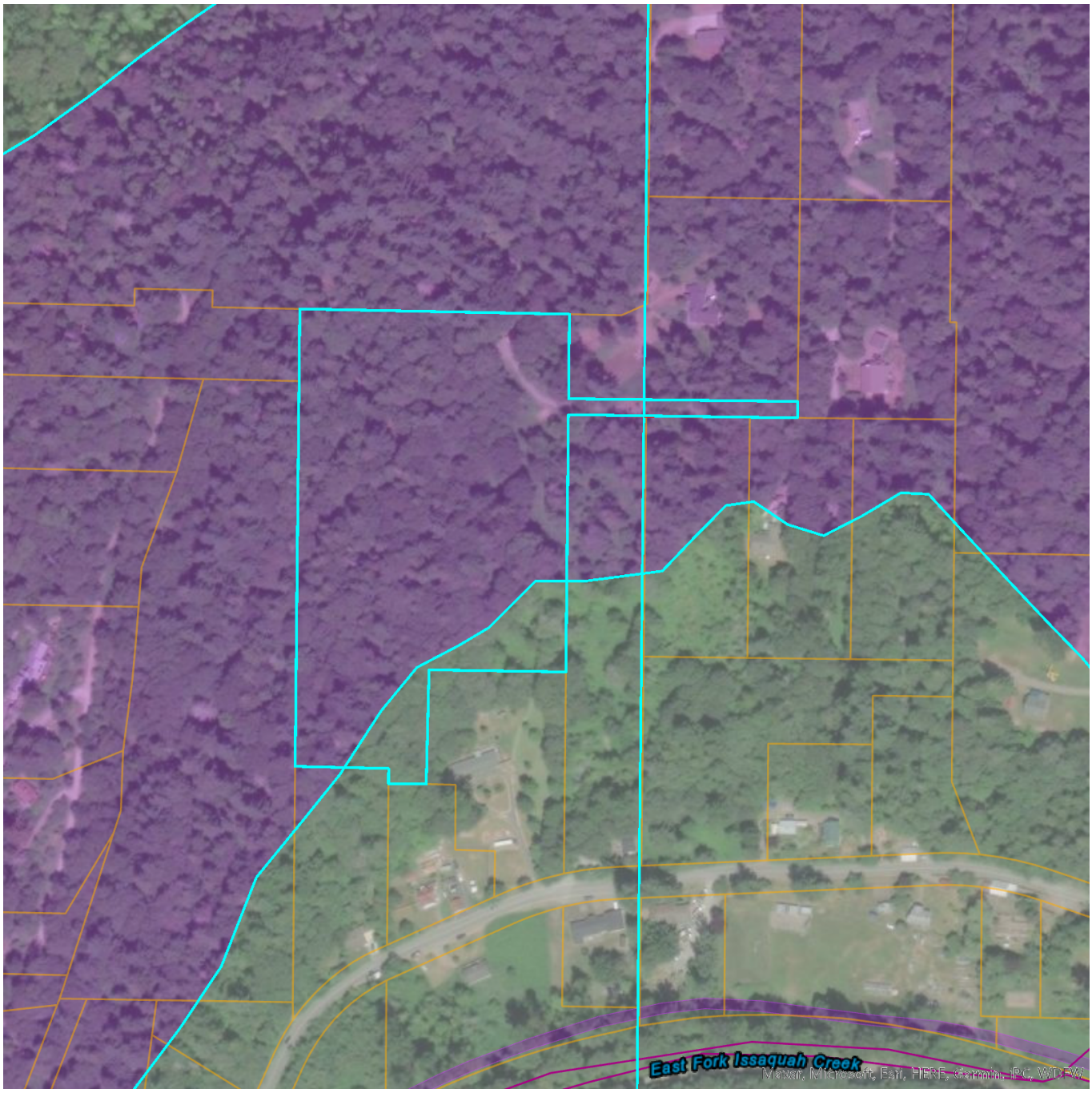


John Altmann
Ecologist

Attachment

Attachment A

Priority Habitats and Species on the Web



Report Date: 12/22/2022, Parcel ID: 2524069066

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Biodiversity Areas And Corridor	N/A	N/A	No
Gray wolf	Endangered	Endangered	Yes
Big brown bat	Endangered	Endangered	Yes
Little Brown Bat	Endangered	Endangered	Yes
Townsend's Big-eared Bat	Endangered	Candidate	Yes
Yuma myotis	Endangered	Candidate	Yes

PHS Species/Habitats Details:

Biodiversity Areas And Corridor	
Priority Area	Terrestrial Habitat
Site Name	KING COUNTY (EASTSIDE) OPEN SPACES
Accuracy	1/4 mile (Quarter Section)
Notes	STEEP AND FORESTED AREAS IN THE BEAR, EVANS CREEK AREA; EAST LAKE SAMMAMISH ANDWEST OF SNOQUALMIE RIVER. SOUTH TO I-90.
Source Record	902805
Source Dataset	PHSREGION
Source Name	MULLER, TED
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00023
Geometry Type	Polygons

Gray wolf	
Scientific Name	*Canis lupus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	Endangered
State Status	Endangered
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	Y
Display Resolution	TOWNSHIP

Big brown bat	
Scientific Name	*Eptesicus fuscus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Little Brown Bat	
Scientific Name	*Myotis lucifugus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Townsend's Big-eared Bat	
Scientific Name	*Corynorhinus townsendii*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
State Status	Candidate
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00027

Yuma myotis	
Scientific Name	*Myotis yumanensis*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

surveys have not been conducted. Site specific surveys are frequently necesssary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.