Habitat Assessment Study

Hicks Homesite

Parcel 0519341042

18107 213th Avenue East
Pierce County, Washington

Prepared for:

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SUMMARY

Beaver Creek Environmental Services, Inc. (BCES) has completed an onsite assessment and habitat evaluation of the proposed Hicks homesite project (located at 18107 213th Avenue East, Parcel # 0519341042, in Pierce County, Washington (Appendix A - Vicinity Map). The parcel is currently vacant land and is approximately 10.18 acres. The Hicks homesite project proposes construction of a single-family house, interior utilities, and access.

Onsite assessment followed the established criteria and methods for determining wildlife habitat, specifically habitat for Rocky Mountain elk (C*ervus elaphus nelsoni*).

The site assessment included a meander survey to locate signs of use, questioning of adjacent landowners, and query of Washington Department of Fish and Wildlife (WDFW) site-specific and regional information.

This document has been prepared in accordance with the requirements of Pierce County Code 18E.40.070 Habitat Assessment Reports for habitat verification and can been used for other permitting agencies, if required.

INTRODUCTION

This report details the culmination of activities and onsite evaluations undertaken to complete an onsite assessment and evaluation of wildlife habitat as an element of the planning and site development of the **Hicks Homesite** project. The Hicks Homesite project site is located generally east of Orting, in Pierce County, Washington (Appendix A - Vicinity Map). The project site is vacant of structures and has been unmaintained.

The evaluation of wildlife habitat and use is a vital element in the planning and selection of a site development action. The goal of this approach is to assure that planned site development does not result in adverse environmental impacts to wildlife habitats.

> *"Fish and wildlife habitat conservation areas are those areas that support regulated fish and wildlife species, typically identified either by known point locations of specific species (such as a nest or den) or by habitat areas or both."*
> (Pierce County Title 18E).

Study Purpose

The purpose of this document is to present the results of an onsite assessment and evaluation of wildlife habitat areas within the Hicks project site, following standard methods and procedures.

This study was designed to accommodate site planning and potential regulatory actions, and is suitable for submittal to federal, state, and local authorities.

Project Site Description

The overall project area is one parcel 10.18 acres, located in Pierce County, Washington. The site is zoned R10. The project site is generally irregular in shape and has undergone prior land use manipulation, particularly timber harvest. The project area is bisected by 213th Avenue Court East and the sidewall of the Carbon River riparian area is the west boundary of the parcel. West of the site is small-lot single-family houses, with large parcels north, east, and south. This habitat assessment focuses on an investigation of the site for elk habitat and how the development can best accommodate elk usage.

The project proposes construction of a single-family house in the central portion, interior utilities and interior access. Drainage from the homesite will be addressed at time of individual building permit submittal.

Construction will commence upon issuance of land use and site development approval and will be completed in one phase.

Legal Description:

Section 34 Township 19 Range 05 Quarter 14 : L 3 LL #3165 EASE OF RECORD OUT OF 1-021 SEG M-3063 LP EMS

Directions to Project Site: From I-5 southbound, merge onto WA-512 East toward Puyallup. WA 512 confluences with WA 167 north. Follow 167 North to WA 410 East. Turn south on WA 162, toward Orting. Through Orting to Patterson Rd. E. Turn south on Patterson Rd. to 213th Ave. Court East, left to parcel.

BACKGROUND INFORMATION

State of Washington Priority Habitats and Species

The State of Washington Priority Habitats and Species (PHS) Mapping was reviewed as a part of this assessment (attached). This mapping resource identified the general area as “White River elk range; ... Regular concentration”. The White River corridor, offsite to the north, was identified as providing “Crucial winter Habitat.”

State of Washington Gap Analysis Project

The WDFW habitat database was reviewed as part of this assessment. This mapping resource identified that the project site as within the current range of elk. This elk population is identified as the “White River Unit-North Rainier Elk Herd” for management planning.

State of Washington Current Habitat Assessment

The WDFW habitat database was reviewed as part of this assessment. This mapping resource identified that the project area is within the habitat type “West side lowlands conifer hardwoods forest (Appendix B – State of Washington Priority Habitats and Species (PHS) Mapping).

Soils

The soil mapping inventory completed by the Natural Resource Conservation Service was reviewed as part of this assessment. This mapping identified the soils generally throughout the project site as Barneston gravelly coarse sandy loam, 15 to 30 percent slopes.

SITE ANALYSIS

Evaluation Methodologies

Onsite assessment was completed during the period of January 1 – 6, 2019. This assessment covered the entire project site and followed general methodologies and procedures for the definition of wildlife habitat. The entire site was transected at 50-foot intervals, with observations constantly being made on signs of utilization (hoof prints, trails, rubs, browse signs, scat).

Criteria for Elk Habitat Identification

The basic habitat needs of elk are food, cover, water, and security (from *Managing Small Woodlands for Elk*).

Food:

An elk's digestive system is adapted to efficiently use many forage species. Elk food habits vary by season and are strongly influenced by availability of forage species. Grasses or shrubs are the principal winter forage in most areas. During the spring, elk prefer grasses, sedges, and early forbs; forbs and leaves of shrubs become increasingly important as summer progresses. As forage species dry out during the fall, grasses and browse again become important. Elk diets overlap with other wild and domestic animals but, in most areas, competition for food is minor, except under severe overgrazing or drought conditions.

Cover:

Vegetative cover allows elk to hide from predators and to seek shelter from extreme heat and cold. These two components of cover are classified as hiding and thermal cover. Hiding cover is used by elk year-round, but is especially important during hunting season and the first few months of a calf's life. If a site lacks hiding cover, continual occupation will be precluded. Elk normally use hiding cover during resting periods throughout the day, and cover is considered adequate when vegetation will hide 90 percent of a standing elk at a distance of 200 feet or less. This type of cover can be found in a number of stand conditions and successional stages ranging from shrub habitats to densely stocked pole size timber or multi-layered mature forest stands. Because elk live in groups, blocks of hiding cover should be at least 600 feet wide to be effective. Elk use thermal cover for protection from summer heat and winter cold. Some thermal protection is provided by any vegetation tall enough to cast a shadow, or by topography. However, elk show a preference for forest stands, when available, that have trees at least 40 feet tall with a canopy closure of 70 percent or more. Habitats designed to provide thermal protection should be at least 1,200 feet wide in order to protect a group of elk. Many habitats provide both thermal and hiding cover at the same time.

Elk use forest stands with less than 40 percent canopy closure and all other open habitats as foraging areas. Because elk prefer to forage in areas near cover, for best results, these open areas should not be over 1,200 feet wide.

Optimal habitat consists of approximately one-half hiding and one-half thermal cover.

Security:

Elk will use a wide variety of habitats but, because they are easily disturbed by human activities, they require security areas. Vehicle traffic is the most common source of disturbance, especially on lands where hunting takes place. Elk use will decline markedly as open road density (miles of road per square mile of habitat) increases. Open road densities greater than 2 miles per square mile will significantly reduce elk use. Road closure or traffic restriction is one of the most effective ways to provide security for elk.

Exceptional Habitats:

Certain sites warrant special protection when you are managing for elk; these include calving areas, winter range, and riparian zones. Some elk herds have traditional calving areas where cows come each year to give birth. These sites are usually close to water and have gentle topography with a mixture of habitat types providing good hiding cover and high quality forage. Winter ranges are areas where elk congregate during the winter in order to minimize energy expenditure. These are usually lower elevation sites with grass or shrub forage areas intermixed with thermal cover. Proper management of these areas includes a good mixture of forage and cover areas and reduction of disturbance by people.

Riparian areas are intensely used by elk and many other species of wildlife throughout the year because of the mixture of habitat components these areas provide.

Field Observations

The site is vacant of development. The site is has been unmaintained, and an open stand of red alder has initiated, with the stand approximately 20 years old.

Resident Observations:

Adjacent residents report occasional utilization of portions of the site by groups of up to five elk. Use is reported to be somewhat seasonal, with most reported observations in the spring.

Site Suitability for Elk

The site contains early stage deciduous forest.

No signs of elk utilization were observed anywhere on the site. No positive or negative indication of calf usage was observed. The early stage forest evidenced one antler rub which was 5 years old.

Food:

No area has evidence of congregation or browsing.

Cover:

The interspersion of forest and shrub canopies with the site express the density preferred for hiding or thermal cover.

Security:

Plant canopy interspersion was significant, which indicates a probability of preferential usage of the site by elk. There is more intense development to the adjacent west boundary, with activity and many dogs at the west boundary, undercutting the security habitat in the area. Based on signs of utilization and observation reports, it appears that elk use is low and sporadic.

FINDINGS AND CONCLUSIONS

Elk Habitat

No area of the parcel expresses indications of regular utilization by elk, which is confirmed by resident observations. No indications were observed of preferential utilization of the project site in this area for transit, feeding, security, and cover habitat. No indications were observed of preferential utilization of the project site for calving habitat.

Selected Development Action

The selected development action for the parcel focuses on the development of a single-family house and associated utilities.

Mitigation and Monitoring recommendations

The project proposes the following mitigation which will adequately address the proposed development and potential impacts to elk habit:

- Retain a travel corridor west of 213th Ave Court E along the river sidewall.
- If any trees are required for the development by Pierce County code, focus such planting within the native vegetation open space to provide additional cover within the elk habitat area.

Conclusion

Site development planning has been conducted with the goal of providing for residential development, while preserving utilization by elk. The proposed developable area of the parcel is located outside of the identified critical habitat.

Standard of Care

This document has been completed by BCES for the proposed Hicks development. Prior to extensive site planning, the defined critical habitats and proposed protective buffers should be reviewed and verified by permitting agencies. BCES has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. BCES is not responsible for design costs incurred before this document is approved by the appropriate agency.

Appendix A – Vicinity Map

Appendix B – State of Washington Priority Habitats and Species (PHS) Mapping

Appendix C – Proposed Site Plan