Washington Forest Stewardship Plan

I. Cover Page

Landowner Information

Name: Camano Hills Homeowners Association
Address: P. O. Box 727, Stanwood, WA 98292
Phone: (360) 387-0777 – Phil Karlberg, Plan Preparer
Email: board@camanohilshoa.com

Property Information:

Common Area Acreage of Division One and Division Two Combined: 153 Acres
County: Island
Legal Description: LOTS 1-64 AND TRACTS A, B, C, D, E, F, AND G, CAMANO HILLS P.R.D. DIVISION NO. 1/ VOLUME 1 OF P.R.D.'s, PAGES 19-26, AUDITORS FILE NO. 92006445, RECORDS OF ISLAND COUNTY, WASHINGTON; AND A PORTION OF SECTION 1, T. 31 N., R. 2 E., W.M. AND A PORTION OF SECTION 6, T. 31 N., R. 3 E. OF THE W.M. ISLAND COUNTY, WASHINGTON

LOTS 1-15 AND TRACT A, CAMANO HILLS P.R.D. DIVISION NO. 2, VOLUME 1 OF P.R.D.'S PAGES 32-35, AUDITORS FILE NO. 93000722, RECORD OF ISLAND COUNTY, WASHINGTON; AND A PORTION OF SECTION 1, T. 31 N., R. 2 E., W.M. ISLAND COUNTY WASHINGTON

Parcel Numbers: R33106-294-0160, R23101-330-2000, R23101-461-1990, R23101-330-4610, R23101-330-3290, R23101-461-4580, R23101-461-3270
Location Description: One half mile south up East Camano Hill Road, turn right onto Glacier Peak Drive.

Plan Preparer

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Plan Preparation Date: April 2024

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II. Landowner Objectives

- Open, safe roads and trails
- An ecologically diverse forest for the collective enjoyment of Camano Hills' homeowners
- Appropriate fire risk reduction measures for protection of forests and residences
- Views of Port Susan, Mt. Baker, Cascade Mountains, and Mt. Rainier, and access to solar light
- Objective management of Camano Hills Homeowners Association's forest-related resources
- Enhanced communication between forest owners within Camano Hills Homeowners Association

III. General Property Description and Overview

Camano Hills Homeowners Association (CHHA) was granted 234 acres of property in December 1992 following the signing of a Planned Residential Development agreement between Jeff and Laurel Holbeck and the estate of Ingeborg Eide. Named Camano Hills, the property includes 81 acres of cleared land divided into 79 building lots and dedicates 153 acres for community common areas. Situated one-half mile south on Camano Hill Road, accessed by Glacier Peak Drive, it is a gated, private two-mile road system serving the residential development in Section 6, T, 31 N, R, 3 E, N W in Island County, Washington. (Island County PRD record for CHHA, 1991)

To the south of the property are residential home sites and acreages. To the north is DNR forest, which is dedicated to hiking, biking, and horseback riding. The CHHA property has steeply sloping hillsides on the east with slopes up to 40 percent. A plateau exists at the top of the property. A 6-acre forested wetland with 100' encroachment restrictions is located on the plateau. Forested wetlands No. 1 (.43 acres), No. 2 (1.05 acres), and No. 3 (.67 acres) are located in Division 1. Forested wetlands No. 4 (1.28 acres), No. 5 (1.95 acres), and No. 6 (1.29 acres), are located in Division 2. Home sites and acreages border the property to the west.

The property measures 4,000' east to west and 2,560' north to south, with an elevation ranging from 200' to 510' ASL at the south border. The average slope of 30 percent provides panoramic views of Port Susan, Mt. Baker, the Cascade Mountains, and Mt. Rainier from the east side.

The property was logged and clearcut, most recently, sometime between December 1985 and July 1990. With no sustainable reforestation efforts, it is now predominantly populated on

Stand 2 by red alder (65%) that are estimated to be 35 to 40 years old. The remaining 35% trees consist of Douglas fir, western hemlock, bigleaf maple, and western redcedar. The forest floor is covered by ferns, salmonberry, blackberry, Oregon grape, salal, thimbleberry, and elderberry.

Non-residential tracts in Camano Hills in Division 1 are divided into 7 tracts. Tracts A (33.88 acres), D (38.90 acres), E (10.80 acres), and F (.28 acres), serve as community open space for passive recreation. Tract B (12 acres) is designated as a recreational area, while Tract G (1.05 acres) serves as a well site supplying water to the community. Tract C (1.0 acre), serves as a Recreational Vehicle storage lot. Camano Hills features an outdoor community pavilion with a field stone fire place, a large covered roof, and picnic benches adjacent to a grassy playfield. A one-mile fitness trail with 8 exercise stations winds through the central and southern portions of the forested property. The non-residential tract in Division 2 is Tract A (56.42 acres). Division 1, Tracts A, B, D, and E, are stocked with mixed trees with red alder and bigleaf maple being the dominant species. Division 2, Tract A, is primarily overstocked with red alder, where Douglas fir, some bigleaf maple, and some western redcedar are beginning to dominate the overstory.

Camano Island weather is temperate. Average summer temperatures range from the mid-50s to mid-70s. Winters typically see averages in the mid-30s to the low 40s Fahrenheit. July tends to be the warmest month on Camano Island, with average maximum temperatures ranging from the mid-70s to mid-80s. The coldest month of the year is typically December, with average temperatures in the mid-30s to low 40s Fahrenheit. During the summer on Camano Island, the temperature variation between night and day is usually moderate, ranging from 10 to 20 degrees Fahrenheit. In winter, the temperature difference between night and day tends to be less pronounced, with variations generally within a smaller range, often around 5 to 15 degrees. Camano Island experiences a relatively consistent distribution of rainfall throughout the year. The average annual precipitation is around 30 inches. The wettest months typically occur during late fall and winter, with December being the wettest month, averaging 5 to 6 inches of rainfall.

Forest Stands on the Property

Division 1, Stand 1

Stand 1 combines the acreages of Tracts A and E, in Division 1, for a total of 46 acres. This forest is growing upon a steep hillside in front of view residential property. The stand is predominantly bigleaf maple and red alder. Douglas fir, and western hemlock are also found in Stand 1. Glacier Peak Drive divides the stand with approximately 35 acres on the east side and 10 acres on the west side of the road.

Stand 1 has been subject to selective cutting by Camano Hills residents in order to maintain view corridors. Increased sunlight appears to have encouraged conifer growth. The forest understory has, ferns, salmonberry, blackberry, Oregon grape, salal, thimbleberry, and elderberry. Logs, slash, and snags, suitable for wildlife conservation, are present in the

understory where trees have been cut for view preservation. Stand 1 was also selectively cut in the summer of 2023 to mitigate tree-falling hazards along lower Glacier Peak Drive.

Division 2, Stand 2

Stand 2 is predominantly located on the plateau of the Camano Hills Planned Residential Development PRD in Division 2. This stand consists of 56 acres and includes designated forested wetlands that lie both in Division 1 and Division 2.

Stand 2 is overstocked with pole and saw-timber red alder mixed with Douglas fir, western hemlock, and some bigleaf maple. Average tree height is 60'. Stand 2 features the fitness trail and an emergency access road approximately one-half mile long. Many red alder trees are leaning dangerously over the trail. Some red alder trees have fallen and are supported by other trees. The CHHA Chainsaw Team spends hours each season clearing and cutting trees blocking the trail. CHHA has contracted to have shaded fire breaks created along the trail and emergency access road extending at least 30' on both sides of the trail and road. CHAA expects that the work on the shaded fire breaks will be completed by June 2024. Trees diameter at breast height (DBH) 8" and less will be thinned; other trees will be limbed up 10', with slash and logs piled and left for wildlife habitat or in some cases chipped along the trail.

The understory in Stand 2 consists of ferns, salmonberry, blackberries, English holly, Oregon grape, salal, fringe cup, and elderberry. Several sections of Stand 2 have 8" to 12" trees uprooted and blown down by windthrow. The central, wet portions of Stand 2 are not easily accessible. Conifers in Stand 2 are beginning to dominate the overstory.

IV. Resource Categories

Resource Category 1: Forest Health/Wildfire/Invasive Species

A. Current resource conditions, issues, needs, opportunities:

General Forest Health: Overview Stand 1

Stand 1 is in generally good health. The predominant trees are red alder and bigleaf maple and Douglas fir. These trees are growing on a 10-40% slope that appears to be stable. The understory consists of sword fern, blackberry, salmonberry, Oregon grape, snowberry, nettles, sticky willie, fringe cup, English holly, and ivy. The forest floor is covered with a thick mat of deciduous leaves. Some large stumps are visible along with a few snags with hollowed-out stems.

General Forest Health: Overview Stand 2

Most areas of stand 2 are overstocked with 35- to 40-year-old red alder trees. The stand is located on a moderately wet plateau at the top of the development. For planning and management purposes this area of the forest is considered as 6 acres of forested wetlands, and a 50' border stretching ½ mile along Jim Creek Road, and the 1-mile trail and emergency access road. The forest in Stand 2 is in the second stage of forest development, stem exclusion, where trees are competing for water, nutrients, and light. The result of this competition is small diameter trees susceptible to windthrow.

Insects and Diseases

Both Stand 1 and Stand 2 do not appear to be affected by problem insects or any observable diseases. No conks were observed on any of the trees in Stand 1 or Stand 2. In January 2024, members of the Tree Maintenance Committee observed several trees that had blown over in Stand 2. The tree root plates of these trees showed no evidence of root rot.

Fire

Both Stand 1 and Stand 2 show no recent evidence of fire damage. There are numerous 20th-century stumps that are charred. The most probable cause of wildfire would be lightning strikes or outdoor burning that escapes control. There is a somewhat lower probability of wildfire igniting and spreading in Stand 2 because of the moisture in the soil. Fire protection is provided by Station 2 North Camano Fire and Rescue located approximately 5 miles from the development. There are two gated entries to Camano Hills for fire control: the main coded-gate off of Camano Hills Road, and the keyed-gate on the west border of the property off of Cottonwood Road. Fire protection personnel have both the code for the front gate and the key for the back gate. There is a system of fire hydrants, with standing water pressure, near residences throughout the development.

Animal Damage Potential

No evidence of animal damage has been found in either Stand 1 or Stand 2.

Invasive species

Stand 1 has a stump and two trees with English Ivy beginning to take hold and grow up the stems of the trees. A 12' tall English holly tree is growing unchecked in the forest down by the gate. Blackberries grow on the east side of Glacier Peak Drive in a long, tangled, continuous row, off the shoulder of the road.

In Stand 2, a hands-off policy will continue, leaving the forested wetlands entirely unmanaged and left to develop in an open and natural manner. Along Jim Creek Road, pole alders are leaning into the road. A large English holly tree is growing on the south side of the road. Patches of Himalayan blackberries are growing on both the north and south sides of Jim Creek Road and along the emergency access road.

B. Management practices to protect, enhance, or restore these resources

The Tree Maintenance Committee will work cooperatively with CHHA maintenance personnel in order to eradicate the invasive species of plants in Stand 1. The ivy will be cut and pulled off of the stump and tree stems. Treatment of English holly and blackberries along Glacier Peak Drive will be undertaken to prevent regrowth.

In Stand 2, the forested wetlands will be open, natural, undisturbed, and not managed in any way.

The English holly tree on the south side of Jim Creek Road will be cut down and removed. Its stump will be treated to prevent regrowth. The volunteer grasses and weeds that grow along the shoulder of Jim Creek Road will be mowed. The pole alders that overhang the road will be cut and removed. Himalayan blackberry is widespread and will require time and persistence to eradicate. Immediate action will be taken to eliminate this invasive vegetation and action will be taken to prevent its regrowth

The Camano Hills Homeowners Association will create a 30'- to 50'-wide shaded fire break on both sides of the walking trail and the emergency access road. This work will entail forestry practices that were determined and recommended by forestry officials at DNR. The contract for the shaded fire break will be completed in June 2024. Work on the shaded fire break along the trail and emergency access road is presently, and will continue to be, a priority for CHHA's forest protection and enhancement objectives.

The Forestry Stewardship Plan will be provided to the Board and to the homeowners. The Tree Maintenance Committee will work to enhance community tolerance and adaption to an open, natural forest, as aligned with the Covenants, Conditions, and Restrictions (CC&Rs) of the Homeowners Association.

Resource Category 2: Soils

A. Soil types, parent materials, horizons, site index, slope stability, erosion, compaction, structure, operability, seedling mortality potential, windthrow hazard, restrictive layer, water table, use restrictions, etc.

Stand 1 occupies 46 acres. It increases in elevation from 200 feet to 480 feet above sea level. Stand 1 soil is classified as Everett-Alderwood complex, 15 to 40 percent slopes. Everett soil parent material is glacial outwash and Alderwood parent material is glacial drift over dense glaciomarine deposits. (See Property Maps: Custom Soil Map Unit Symbol 3019)

Everett-Alderwood is a complex of 50 percent Everett and similar soils, 40 percent Alderwood and similar soils, and 10 percent Morancreek, cool. Everett and Alderwood are both well drained. Everett is considered to be "somewhat excessively drained", while Morancreek, cool is not considered hydric. Typical horizons for Everett and Alderwood are slightly decomposed plant material, sandy loam, gravelly sandy loam, and very gravelly coarse sand, descending in the listed order. The depth to restrictive features for Everett is significant at greater than 80", while the depth to restrictive features for Alderwood is 20-39". The water table is found at more than 80".

A small section of the property is made up of Everett sandy loam with 15-40% slopes. Like the earlier complex with Everett soil, it is somewhat excessively drained. It is coarse, going to extremely gravelly coarse sand. It is very deep, with a restrictive feature at greater than 80". (Soil Map Unit Symbol 3018)

The NCRS classifies the erosion hazard of Everett-Alderwood complex, 15 to 40 percent, as moderate. The soil report, which was developed in February 1990 for approval of the PRD, noted that field investigations yielded little evidence of erosion, either from sheet flows or within existing drainage structures. Field observation found no significant evidence of erosion or sluffing in the area.

The NRCS Soil Survey indicates that species appropriate to Everett-Alderwood complex are: red alder, western redcedar, western hemlock, red huckleberry, salal, salmonberry, and sword fern.

The risks inherent to the properties of Everett-Alderwood complex include:

- Moderate risk for rutting
- Moderate risk of seedling mortality
- Moderate risk of erosion
- Low risk for windthrow likely due to well-drained soil
- Low risk of puddling
- Moderate risk for compaction hazard
- The site index for Everett-Alderwood complex is 105 and is in the Class III range which indicates moderate productivity. The site base year is 50.

Stand 2 occupies 56 acres of the property. It has a complex soil profile, with six types of soil. Of these 56 acres, there is a six-acre forested wetland located in the stand. The soils range from hydric to excessively drained.

The hydric soils are Zylstra-Frostad complexes; the forested wetland area has this type of soil at 0-3% slope, while there is a second area that has a similar composition, but at a 0-8% slope. Zylstra is poorly drained, but not necessarily hydric. Frostad is also poorly drained and is a hydric soil. The latter area has slightly more Zylstra soil than Frostad, which, combined with the increased slope, may be the cause of that area not having forested wetland properties. The parent materials for both Zylstra-Frostad complex sites are "glacial drift over dense glacial drift." It is 20-39" deep to restrictive features, with the water table being found at 0-12". (Soil Map Unit Symbol 1017 and Soil Map Unit Symbol 2013)

Another area in Stand 2 has a Morancreek, cool-Limepoint complex, with 0-5% slopes. This complex is composed of well-drained Morancreek, cool, soil and poorly drained Limepoint. There are minor inclusions of Shalcar, which is also a hydric soil. In this area, the depth to restrictive features is significant (> 80"). The parent material is glacial drift over dense glaciomarine deposits. As for the horizons, the Morancreek, cool, aspect is sandy loam in all horizons, while the Limepoint aspect is mucky silt loam, loam, loamy coarse sand, loam, sandy loam, and silty clay loam, in respective order. (Soil Map Unit Symbol 1019).

The majority of Stand 2 is Elwha-Zylstra-Morancreek, cool, complex. Despite the poorly drained Zylstra making up 30% of this soil, the moderately well-drained Elwha and Morancreek aspects result in this soil being much drier. Additionally, this soil type is found on 2-12% slopes, which is higher than most of the other areas in the stand. The soil has 0-4" of slightly decomposed plant matter, and the majority of the horizons across all three aspects are sandy loam and gravelly sandy loam. Though the Morancreek has a parent material of solely glacial drift, the Elwha and Zylstra aspects arise from glacial drift over dense glaciomarine deposits. (Soil Map Unit Symbol 2012)

Another dry site in Stand 2 is Everett-Alderwood complex, found on 3-15% slopes. Everett and Alderwood are both well drained; Everett considered "somewhat excessively drained." For the horizons of Everett, the upper layer is 0-2" of slightly decomposed plant material. As it moves down the horizons, it goes from sandy loam to extremely gravelly coarse sand, which is in line with its classification of being excessively drained. Though it is classified as moderately well drained, Alderwood also has extremely gravelly coarse sandy loam. The presence of loam may increase its ability to retain water, more effectively so than Everett. Glacial drift over dense glaciomarine deposits is the parent material for Alderwood, while Everett has a parent material of glacial outwash. (Soil Map Unit Symbol 3017)

Despite the variety of soils on the site, the NRCS Soil Survey indicates that species appropriate to all of these soils are western hemlock, western redcedar, red huckleberry, salal, and western

sword fern. Some areas are also suitable for Sitka spruce, red alder, field horsetail, and salmonberry.

Risks inherent to the properties of these soil types:

- All areas except for the Everett-Alderwood complex have a severe risk for rutting, while the Everett-Alderwood complex is rated as moderate. Equipment should not be used in the wet seasons when soils are most likely to experience rutting, and only low-pressure equipment should be used if necessary.
- The Zylstra-Frostad complexes have severe risks of seedling mortality, as does the Elwha-Zylstra-Morancreek complex. The Everett-Alderwood complex has a moderate risk, while the Morancreek, cool-Limepoint complex has low risk. In the Zylstra-Frostad and Elwha-Zylstra-Morancreek complexes, care should be taken to ensure that the species planted are tolerant of the conditions; the NRCS database suggestions include western redcedar, western hemlock, and huckleberry. Planting more seedlings than are typically used can circumvent the high mortality rate.
- All areas have slight to moderate erosion risk, the moderate risk areas being those with the Everett-Alderwood complex. The Everett-Alderwood complex is found around the houses and roads in the neighborhood, so residents could implement control methods to prevent erosion on their properties.
- As for windthrow risk, the wetter Zylstra-Frostad and Elwha-Zylstra-Morancreek complexes have high risk. Morancreek, cool-Limepoint has a moderate risk. Everett-Alderwood has the lowest risk, likely due to having well-drained properties. The Zylstra-Frostad and Elwha-Zylstra-Morancreek areas should be monitored for hazards, especially around houses, trails, and roads. The latter soil type is found near houses that border the forest, so precautions in that area may need to be taken.
- There is little risk of puddling in all areas except for the Zylstra-Frostad complexes. The Frostad portion of this complex has a high propensity for puddling, hence why these soils have that property. Puddling risk is another limitation on using equipment in the stand, as it can contribute to loss of pore space and poor drainage, which can further inhibit the ability of plants to grow in these areas.
- The two sites with Zylsta-Frostad complexes are highly prone to compaction, while the other soil types are a moderate compaction hazard. As with the rutting and puddling precautions, the same care should be taken in this area due to the likeliness of these soils to become compacted.
- The lowest site index of less than or equal to 103 (Class III) is found in the Zylstra-Frostad soils. Morancreek, cool-Limepoint has a site index between 103 and 104 (Class III). In the Everett-Alderwood areas, site index is between 104 and 105 (Class III). The Elwha-Zylstra-Morancreek complex has the highest site index, ranging between 105 and 119, which could put it in Class II or Class III.

B. Management practices to protect and/or enhance these resources

The soils in both Stand 1 and 2 support important objectives of the Forest Stewardship Plan: open, safe roads and trails; beautiful forests for the collective enjoyment of Camano Hills homeowners; an ecologically balanced forest that provides a natural habitat for wildlife; appropriate fire risk reduction measures for forests and residences; and view preservation with access to solar light.

Selective cutting has reduced the danger of windthrow onto Glacier Peak Drive in Stand 1. It has also opened view corridors. The challenge in this area is to replant trees and vegetation that will not grow too tall and block the views from the residences above these slopes. Varieties of low growing pines, junipers, native service berry, currant, and choke cherry may be appropriate for replantation in view corridors. Also, the intent in Stand 1 going forward is to leave snags, logs, and slash that will support habitat development for wildlife. Stand 1 has soil characteristics, drainage ditches, culverts, and a holding pond that play an important role in the stability of this area's steeply sloping soils. Sloughing and/erosion are negligible for the soils in Stand 1.

The soils and vegetation in Stand 2 will be managed to minimize the impact of human activity. The one-year plan is to complete the shaded fire break. The 5-year plan is to leave the soils in the forested wetlands and central forest of Stand 2 untouched. The 10-year plan is to promote the diversity of the forest understory after the conifers have become the dominant overstory trees.

Throughout the horizons of the 20-year plan, the Forest Stewardship Plan will be utilized as a medium for communicating these objectives to the CHHA Board and community.

Resource Category 3: Water Quality/Riparian & Fish Habitat/Forested Wetlands

A. Current resource conditions, issues, needs and opportunities

There are six separate forested wetlands within Stand 2 between Jim Creek Road on the north and the walking trail on the south. These forested wetlands range in surface area from .43 acre to 1.95 acres and are each surrounded by a 100' buffer. Camano Hills Homeowners Association's CC&Rs specifically state that these forested wetlands are to be left in a natural and undisturbed state of development. (Article VII, Section 5). During the winter the forested wetlands expand into the buffer area and flood the periphery with additional water. Standing water, in varying depths, remains in the forested wetlands year-round.

As noted earlier, acres of wet ground in the forested wetlands are ringed with western redcedar, alder, and western hemlock trees. The understory is in the re-initiation phase. There is a wide variety of understory plants including vine maple, snowberries, serviceberry, elderberry, honeysuckle, red twig, dogwood, blackberry, Oregon grape, salal, and red and green

huckleberries. The forested wetlands have not been managed, yet they have developed into a diversified and suitable habitat for supporting wildlife.

B. Management practices to protect, enhance, or restore these resources

Riparian vegetation will be protected. Within Stand 2, water quality will be monitored and managed against invasive species, such as English holly, on the forested wetland peripheries. Woody debris will be retained in the forested wetland waters.

Along the western border of the walking trail, water seeps across the trail where several foot bridges have been installed. The bridges will be maintained to ensure that the flowing water remains unimpeded.

No fish habitat is on the property. Frogs hatch and thrive in the winter waters.

Forested wetlands will be left unmanaged in an open, undisturbed, and natural state.

Resource Category 4: Forest Inventory/Timber/Wood Products

A. Current resource conditions, issues, needs, and opportunities

The forest consists of two stands, as previously described. In Stand 1, big leaf maple accounts for approximately 50% of the trees. In Stand 2 red alder accounts for approximately 65% of the trees in the stand. There are randomly distributed Douglas fir, western hemlock, and redcedar that appear to be approximately 35 to 40 years old. These conifers are breaking through the overstory throughout the forest and appear to be healthy. The red alder is densely overstocked in most areas of Stand 2 and their crowns have grown together. Most trees range in DBH from 4 to 12 inches. Forest health is good, with varying conditions of established understory.

Four 1/20 acre-plots in stand one and five 1/20 acre-plots in stand two were sampled.

Stand One:

- **Species**: Samples were red alder and big leaf maple. The stand also contains scattered mature Douglas fir and western redcedar scattered in the center and on the peripheries.

- **Age**: Trees in stand one are estimated to be between 35 to 40 years-old based on most recent logging history in approximately 1985 to 1990.

- **Aspect**: ESE

- **Slope**: Not uniform. Approximately 15 to 40 percent slope from west to east (420 ft. to 225 ft.)

- **Average Tree Height**: Sample trees (one per sample plot) = 75 ft., 50 ft., 45 ft., 50 ft.

- **Average Live Crown Proportion:** 50%

- **Average Trees Per Acre**: 235

- **Average diameter**: 10 inches

- **Quality**: good to fair

- **Understory vegetation**: Himalayan blackberries, English Holly (invasive species), ivy, sword fern, salmonberry, nettles, Oregon grape, snowberry, thimbleberry, sticky bob, fringecup, trillium, nettle

- **Operability**: fair to poor. The slope is up to 40 percent and there is a moderate risk of erosion.

Stand One: Existing Tree Species Composition

- bigleaf maple: 50%
- red alder: 25%
- Douglas fir: 23%
- western hemlock: 1%
- western redcedar: 1%

Stand One: Existing Understory Shrubs Composition

- sword fern: 40%
- blackberry: 20%
- salmonberry: 13%
- Oregon grape: 5%
- snowberry: 5%
- nettles: 5%
- sticky bob: 5%
- fringecup: 3%
- trillium: 2%
- holly: 1%
- ivy: 1%

Stand Two:

- **Species**: Samples were red alder and Douglas fir. The stand also contains scattered mature Western hemlock and western redcedar scattered in the center and on the peripheries.

- **Age**: Trees in stand two are estimated to be between 35 to 40 years-old based on most recent logging history in approximately 1985 to 1990.

- **Aspect**: WSW

- **Slope**: Fairly uniform. Approximately 10 percent slope from east to west (510 to 470 ft.)

- **Average Tree Height**: Sample trees (one per sample plot) = 50 ft., 60 ft., 55 ft., 45 ft., 60 ft.

- **Average Live Crown Proportion:** 40%

- **Average Trees Per Acre**: 268

- **Average diameter**: 10 inches

- **Quality**: good to fair

- **Understory vegetation**: trailing blackberries, Oregon grape, salal, salmonberry, huckleberry, thimbleberry, fringecup, elderberry, sword fern, bracken, sticky bob

- **Operability**: fair to poor. The soil is hydric in some areas of the stand and there is a moderate risk for soil compaction.

Stand Two: Existing Tree Species Composition

- red alder: 64%
- Douglas fir: 32%
- cottonwood: 1%
- big leaf maple: 1%
- willow: 1%

Stand Two: Existing Understory Shrubs Composition

- sword fern: 50%
- sticky bob: 15%
- trailing blackberry: 10%

- salmonberry: 10%
- Oregon grape: 5%
- salal: 5%
- elderberry: 2%
- huckleberry: 1%
- thimbleberry: 1%
- fringecup: 1%

B. Management practices to protect, enhance, or restore these resources

The Forest Stewardship Plan objectives do not include growing or harvesting trees for commercial purposes. As such, the focus is primarily on maintaining the health of the forest and enhancing its diversification. To do so will primarily require thinning of Stand 2 at appropriate times. Trees in Stand 1 are periodically cut down in order to maintain view corridors. The removal of trees in Stand 1 is done under the auspices of the Architectural Control Committee and entails specifications for habitat enhancement and replanting. (CHHA Rules &Regs., Sec. IX., 1 and 7)

Representatives of the Camano Hills Board of Directors and of the Tree Management Committee (TMC) are currently working with representatives from DNR on a proposal to create shaded fire breaks along the trail, emergency access road, and north boundary of the property. This work is primarily planned for fire safety, but will include development of animal habitat, and pre-commercial thinning of the trail, road, and border for up to 50 feet on each side. Most of the pre-commercial thinning and creation of the shaded fire breaks will take place in Stand 2. This work will be completed in June 2024.

By 2029, plans will be developed for either pre-commercial or commercial thinning of Stand 2 in order to promote increased diversification of the forest. Because isolated red alder will probably be merchantable, the terms and circumstances of how to proceed in the future for harvesting some of the trees will be explored. In keeping with the landowner objectives, it is anticipated that any tree removal will depend on aesthetic and forest health concerns.

Resource Category 5: Property Access, Roads, and Trails

A. Current resource conditions, issues, needs, and opportunities

Camano Hills has a private, paved, 1.7-mile road system. The property is accessible through a front coded-gate and a keyed-gate at the end of the emergency access road. The condition of the asphalt roads is closely monitored for wear and tear. The roads are on a rotational upgrade schedule for asphalt overlay when needed. In 2025, a section of the roads is scheduled for resurfacing. During the summer of 2023, numerous bigleaf maple trees were removed along

Glacier Peak Drive, in Stand 1. These trees posed a hazard to passing vehicular traffic and pedestrians.

A quarter mile section of Jim Creek Road is overstocked with weak red alder trees that lean toward the road. During wind storms or heavy snowfall, several trees inevitably fall into the road.

Overstocked red alder trees are encroaching on both sides of the emergency access road in Stand 2. The alder tree crowns have grown together and prevent sunlight from reaching the gravel road's surface. The road is soggy with decaying leaves. Branches from the trees and vegetation in the understory extend into the road. Numerous broken tree stems and scattered branches lie along the shoulder of the roadway. There are two 10-yard piles of asphalt and gravel debris that were dumped, four years ago, on the east side of the emergency access road. The piles are now overgrown with trailing blackberries and sticky bob. Elsewhere, many pole alders arch precariously all along the roadway.

For the most part, the walking trail in Stand 2, is in good condition. The path is covered with a thick layer of wood chips and cleared of any downed branches and tree stems. The foliage on both sides of the trail has been cut back and it allows two persons to walk side-by-side. There are several sturdy foot bridges, covered with wire mesh, crossing small streams and wet areas along the southern border the trail. Because the red alder trees are overstocked, weak trees that have partially fallen over lean on other trees across the trail.

B. Any management practices the owner plans to protect, enhance or restore these resources.

Upgrading of the paved road system will continue on as needed. This will include removing road-side trees that become unstable creating a hazard for passing vehicles and pedestrians. The emergency access road will be improved in June 2024 by creating a DNR approved shaded fire break 30 to 50' feet wide on both sides of the road for its entire length. This work will include removal of all trees that are 8" and less in diameter at breast height, leaving the larger trees to grow. The larger trees will be limbed up 10'. Slash will be chipped, stacked and piled in a manner to support wildlife habitat. In addition, plans are underway to grade the emergency access road and place a 2" gravel layer on the road in the summer of 2024.

The trail will also be treated with the shaded fire break specifications for its entire length.

Hazardous trees along Jim Creek Road will be cut down and removed as required for traffic safety. Wildlife habitat will be promoted with all tree removal activities along Jim Creek Road.

Resource Category 6: Wildlife

A. Current resource conditions, issues, needs, and opportunities

The forests in Camano Hills are approximately 35 to 40 years old. Red alder and bigleaf maple are the predominant trees in Stand 1. They grew quickly and their dense growth is in the second stage of forest development, stem exclusion. During the spring and summer, the leaves on the deciduous trees shade the forest floor. Reduced light has resulted in lack of variation of the understory of Stand 1, where ferns, blackberries, and thimbleberries are mostly found, along with some salal and nettles. Slash and some logs are scattered over Stand 1. CHHA has made no intentional efforts for developing wildlife habitat, although deer, coyotes, squirrels, rabbits and a wide variety of birds frequent the area.

A six-acre forested wetland is the central feature for wildlife in Stand 2. These six protected waters, each with a 100' surrounding encroachment zone, provide ideal habitat for wildlife. Here, crossed trees that have blown down are next to piles of branches that provide hiding places and shelter for wildlife. Tall, broken snags with hollowed-out stems protrude from patches of elongated, green grasses. The forested wetlands are ringed with cedar, alder, and hemlock trees. The understory, which is in the re-initiation phase, is fecund with a wide variety of berries and bushes. These plants include vine maple, snowberries, green and red huckleberry, salal, Oregon grape, fringecup, salmonberry, blackberry, red twig dogwood, honeysuckle, elderberry, and serviceberry. In the forested wetlands, nature and time have created a diversified, supportive habitat for wildlife.

Stand 2 also features a one-mile-long trail that winds through the forest from the water well to the emergency access road. This trail is delineated from the trees and vegetation on either side by a thick overlay of woodchips. Large cedar stumps, from early 20th century logging, and some downed, rotting, logs are visible on the sides of the trail. Salal, ferns and huckleberry grow close to the path where light has penetrated from above. Some windthrown trees lean and rest precariously on other trees across the trail. A large, 60'-tall charred cedar snag, with a 5' DBH arises from the forest floor approximately 20' off the path half way along the trail. Piles of fresh logs are visible where cutting and thinning were recently conducted to keep the trail open and safe. The forest is entering the re-initiation stage here with the conifers beginning to dominate the overstory. To date, the CHHA has made no intentional efforts to develop wildlife habitat.

Jim Creek Road and the emergency access road wind through portions of Stand 2. Jim Creek Road is lined with pole alders that lean toward the road. Cedar trees and some western hemlock are emerging from the understory and are beginning to establish themselves along the periphery of the road. This area is near the forested wetlands and the understory is tangled with thimbleberry, huckleberry, Oregon grape, salal, and some holly. Only one walking path upon either side of the road allows for access into the stand. Wildlife habitat is part of the dense understory. Deer are often seen here with their young. Owls have also been sighted perched on tree branches.

The emergency access road, in Stand 2, is overstocked with encroaching red alder trees. The ground is wet and the understory has ferns, Oregon grape, trailing blackberry, thimbleberry, and some holly. The crowns of the red alder have grown together, shading the road.
The road surface is soggy with decomposing leaves and does not dry out. In the spring, maintenance practices have included spraying the sides of the road with weed killer. This practice presents a threat to the wildlife that live in and near the wet ground such as salamanders and frogs. Steps need to be taken to learn how to control the growth of undesirable vegetation without the use of chemicals. Also, alder trees need to be cut back on both sides of the road so that sunlight can reach the road and two cars can pass each other.

An important goal of the forest management practices is to provide appropriate habitat for a variety of wildlife. Wildlife that has already been observed on the forest property, at various times of the year, include:

Amphibians: Pacific salamander, Pacific tree frog

Birds: Crow, robin, hummingbird, bald eagle, pigeon, barred owl, sparrow, woodpecker, northern flicker, blue jay, snowy owl, barn swallow, bullock oriole, gold finch, great blue heron, ducks, nuthatch, chickadee, Oregon junco, red tail hawk, and black bird

Insects: Bumble bee, wasps, yellow jackets, flies, moths, mosquitoes, no-see-ums, dragon flies, ants, spiders, and butterflies

Mammals: Bats, blacktail deer, rabbit, coyote, deer mice, flying squirrel, possum, raccoon, Townsend's chipmunk, western grey squirrel, mole, and vole

Reptiles: Northwest garter snake

B. Management practices to protect, enhance or restore wildlife resources

As trees in Stand 1 are continued to be felled to establish view corridors, snags, logs on the forest floor, and piles of slash will be incorporated to enhance wildlife habitat.

The forested wetlands in Stand 2 will remain unmanaged. This area is mandated to remain open and natural in CHHA's covenants and restrictions. By adhering to this covenant, the wet lands have developed into a supportive environment for wildlife. (Article VII, Section 5)

In June 2024, a 30' to 50' shaded fire break will be created on both sides of the trail and fire access road that wind through the forest in Stand 2. This work will be managed so that it results in enhanced habitat for wildlife by leaving snags, logs, and slash where safe and appropriate.

Trees that lean over Jim Creek Road will be cut and thinned, while being careful to leave the wildlife habitat in this area undisturbed.

Resource Category 7: Protection of Special Resources and Biodiversity

A. Current resource conditions, issues, needs, and opportunities

An analysis completed by the Washington Department of Natural Resources (DNR) in 2024 determined that no threatened or endangered species or cultural or historical resources are known to exist on the property. This property is not considered a forest of recognized importance (FORI). The habitat features on the property help support biodiversity, and the Tree Management Committee will work to protect and maintain these habitat features to continue providing for biodiversity.

Four special features of the property have been identified: significant forested wetlands; outstanding views; a meandering forest trail; and numerous turn-of-the-century old growth redcedar and Douglas fir stumps scattered along the trail and within the forest.

It would be hard to overstate the value of the special features of the property. The forested wetlands are unmanaged and have grown into the re-initiation stage (stage 3) of forest development. They have diverse understory development and support a variety of wildlife. The eastern slope of the property offers territorial, water, and mountain views from Mt. Baker to Mt. Rainier. The forest trail, covered with wood chips and brush, is cut back on both sides. Dense overstory keeps the forest trail floor mostly shaded. The old growth redcedar stumps date from the turn of the century when Camano Hills was originally logged. Springboard notches appear on many of the stumps where loggers stood to cut down the giant trees. A towering redcedar snag with a 5-foot diameter and a 60-foot height stands as a jagged, dark, sentinel along the forest path. These special features promote a feeling of wonder and appreciation for the property.

The special features on the property also provide for biodiversity. These features include forests which are in multiple stages of development, a variety of native trees, shrubs and groundcovers, snags, and water features. These habitat features support a variety of wildlife.

B. Management practices to protect, enhance, or restore these resources

Consistent with the forest land owners' objectives, forested wetlands will continue to be unmanaged, natural, and undisturbed. View corridors will be maintained in Stand 1 by cutting blocking trees and intentionally leaving snags and slash piles for wildlife habitat development. Suitable species will be replanted where appropriate. The forest trail will be managed soon to include a 30-foot to 50-foot shaded fire break along both sides which will include pre-commercial thinning. The old growth stumps will be protected from disruption. A diversity of undergrowth species will be encouraged as our forest evolves from standing exclusion to re-initiation phase. The Forest Stewardship Plan that is part of this document will be used as an educational and communication medium for assisting the CHHA Board and community to universally adopt and realize the Landowner Objectives (Section II).

Resource Category 8: Aesthetics and Recreation

A. Current resource conditions, issues, needs, and opportunities

The common areas and forests in Camano Hills provide an attractive, natural environment for the residents who live here. These include panoramic views of Puget Sound and the Cascade Mountains to the east. On the plateau, at the top of the hill, there is a wide-open field of mowed grass where mature cedar trees surround the picnic pavilion and covered fieldstone fireplace. A few steps to the west, a groomed walking trail meanders into the thicket of the forest. The forest has a serene silence.

Many residents of Camano Hills use and enjoy the common area around the pavilion and the walking trail. Several benches line the park-like field where dog owners sit and visit with one another while they exercise their dogs. Other residents walk the trail on a regular basis. The first Friday of every month residents gather around an open fire at the pavilion and celebrate TGIF. Because the paved roads are driven upon so infrequently, many residents get their exercise by walking on both the trail and the roads.

B. Management practices to protect, enhance, or restore resources.

The Camano Hills Board of Directors has a designated position of Director of Planning and Maintenance. This person oversees a line-item budget and is responsible for the maintenance of the common areas, roads, and the trail. Community work parties are held for general maintenance of the grounds and individual projects that do not include grass cutting. A community volunteer chainsaw team is at the ready for emergency removal of trees and a contractor is available for planned hazardous tree removal along the roads.
Camano Hills forests have grown with no planned management for 35 years. The result of this neglect is overstocked red alder trees with a few conifers that are breaking through the overstory. To protect and enhance Camano Hills' forest resources, the growth trajectory that is needed for 20 years hence, in order to diversify the stands, must be considered. Once an appropriate trajectory has been determined, appropriate actions may be taken to create the forest the community would like to have.

To restore forest resources, Camano Hills residents will be encouraged to be more tolerant of the concept of an ecologically diverse forest that supports habitat for wildlife.

Much work to protect, enhance, and restore the forest resources remains to be done. The planning and management tools needed are now available to credibly begin the work.

A significant component for restoring our forest resources will be effective communication between the Board, the CHHA community, and the committee responsible for the Forest Stewardship Plan. Communication leads to cooperation and results in progress for our forests.

Resource Category 9: Carbon Sequestration & Resilience to Climate/Weather Related Influences

A. Current resource conditions, issues, needs, and opportunities

Carbon sequestration and resilience to climate and weather-related influences by the forest include the following considerations: reforestation, fire/burning, weather stress, and stand vigor.

Climate change is expected to bring warmer and drier summers. The best defense against climate change is maintaining tree vigor and diversity. It is essential to maintain adequate tree spacing so that trees are not competing for sunlight, moisture, or nutrient resources. It is also important to match appropriate tree species to the site, such that species' optimal growing conditions match the site in which they are planted. Maintaining a diversity of tree species provides a margin of surety against different stressors, because different species have different levels of drought tolerance, wind resistance, and susceptibility to insects and diseases. Higher levels of tree diversification reduce the risk of forest disturbances that could change the balance of the stands.

Forests mitigate climate change by reducing the concentration of carbon dioxide, a key "greenhouse gas," in the atmosphere. As trees grow, they take in carbon dioxide from the atmosphere and store that carbon in their wood and other tissues. This is known as carbon sequestration. Maintaining tree vigor and strong growth will maximize carbon sequestration. Snags, downed logs, and organic matter also provide long-term carbon storage.

The stands, especially Stand 2, are overstocked and thus losing vigor. This crowded condition makes the trees vulnerable to climate stressors and reduces the potential for carbon sequestration. Alder is not a long-lived species (60 to 80-year lifespan) and will eventually need to be replaced to provide long-term forest cover and carbon sequestration. The current species mix within the forest does not provide adequate diversity for long-term carbon sequestration.

B. Management practices to protect, enhance, or restore these resources

Thinning the stands will increase their vigor, resistance to stressors, and their capacity for carbon sequestration. Stand 2 is the first thinning priority. Once the red alder reaches the end of its life span and begins to die, it will be necessary to replace the red alder with longer-lived species such as Douglas fir and western redcedar. Commercial thinning is a possibility within 5 years. The permitting processes and financing processes in order to commence this objective have begun.

Snags, stumps, and organic debris that will contribute to carbon sequestration will be maintained. Plans to plant additional species of trees and shrubs that will increase forest diversity and add resilience to the forest will be undertaken.

Resource Category 10: Specialized Forest Products

A. Current resource conditions, issues, needs, and opportunities

There are some bigleaf maple trees in the south end of Stand 1 along Glacier Peak Drive. Equipment will be acquired to learn how to tap these trees for sap to make maple syrup. Edible mushrooms have been identified in several areas of the forest. Edible mushroom culture is an interest. Homeowners may take a class in order to learn how to identify and culture these mushrooms. The CHHA community will continue use of harvested red alder for community firewood and mulch for paths.

B. Management practices to protect, enhance, or restore these resources

Maintain access to several bigleaf maple trees for syrup production. Research edible mushroom cultivation in the forest.

V. Conservation Based Estate/Legacy Planning

The forests on the open common areas of Camano Hills Planned Residential Development are jointly owned by the Camano Hills residential lot owners. The ownership interests in these open lands pass in succession with the sale of a property in Camano Hills. The Camano Hills Homeowners Association is a nonprofit entity for tax considerations on its common area real estate properties. Therefore, as a nonprofit entity, Camano Hills does not pay property tax on its common area real estate.

The Camano Hills Board and community established a long-term goal of improving their forest resources. Lack of intentional management of forests has resulted in overstocked, largely single species alder trees and an undiversified understory in many areas of the forest stands. The legacy to future generations of forest owners in Camano Hills will be to successfully pursue the long-term objective of an ecologically diverse forest for the collective enjoyment of Camano Hills landowners.

VI. Additional Information and Resources (Optional)

Not applicable.

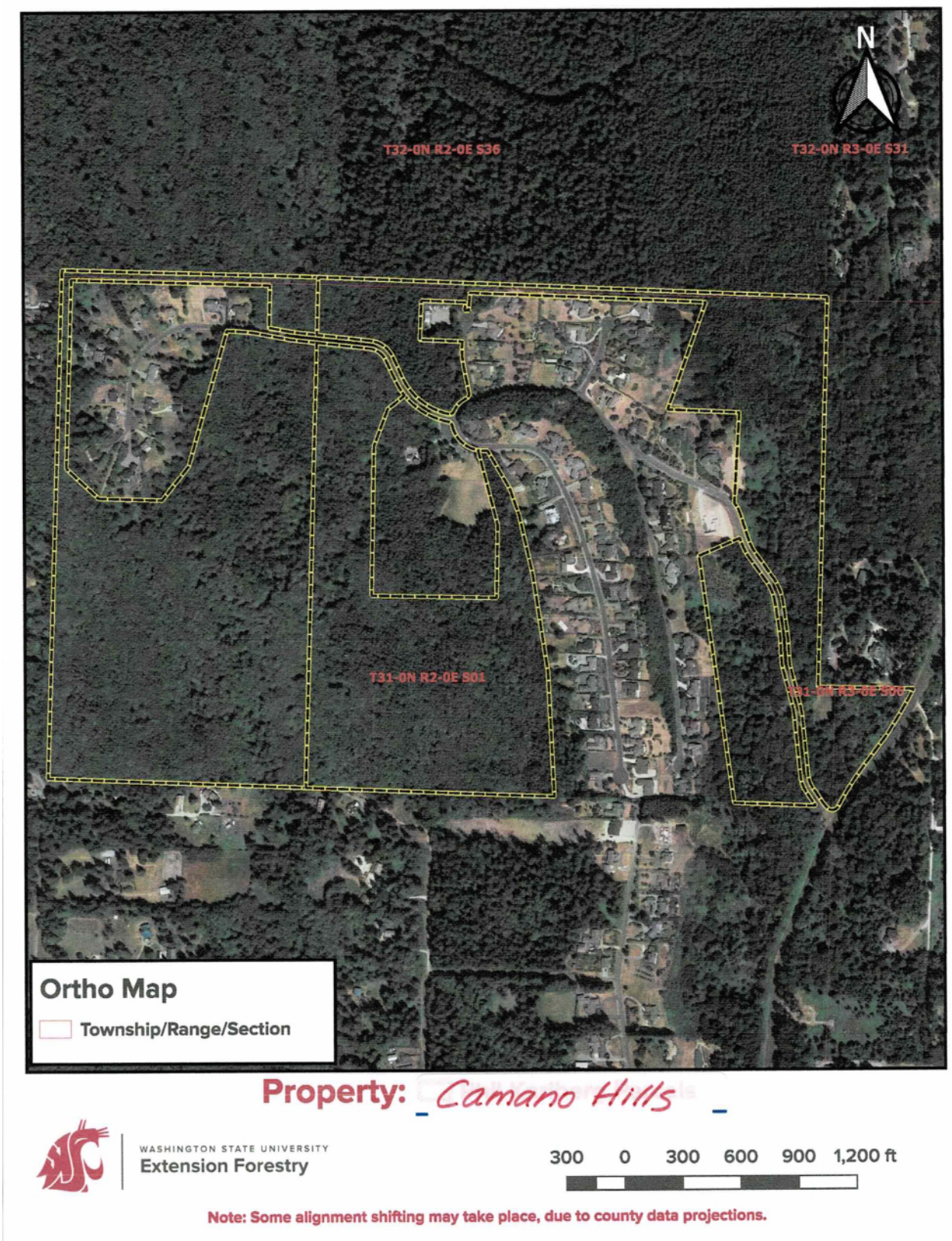
VII. Management Plan Implementation Timetable

Below are the stewardship activities that if implemented within the next 20 years will achieve an ecologically diverse forest.

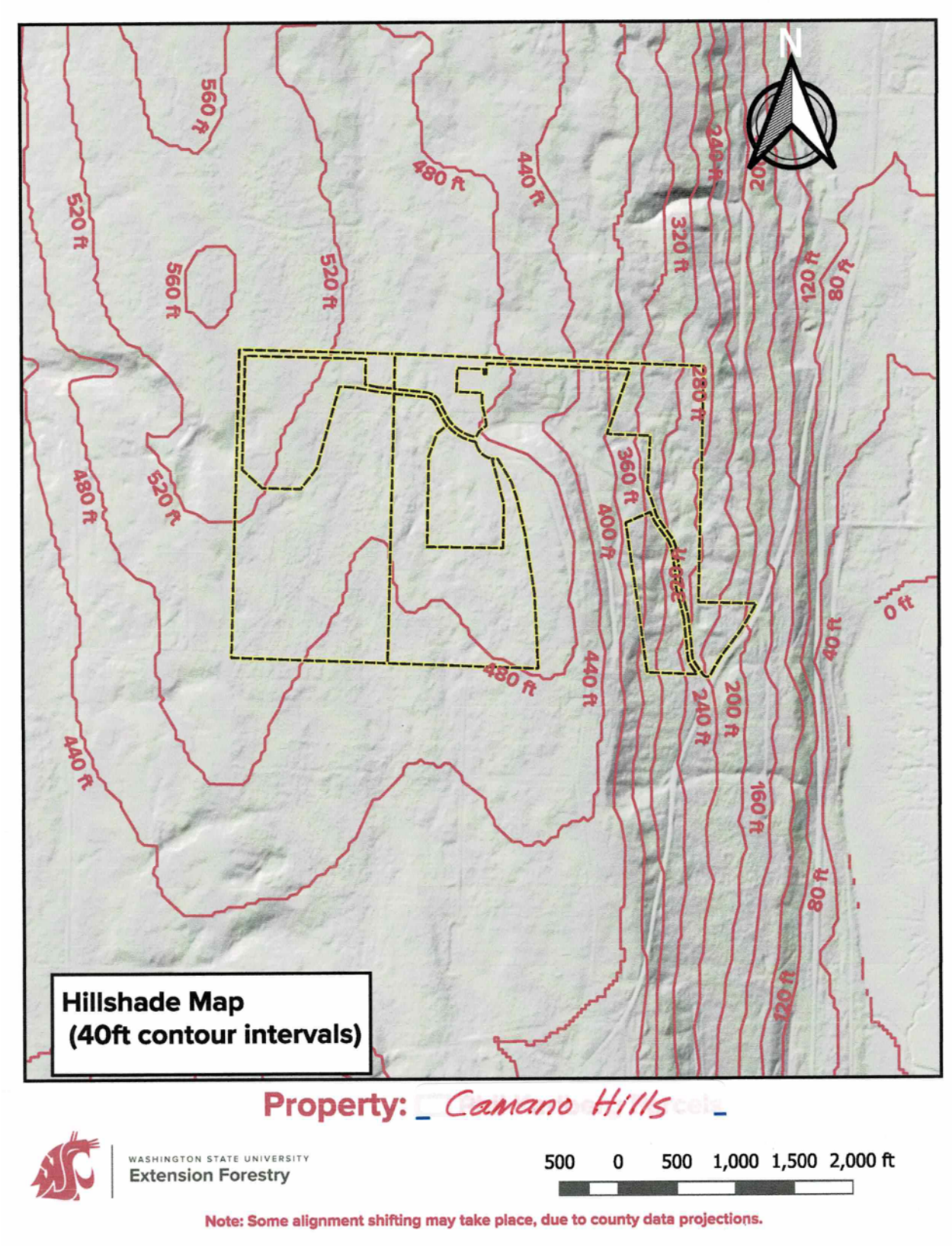
Year	Management Practice or Activity Location	Stand
2024	Begin holly and ivy eradication	1, 2
2024	Create shaded fire breaks	1, 2
2024	Begin clearing Himalayan blackberry	1, 2
2024	Create view corridors and wildlife habitat	1
2025	Thin trees along Jim Creek Road	2
2029	Commercially thin red alder	1, 2
2029	Continue clearing and monitoring holly and blackberries	1, 2
2029	Continue to create view corridors	1
2034	Promote diversified understory growth	1, 2
2034	Plant other varieties of deciduous trees	1, 2
2039	Study feasibility of harvesting mature red alder trees	1, 2
2039	Continue clearing and monitoring holly and blackberries	1, 2,
2039	Continue monitoring and maintaining property	1, 2
2039	Update the forest stewardship plan	
2044	Harvest red alder trees	1, 2

VIII. Aerial Photo(s)/Property Map(s)

ORTHO MAP



CONTOUR MAP



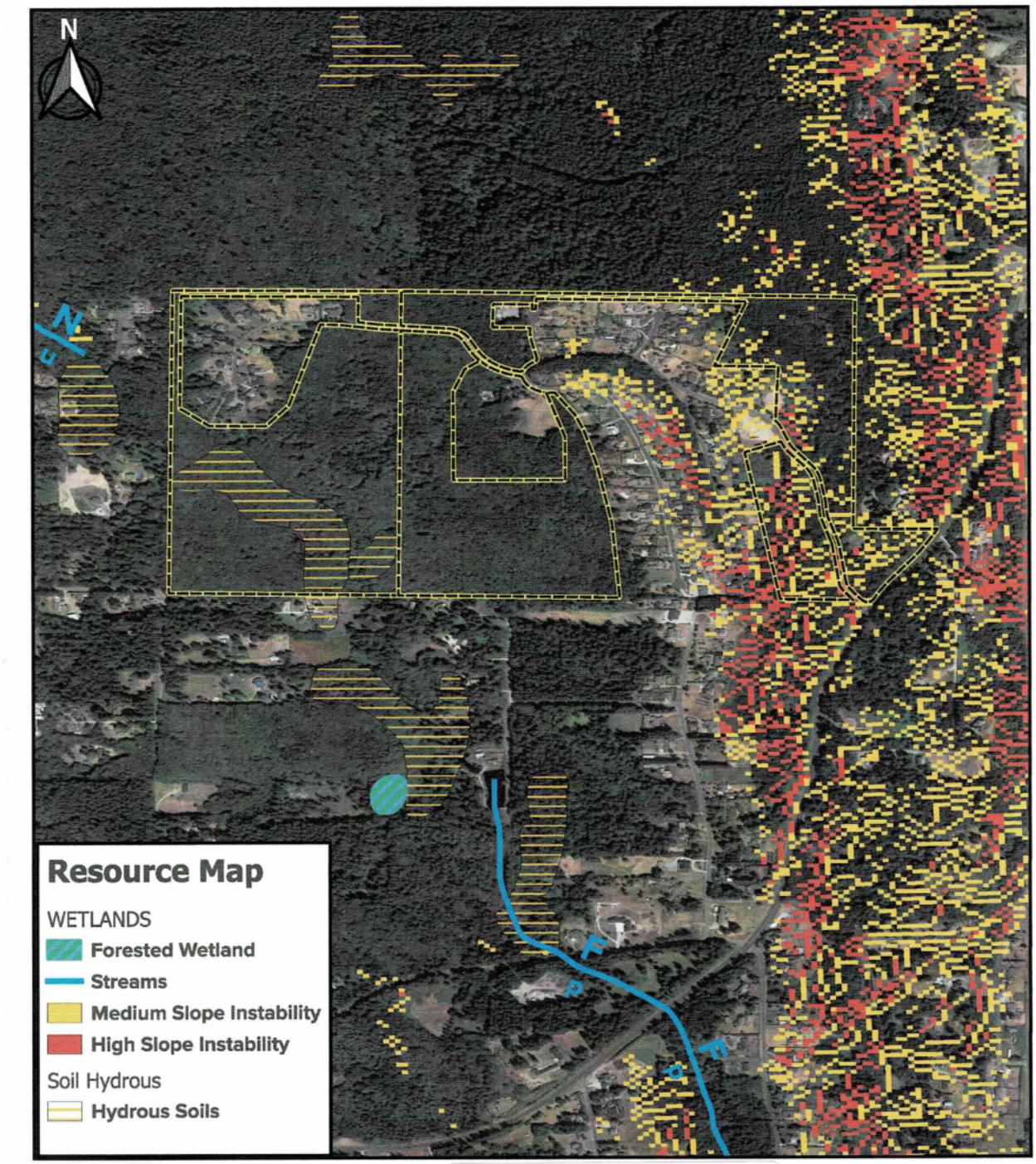
Property: _ Camano Hills _

WASHINGTON STATE UNIVERSITY
Extension Forestry

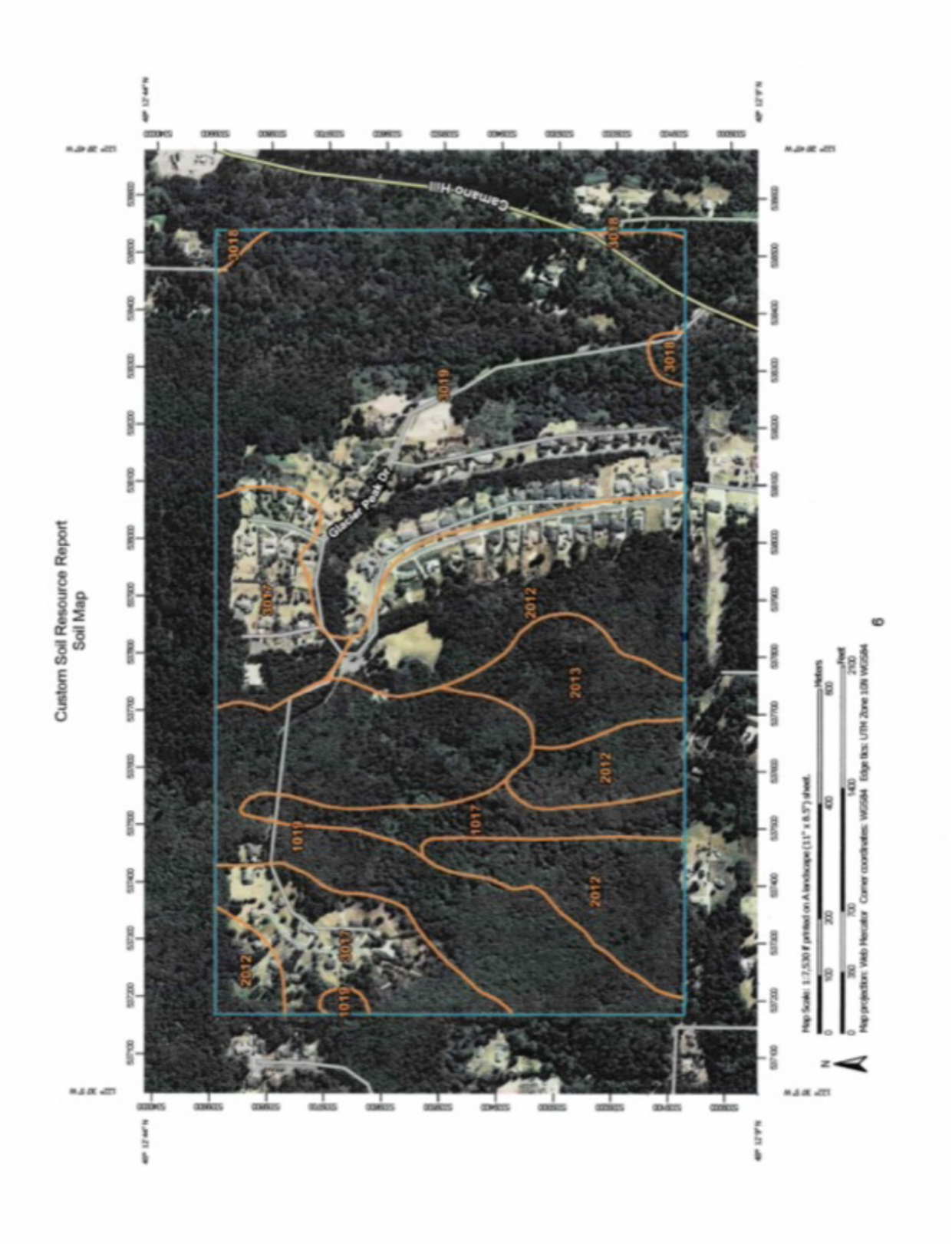
500 0 500 1,000 1,500 2,000 ft

Note: Some alignment shifting may take place, due to county data projections.

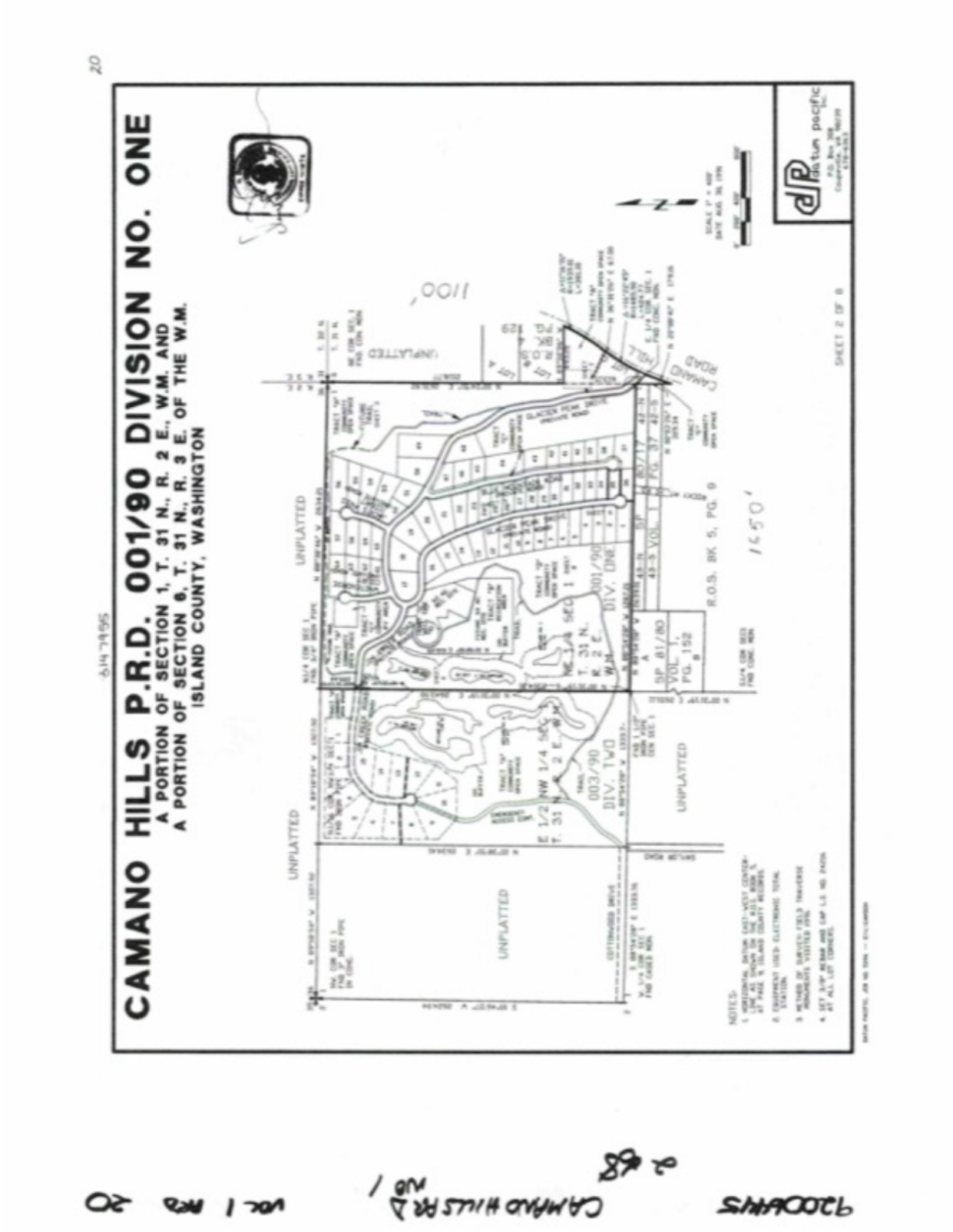
RESOURCE MAP



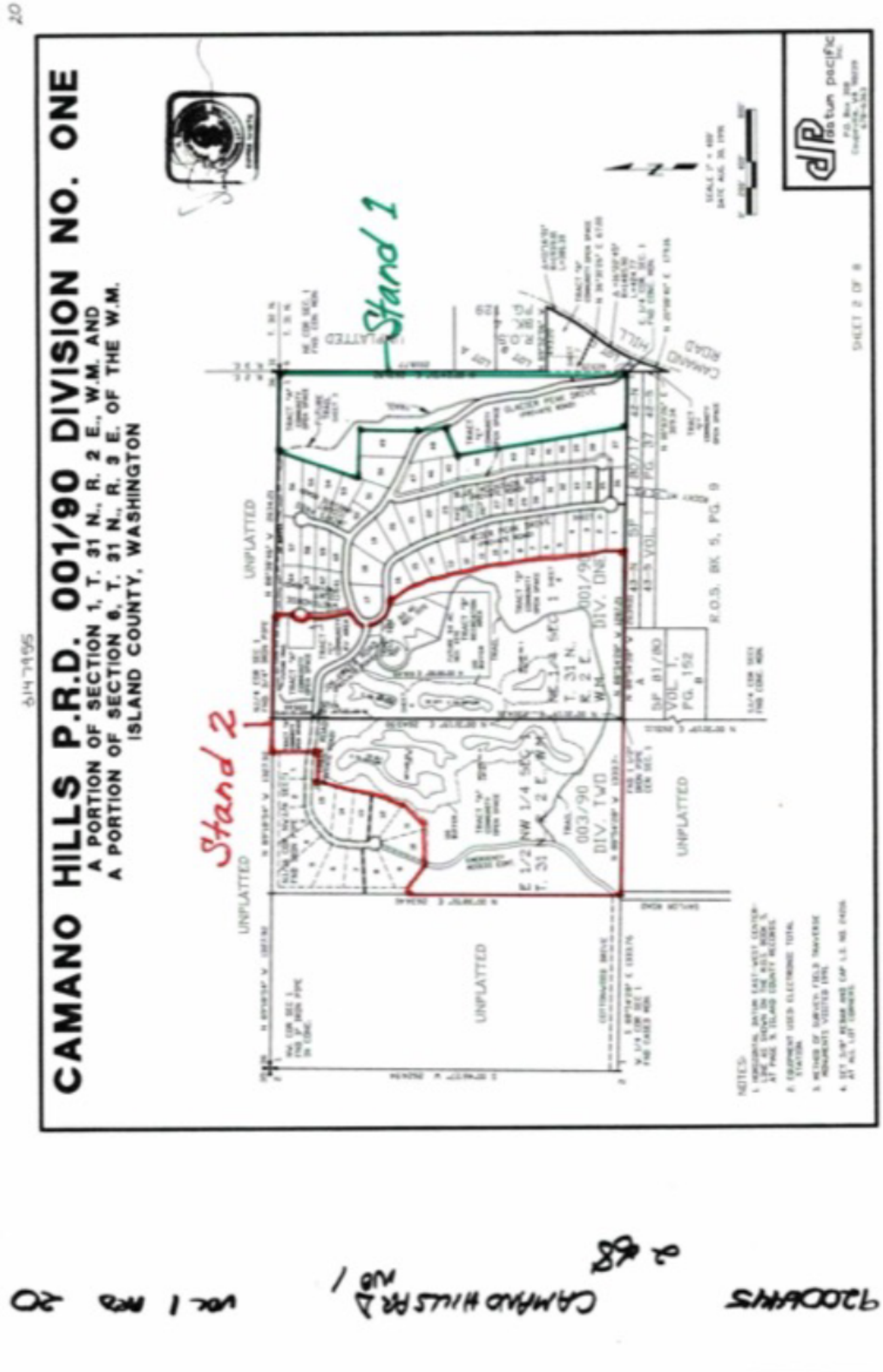
SOILS MAP


Custom Soil Resource Report
Soil Map
Camano Hill
Glacier Peak Dr
3018
3019
3017
2012
2013
1019
1017
Map Scale: 1:2,530 if printed on A landscape (11" x 8.5") sheet.
Meters
Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84
N

CAMANO HILLS DIVISION ONE



CAMANO HILLS DIVISION TWO


CAMANO HILLS P.R.D. 001/90 DIVISION NO. ONE
A PORTION OF SECTION 1, T. 31 N., R. 2 E., W.M. AND
A PORTION OF SECTION 6, T. 31 N., R. 3 E., OF THE W.M.
ISLAND COUNTY, WASHINGTON
Stand 1
Stand 2
UNPLATTED
UNPLATTED
UNPLATTED
UNPLATTED
001/90 DIV. ONE
003/90 DIV. TWO
CAMANO HILL ROAD
NOTES:
SHEET 2 OF 8

IX. Landowner Statement of Intent Signatures

I/we approve of the contents of this plan and intend to implement the described management activities to best of my/our ability and to manage the property in a manner consistent with applicable regulatory requirements.

	Board President	7-17-2024
Landowner Representative	Position	Date
Philip L. Karlberg	TMC Chairperson	7-17-24
Landowner Representative	Position	Date

X. Plan Signature

DNR FOREST STEWARDSHIP PLAN APPROVAL (IF APPLICABLE)

This plan meets the requirements for a Forest Stewardship Plan.

Bud Westcott 7/10/24

WA State Department of Natural Resources Authorized Representative Date

Bud Westcott
Print Name

Forest Resilience Forester Northwest Region
Title

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