BANDON BIOTA, LLC FOREST TO EFU REZONE

LOCATED IN SECTIONS 13, 24 AND 25 OF
TOWNSHIP 29 SOUTH, RANGE 15 WEST OF THE WILLAMETTE MERIDIAN IN
COOS COUNTY, OREGON

TABLE OF CONTENTS

PREPARED FOR

BANDON BIOTA, LLC
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BANDON, OREGON 97411

PREPARED BY

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Date 7/20/21
Received By A. Dibble
File No. AM-21-002/RZ-21-002

AMENDMENT/REZONE APPLICATION

PLEASE SUBMIT 2 COMPLETE UNBOUND COPIES OF THIS APPLICATION
OR 1 ELECTRONIC AND ONE UNBOUND COPY

The following questions are to be completed in full. An application **will not** be accepted for an Amendment/Rezone without this information. The applicant should contact the Planning Department prior to filing, in order to determine a valid basis for the request.

The Board of Commissioners and Hearings Body will use these answers in their analysis of the merits of the request.

PLEASE PRINT OR TYPE:

A. APPLICANT:

Name: Bandon Biota, LLC Telephone: 541-347-5870
Address: 57744 Round Lake Road, Bandon, OR 97411
Attn: Leeann Remy

As applicant, I am (check one):

☐ Property owner or a purchaser under a recorded land sale contract. "Property owner" means the owner of record, including a contract purchaser. The application shall include the signature of all owners of the property. A legal representative may sign on behalf of an owner upon providing evidence of formal legal authority to sign;

☐ A person or persons that have written consent of the property owner to make an application. A legal representative may sign on behalf of an owner upon providing evidence of formal legal authority to sign. In the case of an attorney a statement of representation shall accompany the application;

☐ Transportation agency, utility or entity that meets the criteria in Section 5.0.175 of the Coos County Zoning and Land Use Development Ordinance (CCZLDO)

If other than the owner, please give the owner's name and address:

B. DESCRIPTION OF PROPERTY:

Township 29 Range 15 Section 13, 24, 25 Tax Lot 100, 201 & 1903 Section 24, 100 &700 Section 25
Account No. *Below Lot Size 231 +/- Acres Zoning District Forest
Existing Use Vacant Land

C. STATE SPECIFIC ZONE DISTRICT REQUESTED: Exclusive Farm Use (EFU)

* 1240300, 1240390, 1240601, 1239606, 1242101, 1242103

D. JUSTIFICATION:

(1) If the purpose of this rezone request is to rezone one or more lots or parcels in the interior of an exclusive farm use zone for non-farm uses, the following question must be answered:
Were the lots or parcels for which a rezone request is made, physically developed for a non-farm use prior to February 16, 1983? N/A
Explain and provide documentation: N/A

(2) If the purpose of this rezone request is for other than (1) above the following questions must be answered:

a. Will the rezone conform with the comprehensive plan? See Applicant's Exhibit "A"
Explain:

b. Will the rezone seriously interfere with the permitted uses on other nearby parcels?
Explain: See Applicant's Exhibit "A"

c. Will the rezone comply with other adopted plan policies and ordinances?
Explain: See Applicant's Exhibit "A"

(3) If a Goal Exception is required please review and address this section. N/A

All land use plans shall include identification of issues and problems, inventories and other factual information for each applicable statewide planning goal, evaluation of alternative courses of action and ultimate policy choices, taking into consideration social, economic, energy and environmental needs. The Coos County Comprehensive Plan (CCCP) and Implementing Zoning Land Development Ordinance (CCZLDO) was acknowledge[1] as having all necessary components of a comprehensive plan as defined in ORS 197.015(5) after the Coos County adopted the documents on April 4, 1985. The date of the effective plan and ordinance is January 1, 1986. Coos County did go through a periodic review exercise in the 1990's but due to lack of gain in population, economic growth and public request plan zones were not altered. Changes to the comprehensive plan and implementing ordinance have been done to ensure that any required statutory or rules requirements have been complied with. However, sometimes it is necessary for property owners or applicants to make a request to have certain properties or situations such as text amendments considered to reflect a current condition or conditions. These applications are reviewed on a case by case basis with the Board of Commissioners making a final determination. This type application and process is way to ensure that process is available to ensure changing needs are considered and met. The process for plan amendments and rezones are set out in CCZLDO Article 5.1.

Exception means a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan, that; (a) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general

[1] -Acknowledgment" means a commission order that certifies that a comprehensive plan and land use regulations, land use regulation or plan or regulation amendment complies with the goals or certifies that Metro land use planning goals and objectives, Metro regional framework plan, amendments to Metro planning goals and objectives or amendments to the Metro regional framework plan comply with the goals. In Coos County's case the commission refers to the Land Conservation and Development Commission.

applicability; (b) Does not comply with some or all goal requirements applicable to the subject properties or situations; and (c) Complies with standards for an exception.

NOTE: This information outlines standards at OAR 660-004-0025, 660-004-0028 and 660-04-0022 for goal exceptions, but is NOT to be considered a substitute for specific language of the OARs. Consult the specific Oregon Administrative Rule for the detailed legal requirements.

A local government may adopt an exception to a goal when one of the following exception process is justified:

(a) The land subject to the exception is "physically developed" to the extent that it is no longer available for uses allowed by the applicable goal;

(b) The land subject to the exception is "irrevocably committed" to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or

(c) A "reasons exception" addressing the following standards is met:

(1) Reasons justify why the state policy embodied in the applicable goals should not apply;

(2) Areas which do not require a new exception cannot reasonably accommodate the use;

(3) The long-term environmental, economic, social and energy consequences resulting from the use of the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and

(4) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts. Compatible, as used in subparagraph (4) is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses. A local government approving or denying a proposed exception shall set forth findings of fact and a statement of reasons which demonstrate that the

Compatible, as used in subparagraph (4) is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses. A local government approving or denying a proposed exception shall set forth findings of fact and a statement of reasons which demonstrate that the standards for an exception have or have not been met.

PART III -- USE OF GUIDELINES Governmental units shall review the guidelines set forth for the goals and either utilize the guidelines or develop alternative means that will achieve the

E. REQUIRED SUPPLEMENTAL INFORMATION TO BE SUBMITTED WITH APPLICATION:

1. A legal description of the subject property (deed);
2. Covenants or deed restrictions on property, if any;
3. A general location map of the property;
4. A detailed parcel map of the property illustrating the size and location of existing and proposed uses and structures on 8 ½" x 11" paper. If proposed structures are not know then the plot plan will need to include only existing with a note that no new structures are proposed at this time;
5. If applicant is not the owner, documentation of consent of the owner, including:
   a. A description of the property;
   b. Date of consent
   c. Signature of owner
   d. Party to whom consent is given
6. The applicant must supply a minimum of 2 copies of the entire application or one paper copy and electronic copy (email is acceptable), including all exhibits and color photocopies, or as directed by the Planning Staff.

G. Authorization:

All areas must be initialed by all applicants, if this application pertains to a certain property all property owners[2] must either sign or provide consistent for application unless otherwise allowed by Section 5.0.175 of the CCZLDO. As an applicant by initializing each statement I am accepting or agreeing to the statements next to each area designated for my initials and/or signature. All property owners shall sign and initial the designated areas of the application or provide consent from another party to sign on their behalf. If another party is signing as part of a consent that does not release that party that gave consent from complying with requirements listed below or any conditions that may be placed on an application. In the case of a text amendment the procedures for set out in Section 5.1.110 WHO SEEK CHANGE applies and an applicant may not be a property owner.

I hereby attest that I am authorized to make the application and the statements within this application are true and correct to the best of my knowledge. I affirm to the best of my knowledge that the property is in compliance with or will become in compliance with CCCP and CCZLDO. I understand that any action authorized by Coos County may be revoked if it is determined that the action was issued based upon false statements or misrepresentation.

I understand it is the function of the planning staff to impartially review my application and to address all issues affecting it regardless of whether the issues promote or hinder the approval of my application. In the event a public hearing is required to consider my application, I agree, as applicant I have the burden of proof. I understand that approval is not guaranteed and the applicant(s) has the burden of proof to demonstrate compliance with the applicable review criteria.

As the applicant(s) I acknowledge that is in my desire to submit this application of free will and staff has not encouraged or discouraged the submittal of this application.

I understand as applicant I am responsible for actual cost of that review if the Board of Commissioners appoints a hearings officer to hear the application I have submitted. As applicant I will be billed for actual time of planning services, materials and hearings officer cost and if not paid the application maybe become void.

Applicant(s) Original Signature

Applicant(s) Original Signature

7/19/2021

Date

[2] Property owner" means the owner of record, including a contract purchaser

BANDON BIOTA, LLC

Michael L. Keiser, on behalf of Keiser Family Partnership, LP, and as President of Bandon Biota, LLC (the "Company") hereby certifies:

The individual named below is authorized to engage in business transactions necessary for the operation of Bandon Biota, LLC, to negotiate, execute and deliver agreements necessary for same, and to complete records, reports, and statements necessary for same. All such documents signed by the individual named below shall be conclusive evidence of the fact that such instruments have been executed and delivered with the full authority of the Company.

This document, including but not limited to its meaning and effect, shall be interpreted pursuant to the laws of the State of Oregon.

Don Crowe, General Manager

Michael L. Keiser
President, Keiser Family Partnership, LP,
Bandon Biota, LLC

STATE OF ILLINOIS)
)
COUNTY OF COOK)

Before me, a Notary Public in and for the State and County aforesaid, personally appeared Michael L. Keiser, to me known to be the person described in and who executed the foregoing instrument, and acknowledge that he executed the same as his free act and deed.

Witness my hand and notarial seal this 13th day of July, 2021.

Marianne Laughlin, Notary Public

OFFICIAL SEAL
MARIANNE LAUGHLIN
Notary Public - State of Illinois
My Commission Expires 7/14/2021

Coos County Planning Department
Coos County Courthouse Annex, Coquille, Oregon 97423
Mailing Address: Planning Department, Coos County Courthouse, Coquille, Oregon 97423
(541) 396-3121 Ext.210
FAX (541) 756-8630 / TDD (800) 735-2900

PATTY EVERNDEN **PLANNING DIRECTOR**

CONSENT

On this 18th day of July 2021,

I, DAVID B KRANICK AND MARCI MURRAY, HUSBAND AND WIFE

(Print Owners Name as on Deed)

as owner/owners of the property described as Township 29, Range 15

Section 24, Tax Lot 200, Deed Reference 1240600, 1240690

hereby grant permission to BANDON BIOTA, LLC so that a(n)
(Print Name)

REZONE/PLAN AMENDMENT application can be submitted to the Coos
(Print Application Type)

County Planning Department

Owners Signature/s

MARCI MURRAY

Coos County Planning Department
Coos County Courthouse Annex, Coquille, Oregon 97423
Mailing Address: Planning Department, Coos County Courthouse, Coquille, Oregon 97423
(541) 396-3121 Ext.210
FAX (541) 756-8630 / TDD (800) 735-2900

PATTY EVERNDEN **PLANNING DIRECTOR**

CONSENT

On this 6TH day of July 20 21,

I, DAVID B KRANICK AND MARCI MURRAY, HUSBAND AND WIFE
(Print Owners Name as on Deed)

as owner/owners of the property described as Township 29, Range 15

Section 24, Tax Lot 200, Deed Reference 1240600, 1240690

hereby grant permission to BANDON BIOTA, LLC so that a(n)
(Print Name)

REZONE/PLAN AMENDMENT application can be submitted to the Coos
(Print Application Type)

County Planning Department

Owners Signature/s _____
DAVID B KRANICK

_____

_____

APPLICANT'S EXHIBIT "A"
WRITTEN EVIDENCE DOCUMENT
BANDON BIOTA, LLC FOREST (F) TO EXCLUSIVE FARM USE (EFU) REZONE

LOCATED IN SECTIONS 13, 24 AND 25 OF
TOWNSHIP 29 SOUTH, RANGE 15 WEST OF THE WILLAMETTE MERIDIAN IN
COOS COUNTY, OREGON

INTRODUCTION

PROPOSAL, ZONING, AND ACCESS

The Applicant, Bandon Biota, is the owner of an approximately 603 acre tract by assessment records. The Northerly end of the property is located approximately 2 miles south of the City of Bandon Urban Growth Boundary, and the tract extends south for approximately 2 miles through Sections 13, 24, and 25 (described above). Of the 603 acres, 339 acres are currently zoned Exclusive Farm Use (EFU) and 264 acres are zoned Forest (F) or Forest with a Mixed Use overlay. The Applicant is proposing to rezone 224 of the 264 Forest zoned acres to EFU. There is a 40-acre Forest-zoned segment within the tract that is adjacent to other Forest-zoned lands, which will therefore retain its Forest designation.

While the Applicant's ownership consists of a single contiguous tract, there are two distinct Forest-zoned segments that are separated by EFU zoned lands. The Westerly Segment is adjacent to Bandon State Park (state land) to the West and EFU zoned agricultural land to the North, South and East. The Easterly Segment is directly adjacent to US Highway 101 and contains Hoffer Lane, a 40-foot panhandle that is owned by the Applicant, and provides access to the Applicant's ownership. The Easterly Segment is adjacent to Forest zoning to the North, Rural Center and Rural Residential zoning to the South, and EFU zoning to the West.

The Applicant, with the consent of an adjacent property owner, will also be rezoning a small portion (15 to 20 acres) of their land from Forest to EFU to eliminate the creation of a Forest-zoned island that would exist as a result of this rezone. The rezone segment is also addressed separately in this application as the Kranick Segment.

SEGMENT DESCRIPTIONS

The Westerly Segment consists of property land located in Sections 13 and 24 of Township 29 South, Range 15 West of the Willamette Meridian, as follows:

- A portion of the Southeast Quarter of the Southwest Quarter of Section 13
- The North One-Half of the Northwest Quarter of Section 24

- The Southwest Quarter of the Northwest Quarter of Section 24
- A portion of the Southeast Quarter of the Northwest Quarter of Section 24
- A portion of the Northwest Quarter of the Southwest Quarter of Section 24
- A portion of the Southeast Quarter of the Southwest Quarter of Section 24
- A portion of Southwest Quarter of the Southwest Quarter of Section 24

The Easterly Segment consists of the following land located in Section 25 of Township 29 South, Range 15 West of the Willamette Meridian:

- A portion of the Northeast Quarter of the Southeast Quarter of Section 25
- A portion of the Southeast Quarter of the Northeast Quarter of Section 25, a fee title ownership consisting of a panhandle containing Hoffer Lane.

The Kranick Segment consists of the following land located in Section 25 of Township 29 South, Range 15 West of the Willamette Meridian:

- A relatively small (15 acre +/-) portion of the West One-Half of the Southwest Quarter of Section 24 (see the Westerly Segment "Rezone Area" and "Zoning" maps).

Note: Because this request is to only rezone a portion of the Applicant's ownership, the portion proposed for rezone is referred to as the "subject property" or "rezone area." The entire ownership is referred to as the "subject ownership" or "parent parcel."

PROPERTY CHARACTERISTICS

Westerly Segment

The Westerly Segment consists of approximately 200 acres of a partially vegetated dune formation stretching north and south. There are 11 soil types contained within the tract that primarily consists of either sand or sandy complex soil types. The soil types are described in further detail below. The vegetation on the upland dunes primarily consists of the invasive species "gorse," with a mixture of dune grasses and other dune-type vegetation. The primary tree type is Shore Pine intermingled with various types of conifers (primarily spruce) that are more predominant near identified wetlands described below. The open sand areas are generally located along dune ridges and north/south facing slopes.

There are approximately 20 acres of identified wetlands within the segment. The primary wetland (containing approximately 18 acres) runs north/south at the base of the adjacent dune formations. There is a portion of a wetland located along the northeasterly boundary of the segment.

Easterly Segment

The Easterly Segment contains a 24 acre (approx.) tract that consists of Tax Lots 100, 700, and a portion of Tax Lot 1000 (Hofer Lane). The tract is relatively flat and is directly adjacent to US Highway 101. Approximately 70% of the tract is covered in conifer tree species with approximately 30% in pasture. The northerly portion appears to have been planted as a Christmas tree farm that was never maintained or harvested.

There are three dwellings on the tract. One dwelling is sited on Tax Lot 100 to the north, and two dwellings are sited on the southerly Tax Lot 700. The dwelling on Tax Lot 100 was sited in 1940 and is therefore a legal Non-Conforming Use. One of the dwellings on Tax Lot 700 was sited in 1942 and is therefore a legal Non-Conforming Use. The second dwelling on Tax Lot 700 was permitted outright based upon "interim" Forest/Agricultural zoning that existed in 1979. Because the interim zoning district was established for either Forest or Agricultural use, the dwelling is a Conforming Use in either the existing Forest district or the proposed EFU district. In other words, two of the dwellings are legal Non-Conforming Uses by virtue of the fact that they were established prior to land use regulations, and one is a Conforming Use in either a Forest or EFU district.

Kranick Segment

The Kranick Segment is a Forest zoned sliver of the adjacent cranberry farm to the east. There are several existing cranberry bogs and an irrigation sump located within the segment that is a portion of a larger commercial farm operation. The property is clearly farm land by use and definition and EFU is an appropriate designation for the land.

NOTE: The Kranick segment is farm land based upon the existing farm use of the land. The land is clearly suitable for an EFU zone designation based upon its predominant farm use. Therefore, only the Westerly and the Easterly Segments will be addressed in the remainder of this application.

SURROUNDING LANDS

Westerly Segment

The Westerly Segment is directly adjacent to Recreation (Rec) zoned land to the west (Bandon State Park) and EFU land to the east, north and south. The State ownership to the west consists of vacant open space land and, although it is available for recreational use by the public, the property is heavily vegetated, predominately in gorse, and is largely inaccessible. It should be noted that the invasive species, "gorse," is a looming fire hazard to the surrounding area, and specifically to the City of Bandon, that has been destroyed by fire on multiple occasions.

The EFU land to the east contains three historic cranberry farms. The centrally located farm to the east (Kranick) is participating in this rezone. The Westerly Segment is also surrounded on three sides by EFU zoned lands with no existing commercial forest uses either adjacent to or within the Segment.

Easterly Segment

The Easterly Segment is located directly adjacent to the Highway 101 to the east and Rural Residential zoned land to the South. While the property to the north is zoned forest, it is currently in farm use with cranberry bogs. The property adjacent to the west is zoned Exclusive Farm Use. There are no existing commercial forest uses adjacent to or within the Easterly Segment.

LAND TOPOGRAPHY AND SOIL TYPES

Westerly Segment

The Westerly Segment consists of approximately 191 acres of a partially vegetated dune formation stretching north and south. There are 11 soil types contained with the tract that primarily consist of either sand or sandy complex soil types.

Approximately seventy five percent (75%) of the Westerly Segment contains soils that are not identified as suitable for any type of forest use. Of the twenty five percent (25%) that is identified for forest production, the primary tree species is Shore Pine, which is not a viable commercial tree species in Oregon. Approximately 18% of the land is identified as containing agricultural type soils by definition (subclass I, II, III, IV).

It is a fact that the soils within the Westerly Segment are not generally suitable for either commercial farm or commercial forest uses; However, when consideration is given to the surrounding EFU zoning and the adjacent commercial farm uses, combined with the fact that there are no commercial forest operations existing on adjacent or nearby lands, a more suitable designation for the segment is Exclusive Farm Use.

Easterly Segment

The Easterly Segment is generally flat and contains a mixture of four soil types. Two of the soil types (17 % of the property) are High Value soil types (Blacklock), the other 79 % of the property contains Bullards soils with subclass I through IV soils that pursuant Oregon Statewide Goal 3, are recognized as agricultural soils.

On the basis of a 100-year site curve, the Blacklock soil has a mean site index of 90 for Shore Pine, and on the basis of a 100 year site curve, the Bullards soil has a mean site index of 132 for Douglas fir. Shore Pine is not considered a commercial tree species in Oregon, and a 132 site index in an area subject to coastal influences, indicates that the capability of the land for commercial timber production is marginal at best.

When consideration is given to existing soil types and the fact that there are no commercial forest operations existing on adjacent or nearby lands, it is reasonable to conclude that an Exclusive Farm Use zone designation is appropriate for the Easterly Segment.

STATEWIDE PLANNING GOALS

Goal 4: Forest Land

To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land, consistent with sound management of soil, air, water, and fish and wildlife resources, and to provide for recreational opportunities and agriculture.

APPLICANT'S RESPONSE: As addressed above, the soil types contained within the Westerly Segment are not suitable for any type of commercial forest use. When consideration is given to soil types and coastal proximity, the Easterly Segment's capability for commercial timber production is marginal at best. The fact that there are no commercial timber operations occurring neither adjacent to or on nearby lands, supports the conclusion that the segment is marginal forest land.

Based upon the marginal soil types and coastal location, and the fact that there are no commercial timber operations existing on adjacent or nearby lands, it is reasonable to conclude that maintaining a Forest designation on the subject segments will "not" serve to "conserve forest lands, maintain the forest land base, or to protect the state's forest economy by making possible economically efficient forest practices" pursuant to Goal 4.

Goal 3: Agricultural Lands

To preserve and maintain agricultural lands.

Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest and open space and with the state's agricultural land use policy expressed in ORS 215.243 and 215.700

APPLICANT'S RESPONSE: While it is clear that the soil types on the Westerly Segment are not suitable for forest or agricultural use, the property is surrounded on three sides by EFU zoned lands with existing and adjacent high value farm uses. The soil types within the Easterly Segment are all Agricultural soils by goal definition (see below) and a portion of the Segment contains High Value soils. The property is also adjacent to other EFU zoned land, and land with High Value farm uses (cranberries).

Based upon soil types, adjacent EFU zoning, and adjacent High Value farm uses, a reasonable conclusion can be made that both the Westerly and Easterly Segments are suitable for an EFU Zoning Designation.

APPLICATION SUPPLEMENTAL

Justification:

(1) If the purpose of this rezone request is to rezone one or more lots or parcels in the interior of an Exclusive Farm Use zone for non-farm uses, the following questions must be answered:

a) were the lots or parcels for which a rezone request is made physically developed for a non-farm use prior to February 16, 1983? Explain and provide documentation:

APPLICANT'S RESPONSE: No. The purpose of this Rezone Application is to change the resource zone designation of the subject property from Forest (F) to Exclusive Farm Use (EFU). A physically developed or irrevocably committed exception pursuant to Goal 2 is not required for a change from one resource designation to another resource designation.

**OAR 660-33-030(4) When inventoried land satisfies the definition requirements of both agricultural land and forest land, an exception is not required to show why one resource designation is chosen over another. The plan need only document the factors that were used to select an agricultural, forest, agricultural/forest, or other appropriate designation.*

NOTE: If the plan need only document the factors used to select an appropriate zone designation for land that satisfies the definition for both agricultural land and forestland, it is reasonable that the same applies to resource land that does not satisfy either definition. The Westerly Segment does not contain uses or soil types that are suitable for either commercial farm or forest use. However, the "factors" utilized to establish the EFU zone designation are based upon adjacent and surrounding zoning, and High Value agricultural uses existing on lands directly adjacent to the segment.

2) If the purpose of this rezone request is for other than (1) above the following questions must be answered:

a) will the rezone conform with the comprehensive plan? Explain:

APPLICANT'S RESPONSE: Yes. Evidence has been submitted throughout this application addressing Appendix 1 CCCP Volume 1, Policy 5.4(8,) which allows changes in zoning districts from Forest to Agriculture and vice versa, provided that adequate findings are made supporting the request. The policy recognizes that "agriculture and forestry are closely related in Coos County because the land resource base is capable of and suitable for supporting both agricultural and forest uses and activities."

b) will the rezone seriously interfere with permitted uses on other nearby parcels? Explain:

APPLICANT'S RESPONSE: No. The intent of this application is to rezone the subject property to Exclusive Farm Use to be more compatible with adjacent EFU zoning and existing High-Value agricultural uses on adjacent and nearby lands.

2) will the rezone comply with other adopted plan policies and ordinances?

APPLICANT'S RESPONSE: Yes. The intent of this application is to adopt an appropriate zone designation for the subject property pursuant to Oregon Statewide Planning Goal 3 (Agriculture), based upon adjacent EFU zoning and existing High-Value agricultural uses on adjacent and nearby lands.

COOS COUNTY COMPREHENSIVE PLAN, APPENDIX 1, VOLUME 1

Policy 5.4 Plan Implementation Strategies

(8) Coos County shall consider, and approve where appropriately justified, changes from forestry to agriculture zoning districts, and vice-versa, upon findings which establish:

APPLICANT'S RESPONSE: This acknowledged policy recognizes the authority of Coos County to approve a change of a resource zone designation from forest to farm, when a finding is made that the change is appropriate based upon the criteria below and other factors.

i. that the proposed rezone would be at least as effective at conserving the resource as the existing zone.

APPLICANT'S RESPONSE: Pursuant to Comprehensive Plan Volume 1, Part 1, Section 5.3 "Agricultural Lands," Coos County's strategy for protecting resource land is as follows:

> *"Coos County shall conserve those resources designated as "agricultural lands" on the Comprehensive Plan map by regulating uses and activities in such areas through requirements stipulated in the following Exclusive Farm Use (EFU) zone."*

It is clear from the above referenced policy that the Exclusive Farm Use designation has been specifically established for the purpose of conserving and protecting resource land by regulating uses and activities permitted in the EFU zone.

Westerly Segment

APPLICANT'S RESPONSE: The Westerly Segment contains soil types that are not suitable for either commercial farm or forest use and there is no agricultural or forest resource to protect.

However, the agricultural EFU designation is more suitable for the Segment based upon adjacent zoning and agricultural uses. It is therefore reasonable to conclude that an EFU designation will be at least as effective in conserving the resource as the existing Forest designation.

Easterly Segment

APPLICANT'S RESPONSE: The Easterly Segment contains soils that are defined under Goal 3 as agricultural (subclass I – IV) soils. The segment also contains a portion of High Value Agricultural soils as defined under the CCZLDO.

There are no commercial forest uses existing on the property, and, while there are areas within the segment that contain soils identified as suitable for forest production, the capability site class is low and the segment is subject to coastal influence. Therefore, its use for commercial forest production is marginal as best.

There is similar forest zoned property to the north that contains an agricultural use (cranberries), and the Easterly Segment is directly adjacent to other EFU land to the west. Based upon the soil classification, adjacent agricultural uses, and adjacent EFU zoning, it is reasonable to conclude that an EFU zone designation will be at least as effective in conserving the resource as the existing forest designation.

ii that the proposed rezone would not create a non-conforming use.

Westerly Segment

APPLICANT'S RESPONSE: The Westerly Segment consists of vacant land with no existing development or use and therefore, no development or use on that segment that would become a non-conforming use when the zone district is changed from Forest to Exclusive Farm Use.

Easterly Segment

APPLICANT'S RESPONSE: There are three dwellings on the Easterly Segment. One dwelling is sited on Tax Lot 100 to the north, and two dwellings are sited on the southerly Tax Lot 700. The dwelling on Tax Lot 100 was sited in 1940 and is therefore a legal non-conforming use. One of the dwellings on Tax Lot 700 was sited in 1942 and is therefore a legal non-conforming use. The second dwelling was permitted outright based upon "interim" Forest/Agricultural zoning that existed in 1979. Because the interim zoning district was established for either Forest or Agricultural use, the dwelling is now a conforming use in either the existing Forest district or the proposed EFU district. In other words, two of the dwellings are legal non-conforming uses by virtue of the fact that they were established prior to land use regulations, and one is a permitted use allowed within either a Forest or EFU district. Therefore, none of the dwellings will become non-conforming uses as a result of the proposed rezone.

iii. that the Applicant for the proposed rezone has certified that he/she understands that the rezone, if granted, could have significant tax consequences.

APPLICANT'S RESPONSE: The Applicant is aware that there may be tax consequences if the rezone is approved.

Furthermore, Coos County shall, upon a finding to approve the rezone under consideration, amend the "Agricultural Land" or "Forest Land" Comprehensive Plan Map designation so as to correspond to the new zone, as approved.

Implementation of this policy shall include conducting a "rezone public hearing."

APPLICANT'S RESPONSE: The submitted application is for a rezone from Forest (F) to Exclusive Farm Use (EFU). The application will be subject to a public rezone hearing.

iv. This strategy recognizes:

a) That agriculture and forestry are closely related in Coos County because the land resource base is capable of and suitable for supporting both agricultural and forest use and activities;

APPLICANT'S RESPONSE: Coos County recognizes that the county resource land base is capable of and suitable for both agricultural and forest uses and activities. This policy is generally based upon the fact that the resource land base often contains soil types and/or topography capable of supporting either farm or forest activities.

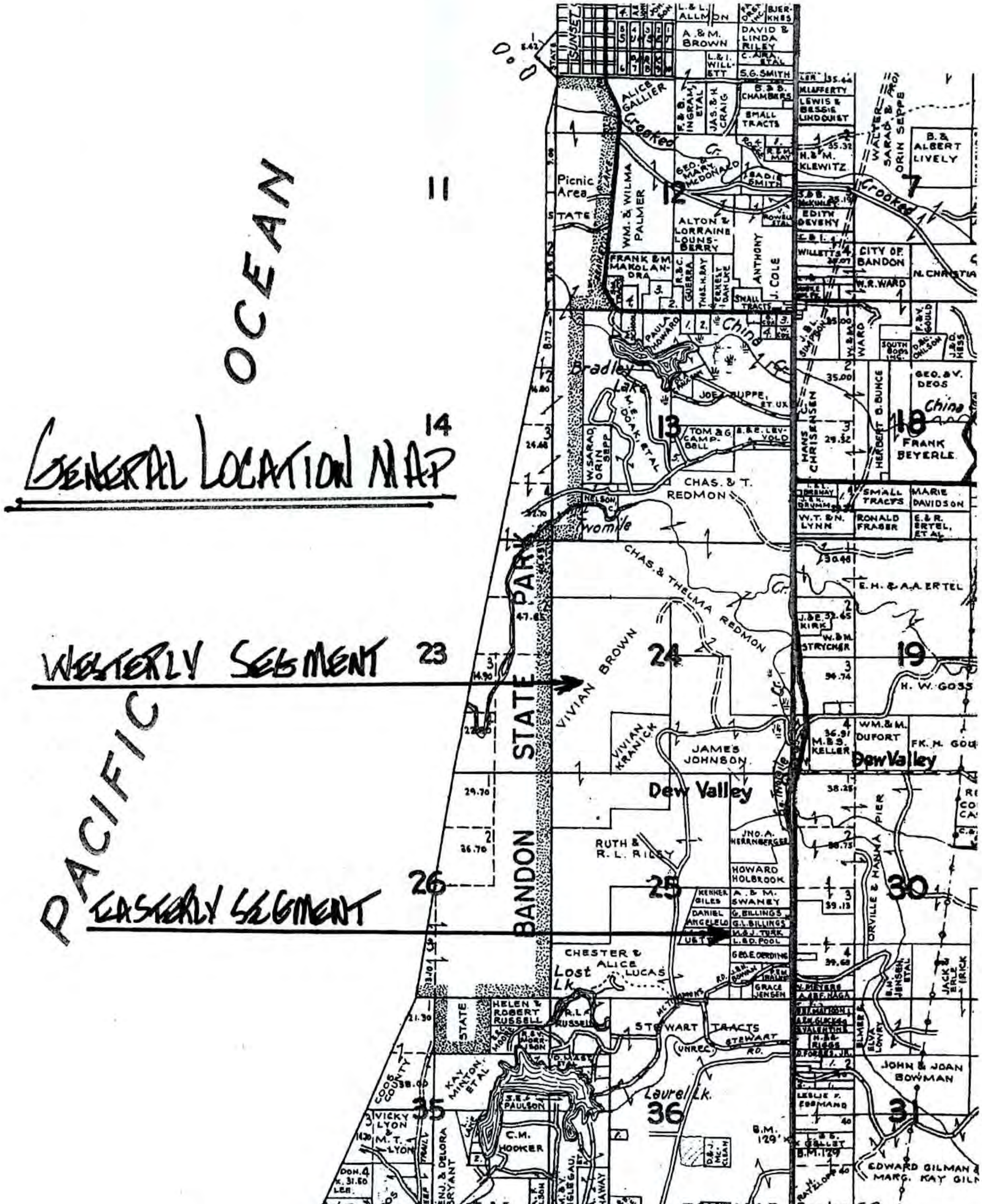
The Westerly Segment contains soil types and topography that are clearly not suitable for either farm or forest uses. However, the Easterly Segment is capable of supporting either farm or forest uses. The determination that a rezone from Forest (F) to Exclusive Farm Use (EFU) is appropriate for both segments is based upon the fact that there are no commercial forest uses existing on nearby lands, while there is EFU zoning and High Value commercial farm uses directly adjacent to or surrounding the segments.

b) That this simplified plan revision process for agriculture and forest plan designations is necessary to help support the existing commercial agricultural and forest enterprises because it enables individual management decisions to be made in a timely manner as a response to changing market conditions.

APPLICANT'S RESPONSE: Coos County has simplified the revision process for agriculture and forest plan designations to allow individual property owners (the Applicant) the ability to manage their land in a timely manner as deemed appropriate.

FINAL CONCLUSION

Based upon the submitted evidence addressing Appendix 1, Volume 1 Policy 5.23 and 5.4 of the Coos County Comprehensive Plan and Oregon Statewide Planning Goals 3 and 4, a conclusion can be made that the applicable standards has been satisfied and that an Exclusive Farm Use (EFU) zone designation is appropriate for the subject properties. Therefore, the Applicant respectfully requests a decision supporting the proposed zone change from Forest (F) to Exclusive Farm Use (EFU).


GENERAL LOCATION MAP
WESTERLY SEGMENT
EASTERLY SEGMENT
PACIFIC OCEAN
BANDON STATE PARK
Dew Valley
Bradley Lake
Lost Lk.
Laurel Lk.
Crooked Cr.
China Cr.
Twomile Cr.
FOURMILE
Bandon G.S.
Picnic Area
CITY OF BANDON
VIVIAN BROWN
CHAS. & THELMA REDMON
JAMES JOHNSON
RUTH & R. L. RILEY
CHESTER & ALICE LUCAS
STEWART TRACTS
JOHN & JOAN BOWMAN
FRANK BEYERLE
C.M. HOOKER
T. & E. BROWN
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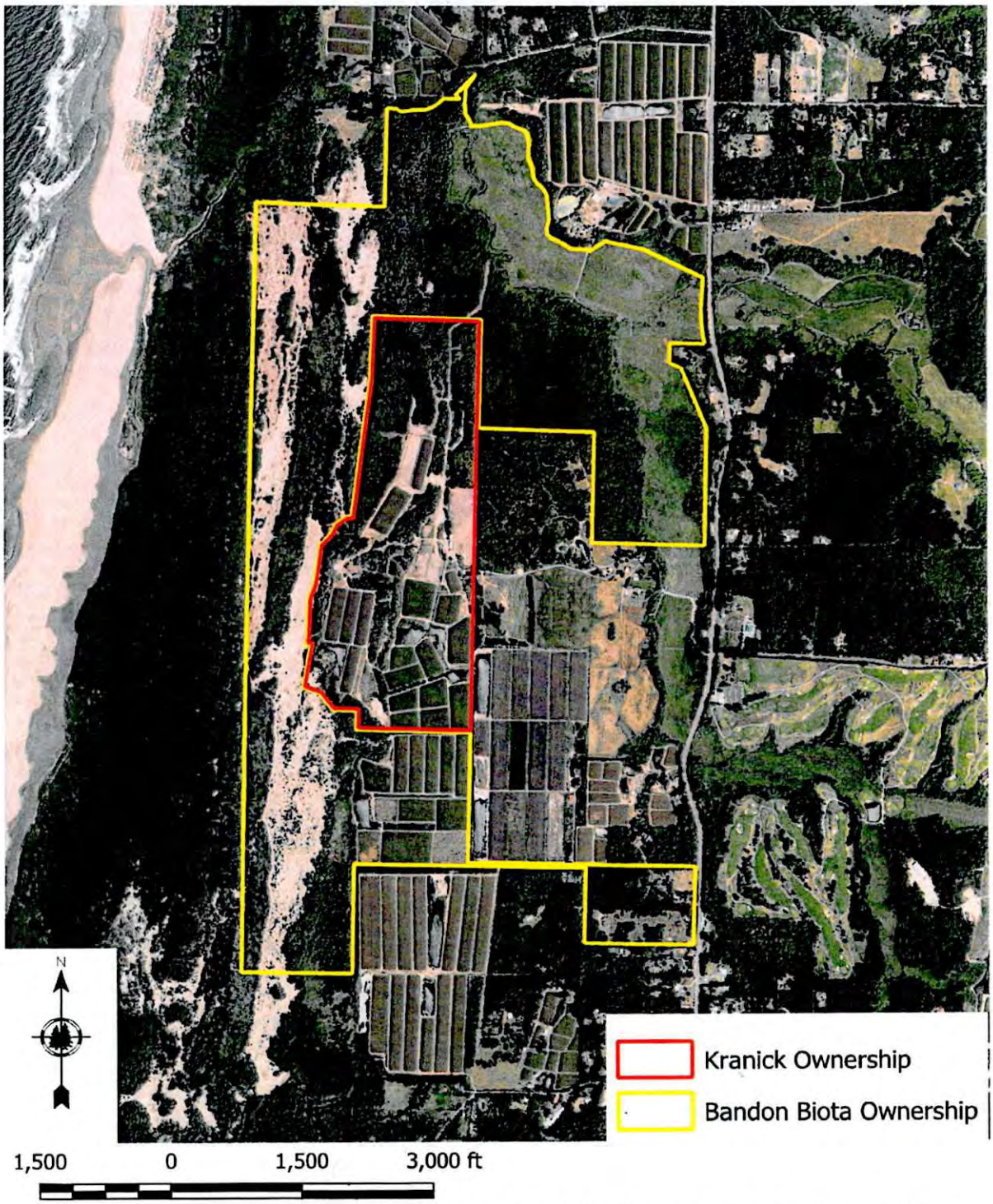
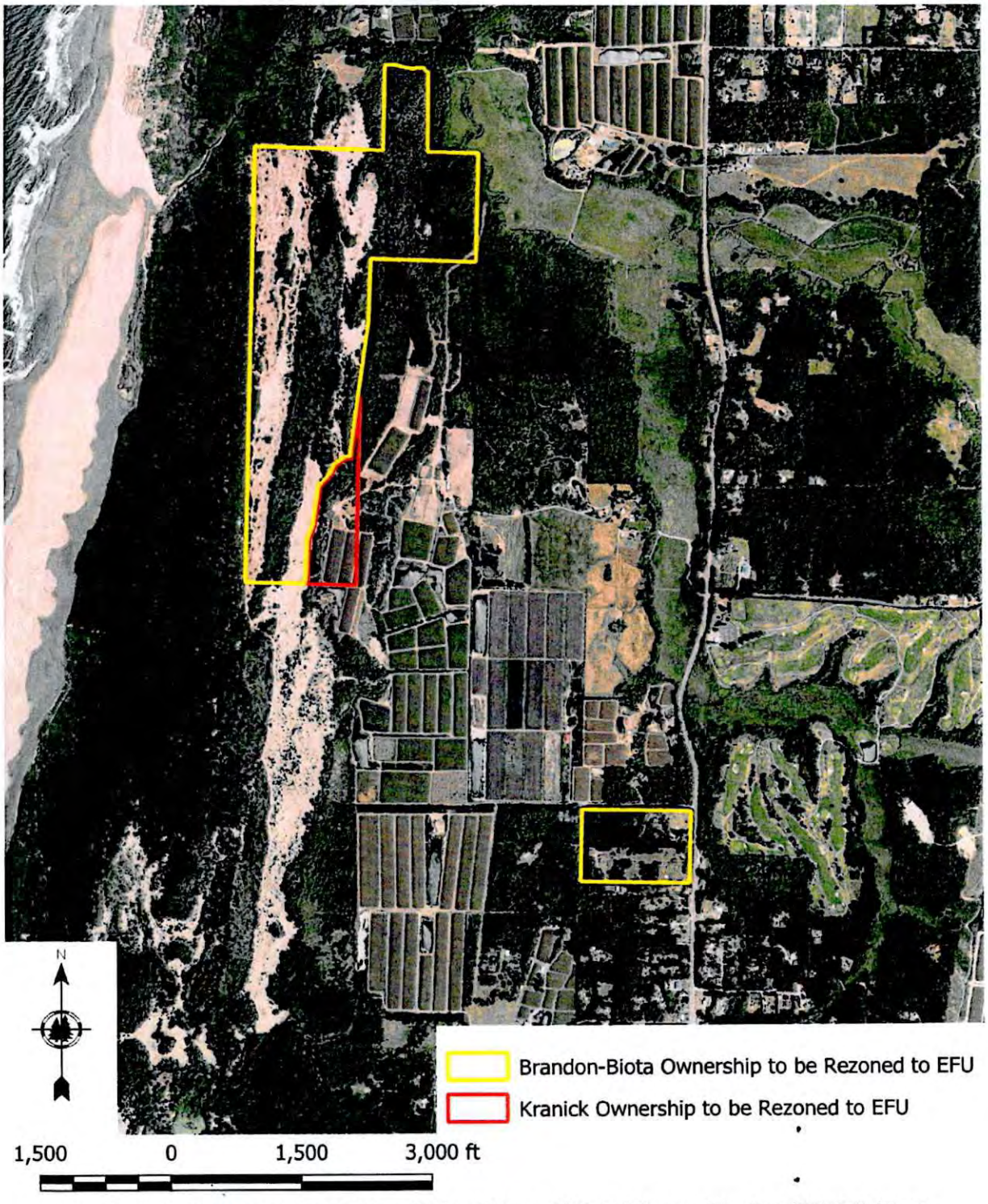
Bandon Biota/Kranick Ownership Exhibit



Tax lots shown per Coos County Assesor's shapefile dated February 2020. Aerial imagery taken from 2016 NAIP dataset.

Bandon Biota/Kranick Rezone Area Exhibit



Tax lots shown per Coos County Assesor's shapefile dated February 2020. Aerial imagery taken from 2016 NAIP dataset.

THE LANDS PROPOSED FOR REZONE HAVE BEEN COLORED FOR IDENTIFICATON PURPOSES. THE INTENT OF THIS ZONING MAP IS TO SHOW THE ZONING DISTRICTS ADJACENT TO AND SURROUNDING THE PROPOSED REZONE AREAS.

WESTERLY SEGMENT

KRANICK SEGMENT

- Commercial
- Controlled Development 10
- Controlled Development 5
- City Zoning
- City Estuary Plan - Aquatic
- City Estuary Plan - Shoreland
- Coos Bay Estuary Plan - Aquatic
- Coos Bay Estuary Plan - Shoreland
- Coquille River Estuary Plan - Aquatic
- Coquille River Estuary Plan - Shoreland
- Exclusive Farm Use
- Forest
- Industrial
- Minor Estuary and Shorelands
- Rural Center
- Recreation
- Rural Residential 2
- Rural Residential 5
- South Slough
- Urban Residential 1
- Urban Residential 2
- Urban Residential M

BANDON BIOTA ZONING MAP

LOCATED IN T.29, R.15, SECTIONS 13 AND 24

WESTERLY SEGMENT AND KRANICK SEGMENT

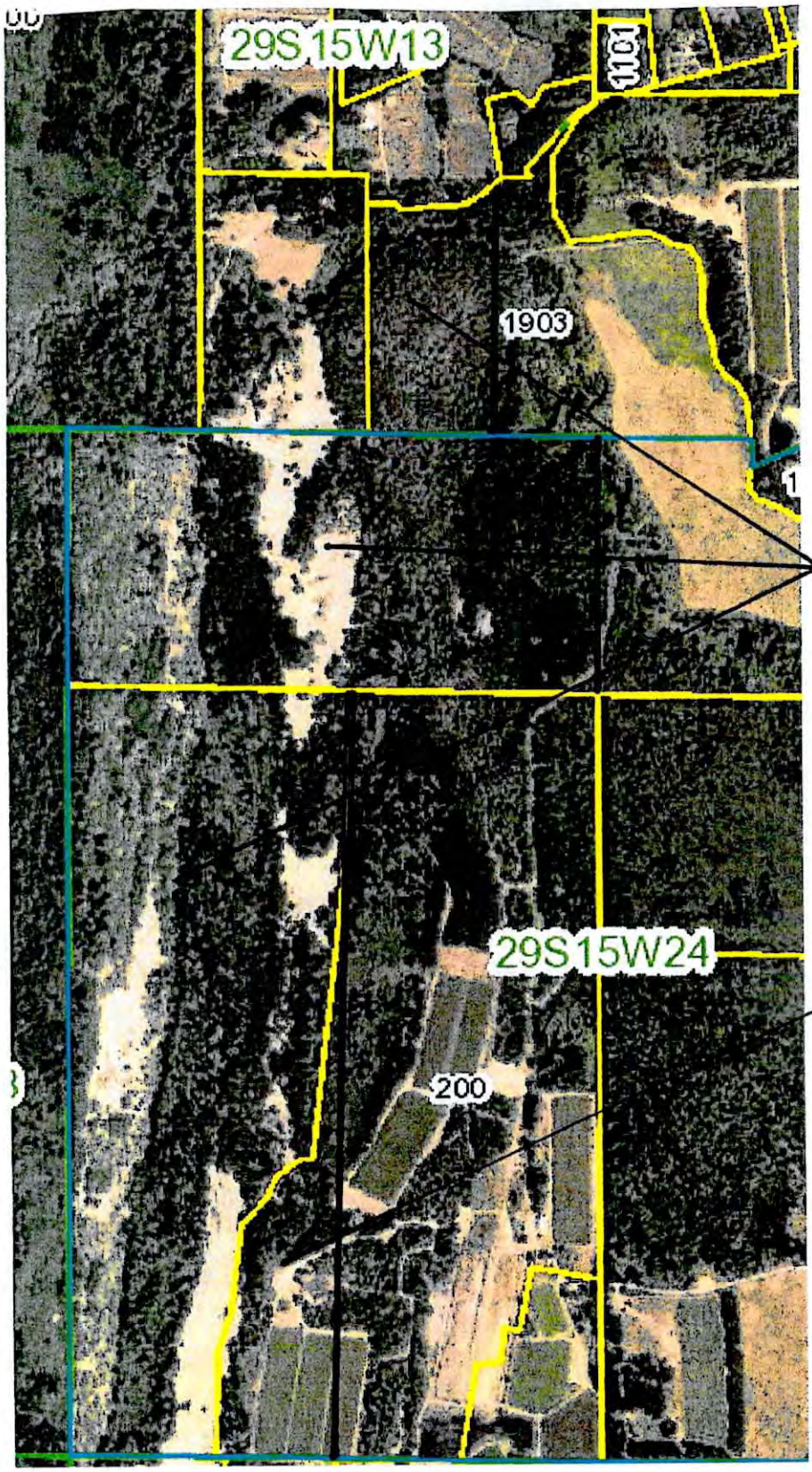
THE LANDS PROPOSED FOR REZONE HAVE BEEN COLORED FOR IDENTIFICATON PURPOSES. THE INTENT OF THIS ZONING MAP IS TO SHOW THE ZONING DISTRICTS ADJACENT TO AND SURROUNDING THE PROPOSED REZONE AREAS.

Commercial
Controlled Development 10
Controlled Development 5
City Zoning
City Estuary Plan - Aquatic
City Estuary Plan - Shoreland
Coos Bay Estuary Plan - Aquatic
Coos Bay Estuary Plan - Shoreland
Coquille River Estuary Plan - Aquatic
Coquille River Estuary Plan - Shoreland
Exclusive Farm Use
Forest
Industrial
Minor Estuary and Shorelands
Rural Center
Recreation
Rural Residential 2
Rural Residential 5
South Slough
Urban Residential 1
Urban Residential 2
Urban Residential M

BANDON BIOTA ZONING MAP

LOCATED IN T.29, R.15, SECTION 25

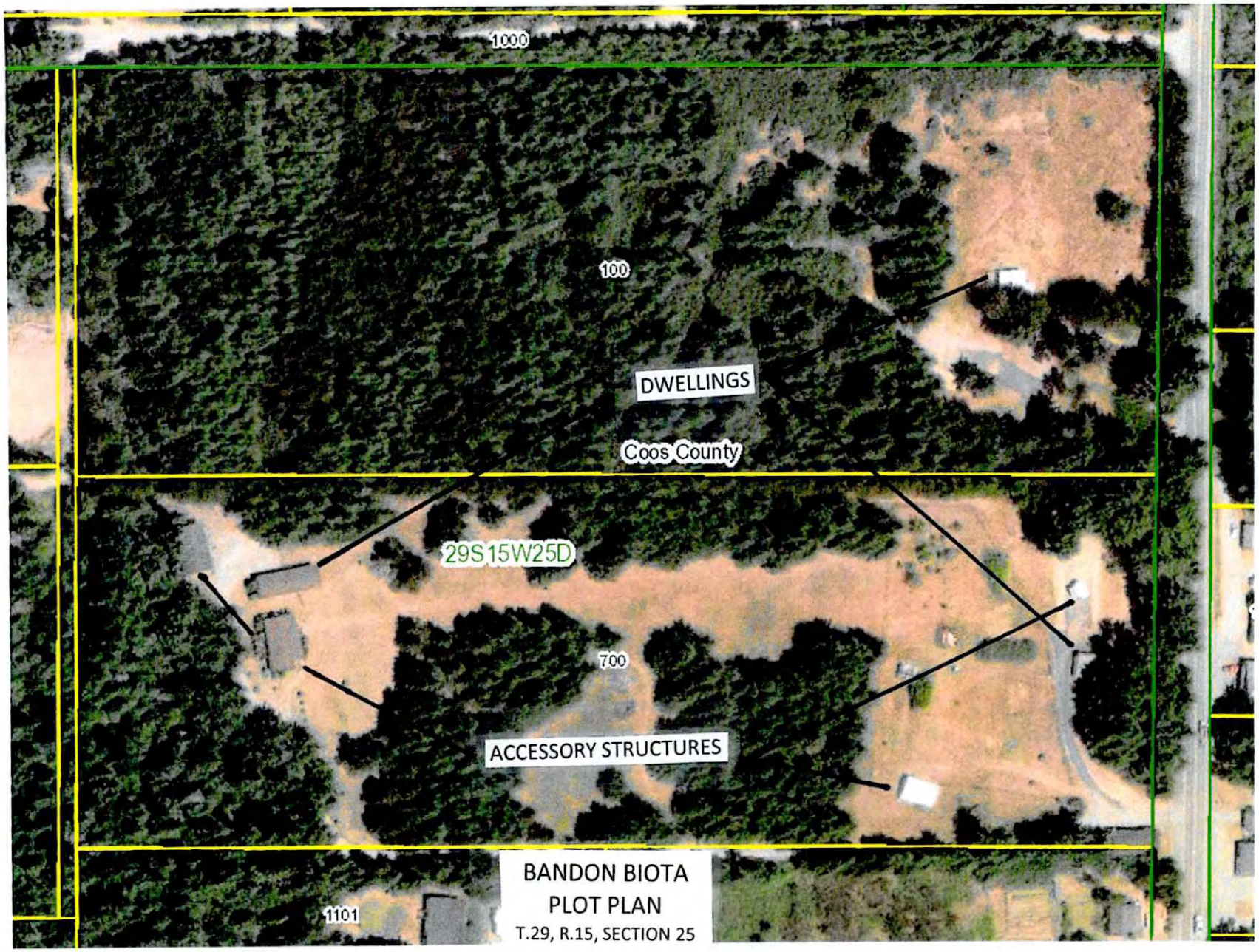
EASTERLY SEGMENT



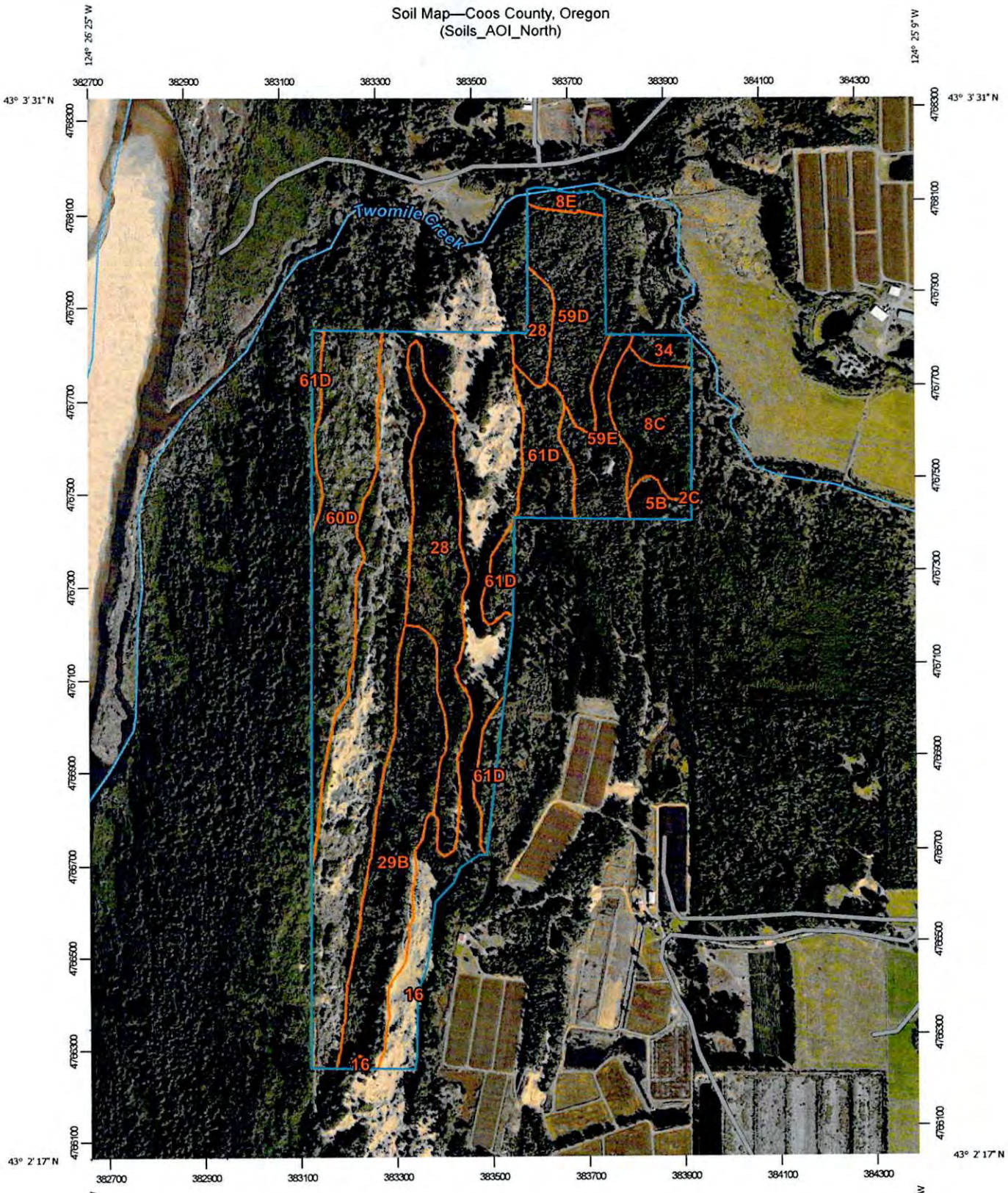
BANDON BIOTA
KRANICK PLOT PLAN
T.29, R.15, SECTIONS 13 & 24

BANDON BIOTA
SECTION 24 & 13
VACANT LAND
NO IMPROVEMENTS

KRANICK SECTION 24
CRANBERRY BOGS, SUMP
IRRIGATION STRUCTURES


1000
100
DWELLINGS
Coos County
29S 15W 25D
700
ACCESSORY STRUCTURES
1101
BANDON BIOTA
PLOT PLAN
T.29, R.15, SECTION 25

Soil Map—Coos County, Oregon
(Soils_AOI_North)



Map Scale: 1:11,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Coos County, Oregon
Survey Area Data: Version 15, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 5, 2019—Oct 10, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2C	Bandon-Blacklock complex, 0 to 12 percent slopes	0.0	0.0%
5B	Blacklock fine sandy loam, 3 to 7 percent slopes	2.1	1.1%
8C	Bullards sandy loam, 7 to 12 percent slopes	10.3	5.4%
8E	Bullards sandy loam, 30 to 50 percent slopes	1.7	0.9%
16	Dune land	72.2	37.8%
28	Heceta fine sand	22.1	11.5%
29B	Heceta-Waldport fine sands, 0 to 7 percent slopes	23.0	12.0%
34	Langlois silty clay loam	1.9	1.0%
59D	Waldport fine sand, 0 to 30 percent slopes	13.4	7.0%
59E	Waldport fine sand, 30 to 70 percent slopes	8.0	4.2%
60D	Waldport-Dune land complex, 12 to 30 percent slopes	22.9	12.0%
61D	Waldport-Heceta fine sands, 0 to 30 percent slopes	13.5	7.0%
Totals for Area of Interest		**191.2**	**100.0%**

2C-Bandon-Blacklock complex, 0 to 12 percent slopes.

This map unit is on dissected marine terraces. The native vegetation is mainly conifers, shrubs, forbs, and hardwoods. Elevation is 25 to 300 feet. The average annual precipitation is 55 to 75 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

This unit is 60 percent Bandon sandy loam and 20 percent Blacklock fine sandy loam. The Bandon soil is in lightly convex areas where slope is 0 to 12 percent, and the Blacklock soil is in scattered depressional areas where slope is 0 to 3 percent. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used.

Included in this unit are small areas of Bullards, Heceta, and Yaquina soils. Included areas make up about 20 percent of the total acreage. The percentage varies from one area to another.

The Bandon soil is deep and well drained. It formed in sandy marine deposits. Typically, the surface is covered with a mat of decomposed organic litter 1 inch thick. The surface layer is dark grayish brown sandy loam 5 inches thick. The upper 25 inches of the subsoil is dark reddish brown sandy loam and loam, and the lower 13 inches is pale brown, cemented, sandy material. The substratum to a depth of 60 inches or more is yellowish brown loam.

Permeability of the Bandon soil is moderate above the cemented layer, very slow through it, and moderately rapid below it. Available water capacity is about 2 to 6 inches. Effective rooting depth is 18 to 36 inches. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is severe.

The Blacklock soil is deep and poorly drained. It formed in sandy marine deposits. Typically, the surface is covered with a mat of organic litter 1 inch thick. The surface layer is black and very dark gray fine sandy loam 9 inches thick. The subsurface layer is gray loamy fine sand 4 inches thick. The upper 2 inches of the subsoil is black mucky loam, and the lower 37 inches is mottled, strong brown to yellowish brown, cemented sand. The substratum to a depth of 75 inches or more is mottled, light olive brown, red, and brown sand.

Permeability of the Blacklock soil is moderate above the cemented layer, very slow through it, and moderately rapid below it. Available water capacity is about 1.5 to 3.5 inches. Effective rooting depth is 12 to 24 inches. Runoff is very slow, and the hazard of water erosion is slight. The water table fluctuates from 6 inches above the surface to 30 inches below the surface from October to May.

This unit is used mainly for timber production and wildlife habitat. Areas of the Bandon soil are also used for pasture, recreation, and homesite development.

The Bandon soil is suited to the production of Douglas fir. Among the other species that grow on this soil are Sitka spruce, western hemlock, red alder, and western red cedar. The understory vegetation is mainly salal, evergreen huckleberry, western brackenfern, and Pacific waxmyrtle.

The Blacklock soil is suited to the production of shore pine. Among the other species that grow on this soil are Sitka spruce, western hemlock, and Port Orford cedar. The understory vegetation is mainly salal, evergreen huckleberry, Pacific rhododendron, manzanita, and slough sedge.

On the basis of a 100-year site curve, the mean site index for Douglas fir is 137 on the Bandon soil. At the culmination of the mean annual increment (CMAI), the production of 60-year-old Douglas fir trees 1.5 inches in diameter or more at breast height is 140 cubic feet per acre per year. On the basis of a 50-year site curve, the mean site index for Douglas fir is 105.

On the basis of a 100-year site curve, the mean site index for shore pine is 90 on the Blacklock soil. At the culmination of the mean annual increment (CMAI), the production of 60-year-old shore pine trees 1.5 inches in diameter or more at breast height is 79 cubic feet per acre per year.

High winds from the Pacific Ocean may seriously limit the growth of trees on this unit unless the trees are in a protected area.

The main limitations for the management of timber on this unit are the hazard of windthrow, seasonal wetness on the Blacklock soil, and plant competition on the Bandon soil. Windthrow is a hazard when the soil is wet and winds are strong. Tree roots are restricted by the cemented layer in the soils. The seasonal high water table in the Blacklock soil limits the use of equipment during wet periods. When openings are made in the canopy, invading brushy plants can delay natural reforestation. Undesirable plants reduce natural or artificial reforestation unless intensive site preparation and maintenance are provided. Reforestation can be accomplished by planting Douglas fir seedlings on the Bandon soil and shore pine seedlings on the Blacklock soil. Tree seedlings on the Blacklock soil have only a moderate rate of survival because of the seasonal high water table.

If this unit is used for pasture, the main limitations are the droughtiness of the Bandon soil in summer and the wetness of the Blacklock soil. Supplemental irrigation is needed for maximum production on the Bandon soil. Sprinkler irrigation is a suitable method of applying water. Use of this method permits the even, controlled application of water. Water should be applied in amounts sufficient to wet the root zone but small enough to minimize the leaching of plant nutrients. Applications of water should be adjusted to the available water capacity, the water intake rate, and the crop needs. Drainage is needed for maximum production. Water on or near the surface can be removed with open ditches or tile drains. Fertilizer is needed to ensure optimum growth of grasses and legumes. Grasses respond to nitrogen, and legumes respond to sulfur and phosphorus. Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

If this unit is used for recreational development, the main limitations are the very slow permeability of the Bandon soil and the wetness and very slow permeability of the Blacklock soil. Water perched above the cemented layer may limit the use of recreational facilities to dry periods. Drainage should be provided for paths and trails. Wetness can be reduced by ripping the cemented layer in the Bandon soil and by installing open ditches or tile drains in the Blacklock soil.

If this unit is used for homesite development, the main limitations are the very slow permeability of the soils and the hazard of erosion. Use of septic tank absorption fields is limited by the very slow permeability. Because of the cemented layer, onsite sewage disposal systems often fail or do not function properly during periods of high rainfall. The limitation of very slow permeability may be overcome by increasing the size of the absorption field.

Erosion is a hazard in the steeper areas. Only the part of the site that is used for construction should be disturbed. The risk of erosion is increased if the soil is left exposed during site development. Revegetating disturbed areas around construction sites as soon as feasible helps to control erosion. Structures to divert runoff are needed if buildings and roads are constructed.

This map unit is in capability subclass Vlw.

5B-Blacklock fine sandy loam, 3 to 7 percent slopes.

This deep, poorly drained soil is in depressional areas on marine terraces. It formed in sandy marine deposits. The native vegetation is mainly conifers, shrubs, forbs, and sedges. Elevation is 25 to 350 feet. The average annual precipitation is 55 to 75 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface is covered with a mat of organic litter 1 inch thick. The surface layer is black and very dark gray fine sandy loam 9 inches thick. The subsurface layer is gray fine sandy loam 4 inches thick. The upper 2 inches of the subsoil is black mucky loam, and the lower 37 inches is mottled, strong brown to yellowish brown, cemented sand. The substratum to a depth of 75 inches or more is mottled, light olive brown sand.

Included in this unit are small areas of Bandon, Bullards, and Heceta soils. Included areas make up about 25 percent of the total acreage. The percentage varies from one area to another.

Permeability of this Blacklock soil is moderate above the cemented layer, very slow through it, and moderately rapid below it. Available water capacity is about 1.5 to 3.5 inches. Effective rooting depth is 12 to 24 inches. Runoff is very slow, and the hazard of water erosion is slight. The water table fluctuates from 6 inches above the surface to 30 inches below the surface from October to May.

This unit is used mainly for timber production and wildlife habitat. It is also used for cranberry production and recreation.

This unit is suited to the production of shore pine. Among the other species that grow on this unit are Sitka spruce, western hemlock, and Port Orford cedar. The understory vegetation is mainly salal, evergreen huckleberry, Pacific rhododendron, manzanita, and slough sedge.

On the basis of a 100-year site curve, the mean site index for shore pine is 90. At the culmination of the mean annual increment (CMAI), the production of 60-year-old shore pine trees 1.5 inches in diameter or more at breast height is 79 cubic feet per acre per year. High winds from the Pacific Ocean may seriously limit the growth of trees unless they are in a protected area.

The main limitations for the management of timber on this unit are seasonal wetness and the hazard of windthrow. The seasonal high water table limits the use of equipment to dry periods. Because roots are restricted by the cemented layer, trees commonly are subject to windthrow. Reforestation can be accomplished by planting shore pine. Sitka spruce, and western hemlock seedlings. Tree seedlings have only a moderate rate of survival because of the seasonal high water table.

Irrigation and drainage are needed if the soil in this unit is intensively managed for cranberry production. Fields are prepared by removing the soil material above the cemented layer and replacing it with about 10 inches of sandy soil material. The top of the cemented layer should be graded toward the edge of the field to provide internal drainage. Open ditches and dikes are needed around the edge of fields to provide drainage and to control the water level; however, open ditches should not extend into the cemented layer.

Sprinkler irrigation is an efficient method of applying water during the dry period in summer. Sprinklers can also be used to control the temperature in summer, to prevent frost damage during winter, and to apply fertilizer, pesticides, and herbicides.

The very slow permeability of the cemented layer facilitates water management by preventing excessive seepage and reduces losses of fertilizer and soil amendments. Excessive seepage may occur in the sandy substratum. Yields vary greatly depending on management practices used. Because of the steepness of

slope, deep cuts and fills may be necessary to provide level fields. Excessive seepage may occur if cuts are made below the cemented layer.

If this unit is used for recreational development, the main limitations are wetness and the very slow permeability. Water perched above the cemented layer may limit the use of recreational facilities to 3 or 4 months during the dry period. Drainage should be provided for paths and trails. Septic tank absorption fields do not function properly because of the seasonal high water table and the cemented layer. If sanitary facilities are constructed on this unit, holding tanks or effluent treatment systems should be used.

This map unit is in capability subclass Vlw.

8C-Bullards sandy loam, 7 to 12 percent slopes.

This deep, well drained soil is on dissected marine terraces. It formed in mixed eolian and marine deposits. The native vegetation is mainly conifers, shrubs, forbs, and hardwoods. Elevation is 50 to 600 feet. The average annual precipitation is 55 to 75 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface is covered with a mat of undecomposed organic matter 3 inches thick. The surface layer is very dark grayish brown sandy loam 7 inches thick. The subsoil is dark reddish brown, dark brown, and strong brown gravelly sandy loam 34 inches thick. The substratum to a depth of 60 inches or more is yellowish brown sand.

Included in this unit are small areas of Bandon and Templeton soils. Also included are small areas of Blacklock soils. Included areas make up about 25 percent of the total acreage.

Permeability of this Bullards soil is moderate. Available water capacity is about 4.0 to 5.5 inches. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is severe.

This unit is used mainly for timber production, wildlife habitat, and homesite development. It is also used for pasture and recreation.

This unit is suited to the production of Douglas fir. Among the other species that grow on this unit are Sitka spruce, western hemlock, western redcedar, shore pine, and red alder. The understory vegetation is mainly evergreen huckleberry, creambush oceanspray, salal, Pacific rhododendron, cascara, and western swordfern.

On the basis of a 100-year site curve, the mean site index for Douglas fir is 132. At the culmination of the mean annual increment (CMAI), the production of 60-year-old Douglas fir trees 1.5 inches in diameter or more at breast height is 133 cubic feet per acre per year. On the basis of a 50-year site curve, the mean site index for Douglas fir is 105.

The main limitations for the management of timber on this unit are the hazard of windthrow and plant competition. Careful use of wheeled and tracked equipment reduces the disturbance of the protective layer of duff.

Proper design of road drainage systems and care in the placement of culverts help to control erosion. Logging roads require suitable surfacing for year-round use. Rock for road construction is not readily available in this unit. Windthrow is a hazard when the soil is wet and winds are strong. When openings are made in the canopy, invading brushy plants can delay natural reforestation. Undesirable plants reduce

natural or artificial reforestation unless intensive site preparation and maintenance are provided. Reforestation can be accomplished by planting Douglas fir, Sitka spruce, and western hemlock seedlings.

If this unit is used for homesite development, the main limitations are slope and droughtiness in summer. Absorption lines should be installed on the contour. In summer, irrigation is needed for lawn grasses, shrubs, vines, shade trees, and ornamental trees.

If this unit is used for pasture, the main limitation is droughtiness in summer. Supplemental irrigation is needed for maximum production. Sprinkler irrigation is a suitable method of applying water. Use of this method permits the even, controlled application of water. Water should be applied in amounts sufficient to wet the root zone but small enough to minimize the leaching of plant nutrients. Applications of water should be adjusted to the available water capacity, the water intake rate, and the crop needs.

Fertilizer is needed to ensure optimum growth of grasses and legumes. Grasses respond to nitrogen, and legumes respond to sulfur and phosphorus. Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion. Periodic mowing and clipping help to maintain uniform growth, discourage selective grazing, and reduce clumpy growth.

If this unit is used for recreational development, the main limitation is steepness of slope. Slope may restrict some kinds of activities and increase the cost of constructing facilities.

This map unit is in capability subclass IIIe.

8E-Bullards sandy loam, 30 to 50 percent slopes.

This deep, well drained soil is on dissected marine terraces. It formed in mixed eolian and marine deposits. The native vegetation is mainly conifers, shrubs, forbs, and hardwoods. Elevation is 50 to 600 feet. The average annual precipitation is 55 to 75 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface is covered with a mat of undecomposed organic matter 3 inches thick. The surface layer is very dark grayish brown sandy loam 7 inches thick. The subsoil is dark reddish brown, dark brown, and strong brown gravelly sandy loam 34 inches thick. The substratum to a depth of 60 inches or more is yellowish brown sand.

Included in this unit are small areas of Templeton soils. Included areas make up about 20 percent of the total acreage. The percentage varies from area to area.

Permeability of this Bullards soil is moderate. Available water capacity is about 4.0 to 5.5 inches. Effective rooting depth is 60 inches or more. Runoff is rapid, and the hazard of water erosion is high. The hazard of soil blowing is severe.

This unit is used mainly for timber production and wildlife habitat. It is also used for recreation.

This unit is suited to the production of Douglas fir. Among the other species that grow on this unit are Sitka spruce, western hemlock, western redcedar, shore pine, and red alder. The understory vegetation is mainly evergreen huckleberry, creambush oceanspray, salal, Pacific rhododendron, cascara, and western swordfern.

On the basis of a 100-year site. curve, the mean site index for Douglas fir is 132. At the culmination of the mean annual increment (CMAI), the production of 60-year-old Douglas fir trees 1.5 inches in diameter or more at breast height is 133 cubic feet per acre per year. On the basis of a 50-year site curve, the mean

site index for Douglas fir is 105. High winds from the Pacific Ocean may seriously limit the growth of trees unless they are in a protected area.

The main limitations for the management of timber on this unit are steepness of slope, the hazard of erosion, the hazard of windthrow, and plant competition. Careful use of wheeled and tracked equipment reduces the disturbance of the protective layer of duff. Highlead or other logging systems that fully or partially suspend logs damage the soil less and generally are less costly than tractor systems.

Proper design of road drainage systems and care in the placement of culverts help to control erosion. Cut and fill areas are subject to erosion unless treated. Seeding, mulching, benching, and compacting the soil can reduce erosion. Logging roads require suitable surfacing for year-round use. Rock for road construction is not readily available in this unit. Steep yarding paths, skid trails, and firebreaks are subject to rilling and gullying unless they are provided with adequate water bars or are protected by plant cover, or both.

Windthrow is a hazard when the soil is wet and winds are strong. When openings are made in the canopy, invading brushy plants can delay natural reforestation. Undesirable plants reduce natural or artificial reforestation unless intensive site preparation and maintenance are provided. Reforestation can be accomplished by planting Douglas fir, Sitka spruce, and western hemlock seedlings.

If this unit is used for recreational development, the main limitations are slope and the hazard of erosion. Slope limits the use of areas of this unit mainly to a few paths and trails, which should extend across the slope.

The risk of erosion is increased if the soil is left exposed during site development. Revegetating disturbed areas around construction sites as soon as feasible helps to control erosion.

This map unit is in capability subclass Vle.

16-Dune land.

Dune land consists mainly of hills and ridges of shifting fine and medium textured sand. It formed in eolian deposits derived dominantly from deflation basins adjacent to coastal beaches. Slope is 0 to 30 percent. Areas of Dune land do not support vegetation. Elevation is 5 to 100 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees *F,* and the average frost-free period is 200 to 240 days.

Included in this unit are small areas of Waldport soils, some of which have a thin surface layer, and Heceta soils. Included areas make up about 20 percent of the total acreage.

Permeability of Dune land is very rapid. Runoff is slow, and the hazard of water erosion is slight. The hazard of soil blowing is severe.

This unit is used for recreation. The hazard of soil blowing and the instability of the areas limit the unit for most kinds of recreational development. It is suitable for low-intensity uses such as hiking and horseback riding and for off-road vehicle traffic.

This map unit is in capability subclass VIIIe.

28-Heceta fine sand.

This deep, poorly drained soil is in deflation basins and depressional areas between dunes. It formed in eolian material. Slopes are 0 to 3 percent. The native vegetation is mainly sedges, rushes, water-tolerant grasses, and shrubs. Elevation is 0 to 80 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface layer is very dark grayish brown fine sand 4 inches thick. The substratum to a depth of 60 inches or more is mottled, grayish brown sand.

Included in this unit are small areas of Waldport and Netarts soils and Dune land, Included areas make up about 20 percent of the total acreage. The percentage varies from one area to another.

Permeability of this Heceta soil is rapid. Available water capacity is about 1 to 2 inches. Effective rooting depth is 60 inches for water-tolerant plants, but it is limited by the water table for non-water-tolerant plants. Runoff is ponded, and the hazard of water erosion is slight. The water table fluctuates from 12 inches above the surface to 6 inches below the surface from October to May.

This unit is used for recreation and wildlife habitat. If this unit is used for recreational development, the main limitation is wetness. Use of paths and trails may be limited to 2 or 3 months in summer.

This map unit is in capability subclass IVw.

29B-Heceta-Waldport fine sands, 0 to 7 percent slopes.

This map unit is on deflation plains and small dunes. The native vegetation is mainly rushes, sedges, and shrubs on the Heceta soil and grasses and shrubs on the Waldport soil. Elevation is 0 to 40 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

This unit is 55 percent Heceta fine sand and 25 percent Waldport fine sand. The Heceta soil is on nearly level deflation plains, and the Waldport soil is on small, stabilized sand dunes. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used.

Included in this unit are small areas of Dune land. Also included are small areas of Yaquina soils. Included areas make up about 20 percent of the total acreage.

The Heceta soil is deep and poorly drained. It formed in eolian material. Slope is 0 to 3 percent. Typically, the surface layer is very dark grayish brown fine sand 4inches thick. The substratum to a depth of 60 inches or more is mottled, grayish brown sand.

Permeability of the Heceta soil is rapid. Available water capacity is about 1 to 2 inches. Effective rooting depth is 60 inches for water-tolerant plants, but it is limited by the water table for non-water-tolerant plants. Runoff is ponded, and the hazard of water erosion is slight. The water table fluctuates from 12 inches above the surface to 6 inches below the surface from October to May.

The Waldport soil is deep and excessively drained. It formed in eolian deposits. Slope is 0 to 7 percent. Typically, the surface layer is very dark grayish brown fine sand 4 inches thick. The substratum to a depth of 60 inches or more is dark yellowish brown fine sand.

Permeability of the Waldport soil is very rapid. Available water capacity is about 3 to 4 inches. Effective rooting depth is 60 inches or more. Runoff is very slow, and the hazard of water erosion is slight. The hazard of soil blowing is severe.

This unit is used for recreation and wildlife habitat. If this unit is used for recreational development, the main limitations are wetness of the Heceta soil and the hazard of soil blowing on the Waldport soil. Use of this unit is restricted mainly to low-intensity types of recreation, such as hiking and horseback riding. The unit can also be used for other kinds of recreational activities that require a minimum of construction and soil disturbance.

The Heceta soil is ponded in winter; therefore, use of paths and trails constructed on this soil is limited to summer. Areas used for recreation can be protected from soil blowing by maintaining plant cover.

This map unit is in capability subclass VIIe.

34-Langlois silty clay loam.

This deep, very poorly drained soil is in depressional areas of flood plains and on old tidal flats. It formed in recent alluvium. Slope is 0 to 1 percent. The native vegetation is mainly hardwoods, shrubs, forbs, and conifers. Elevation is 0 to 20 feet. The average annual precipitation is 50 to 80 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface layer is mottled, dark grayish brown silty clay loam 10 inches thick. The upper 20 inches of the substratum is dark grayish brown and dark gray silty clay, and the lower part to a depth of 60 inches or more is dark gray clay. In some areas the surface layer is peaty.

Included in this unit are small areas of Chetco and Nestucca soils. Also included are small areas of Coquille soils. Included areas make up about 20 percent of the total acreage. The percentage varies from one area to another.

Permeability of this Langlois soil is slow. Available water capacity is about 2.5 to 4.5 inches. Effective rooting depth is 60 inches or more for water-tolerant plants, but it is limited by the water table for non-water-tolerant plants. The water table fluctuates between the surface and a depth of 36 inches below the surface from. November to March. Runoff is slow, and the hazard of water erosion is slight. This soil is subject to frequent periods of flooding in winter.

This unit is used mainly for hay and pasture and for wildlife habitat. The vegetation in areas not cultivated is mainly Pacific willow, red alder, black cottonwood, and Sitka spruce. The understory vegetation is mainly slough sedge, soft rush, brown-headed rush, and skunkcabbage.

If this unit is used for hay and pasture, the main limitations are the susceptibility of the surface layer to compaction, droughtiness in summer, the hazard of flooding, wetness, and, for the curing of hay, high humidity. Grazing when the soil is wet results in compaction of the surface layer and poor tilth. Compaction limits the movement of air and water in the soil and restricts the growth of roots; it can seriously reduce the productivity of the soil. Grazing should be delayed until the soil has drained sufficiently and is firm enough to withstand trampling by livestock.

Supplemental irrigation is needed for maximum production. Sprinkler irrigation is a suitable method of applying water. Use of this method permits the even, controlled application of water. Water should be applied in amounts sufficient to wet the root zone but in amounts small enough to minimize the leaching of plant nutrients. Applications of water should be adjusted to the available water capacity, the water intake rate, and the crop needs.

Frequent, long periods of flooding restrict the use of this unit in winter. Protection from flooding is impractical.

Drainage is needed to lower the water table. Water on or near the surface can be removed by use of open ditches and tide gates. Wetness and flooding restrict grazing in winter. The choice of plants is limited to those that withstand periodic inundation.

High humidity and frequent periods of rainfall late in spring prevent the production of high-quality hay. The quality of grass for hay can be maintained by increasing the stocking rate in spring. Excess forage in spring can be used as silage.

Fertilizer is needed to ensure optimum growth of grasses. Grasses respond to nitrogen. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Rotation grazing increases the production of forage and helps to control weeds. Periodic mowing and clipping help to maintain uniform growth, discourage selective grazing, and reduce clumpy growth.

This map unit is in capability subclass IVw.

59D-Waldport fine sand, 0 to 30 percent slopes.

This deep, excessively drained soil is on stabilized sand dunes. It formed in eolian deposits. The native vegetation is mainly conifers, shrubs, grasses, and forbs. Elevation is 10 to 120 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface layer is very dark grayish brown and brown fine sand 7 inches thick. The underlying material to a depth of 60 inches or more is dark yellowish brown fine sand.

Included in this unit are small areas of Heceta soils and Dune land. Also included are small areas of Netarts soils. Included areas make up about 25 percent of the total acreage.

Permeability of this Waldport soil is very rapid. Available water capacity is about 3 to 4 inches. Effective rooting depth is 60 inches or more. Runoff is very slow, and the hazard of water erosion is slight. The hazard of soil blowing is severe.

This unit is used mainly for timber production, wildlife habitat, and recreation. It is also used for homesite development.

This unit is suited to the production of shore pine. Among the other species that grow on this unit are western hemlock, Sitka spruce, and Douglas fir. The understory vegetation is mainly Pacific rhododendron, salal, red huckleberry, evergreen huckleberry, and European beachgrass.

On the basis of a 100-year site curve, the mean site index for shore pine is 90. At the culmination of the mean annual increment (CMAI), the production of 60-year-old shore pine trees 1.5 inches in diameter or more at breast height is 79 cubic feet per acre per year. High winds from the Pacific Ocean may seriously limit the growth of trees unless they are in a protected area.

The main limitations for the management of timber on this unit are seedling mortality and plant competition. Careful use of wheeled and tracked equipment reduces the disturbance of the protective layer of duff. The risk of soil blowing increases if the timber is harvested or the understory is removed. Conventional methods can be used for harvesting timber, but use of skid trails can accelerate erosion.

Proper design of road drainage systems and care in the placement of culverts help to control erosion. Seeding road cuts and fills helps to stabilize the soil and reduces the risk of soil blowing. Windthrow is a hazard when the soil is wet and winds are strong.

When openings are made in the canopy, invading brushy plants delay natural reforestation. Undesirable plants reduce adequate natural or artificial reforestation. Intensive site preparation and maintenance generally are not needed. Reforestation can be accomplished by planting shore pine and Sitka spruce seedlings. Droughtiness increases seedling mortality.

If this unit is used for recreational development, the main limitations are the hazard of soil blowing, the instability of the soil, and slope. Use of the unit is restricted to low-intensity types of recreation, such as hiking and horseback riding. Areas used for recreation can be protected from soil blowing by maintaining plant cover. Plant cover can be maintained by limiting traffic.

Roads, paths, and trails are difficult to maintain because of the loose sand. Cutbanks are not stable and are subject to slumping. Access roads should be placed on lower slopes and designed to provide low cut-slope grades.

If this unit is used for homesite development, the main limitations are the hazard of ground water pollution, slope, the hazard of soil blowing, and droughtiness in summer. The very rapid permeability of the subsoil may permit untreated effluent to enter the ground water. Special designs may be needed to prevent contamination of water supplies. The steeper areas of this unit acre not suitable for installation of absorption fields. Community sewage treatment systems may be needed.

Extensive cutting and. filling are required to provide level building sites. Excavation for houses and access roads exposes material that is highly susceptible to soil blowing. Revegetating disturbed areas around construction sites as soon as feasible helps to control soil blowing. It is difficult to establish plants in areas where the surface layer has been removed. Mulching and fertilizing cut areas help to establish plants. In summer, irrigation is needed for lawn grasses, shrubs, vines, shade trees, and ornamental trees.

This map unit is in capability subclass VIIe.

59E-Waldport fine sand, 30 to 70 percent slopes.

This deep, excessively drained soil is on stabilized sand dunes. It formed in eolian deposits. The native vegetation is mainly conifers, shrubs, grasses, and forbs. Elevation is 10 to 160 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface layer is very dark grayish brown and brown fine sand 7 inches thick. The underlying material to a depth of 60 inches or more is dark yellowish brown fine sand.

Included in this unit are small areas of Dune land. Also included are small areas of Netarts and Heceta soils. Included areas make up about 25 percent of the total acreage.

Permeability of this Waldport soil is very rapid. Available water capacity is about 3 to 4 inches. Effective rooting depth is 60 inches or more. Runoff is very slow, and the hazard of water erosion is moderate. The hazard of soil blowing is severe.

This unit is used for timber production and wildlife habitat.

This unit is suited to the production of shore pine. Among the other species that grow on this unit are western hemlock, Sitka spruce, and Douglas fir. The understory vegetation is mainly Pacific rhododendron, salal, red huckleberry, evergreen huckleberry, and European beachgrass.

On the basis of a 100-year site curve, the mean site index for shore pine is 90. At the culmination of the mean annual increment (CMAI), the production of 60-year-old shore pine trees 1.5 inches in diameter or more at breast height is 79 cubic feet per acre per year. High winds from the Pacific Ocean may seriously limit the growth of trees unless they are in a protected area.

The main limitations for the management of timber on this unit are the hazard of erosion, seedling mortality, and plant competition. Careful use of wheeled and tracked equipment reduces the disturbance of the protective layer of duff. The risk of soil blowing increases if the timber is harvested or the understory is removed. Conventional methods can be used for harvesting timber, but use of skid trails can accelerate erosion. Steepness of slope restricts the use of wheeled and tracked equipment on skid trails. Cable yarding generally is safer and disturbs the soil less.

Proper design of road drainage systems and care in the placement of culverts help to control erosion. Seeding cuts and fills helps to stabilize the soil and reduces soil blowing. Road location and maintenance costs are greater in the more steeply sloping areas. Material cast to the side when building roads can damage vegetation. It is also a potential source of sedimentation. End hauling of waste material minimizes damage to the vegetation downslope and reduces the potential for sedimentation. Windthrow is a hazard when the soil is wet and winds are strong.

When openings are made in the canopy, invading brushy plants can delay natural reforestation. Undesirable plants reduce adequate natural or artificial reforestation. Intensive site preparation and maintenance generally are not needed.

Reforestation can be accomplished by planting shore pine and Sitka spruce seedlings. Droughtiness increases seedling mortality.

This map unit is in capability subclass Vlle.

60D-Waldport-Dune land complex, 12 to 30 percent slopes.

This map unit is on stabilized and active foredunes. The vegetation on the Waldport soil is mainly European beachgrass. Dune land does not support vegetation. Elevation is 10 to 80 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

This unit is 60 percent Waldport fine sand and 30 percent Dune land. The Waldport soil is in areas that have been stabilized with vegetation. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used.

Included in this unit are small areas of Heceta soils. Included areas make up about 10 percent of the total acreage.

The Waldport soil is deep and excessively drained. It formed in eolian deposits. Typically, the surface layer is very dark grayish brown fine sand 4 inches thick. The substratum to a depth of 60 inches or more is dark yellowish brown fine sand.

Permeability of the Waldport soil is very rapid. Available water capacity is about 3 to 4 inches. Effective rooting depth is 60 inches or more. Runoff is very slow, and the hazard of erosion is slight. The hazard of soil blowing is severe.

Dune land is deep and excessively drained. It formed in eolian deposits. Typically, the areas of Dune land are fine and medium sand to a depth of 60 inches or more.

Permeability of Dune land is very rapid. Available water capacity is about 3 to 4 inches. Runoff is slow, and the hazard of water erosion is slight. The hazard of soil blowing is severe.

This unit is used for recreation and wildlife habitat.

If this unit is used for recreational development, the main limitations are soil blowing and the instability of the soil. Use of this unit is limited to low-intensity types of recreation, such as hiking, horseback riding, and operating off-road vehicles.

Areas used for recreation can be protected from soil blowing by establishing plant cover. Plant cover can be maintained by limiting traffic. Excavation for roads and buildings exposes material that is highly susceptible to soil blowing. Establishing vegetation on disturbed areas around construction sites as soon as possible helps to control soil blowing. Roads and trails are difficult to maintain because of the loose sand. Roads must be surfaced for use by conventional vehicles.

This map unit is in capability subclass VIIe.

61D-Waldport-Heceta fine sands, 0 to 30 percent slopes.

This map unit is mainly on stabilized sand dunes and in depressional areas between sand dunes. Some areas are on deflation basins. The native vegetation is mainly conifers, shrubs, grasses, and forbs on the Waldport soil and sedges, rushes, water-tolerant grasses, and shrubs on the Heceta soil. Elevation is 0 to 80 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

This unit is 50 percent Waldport fine sand and 30 percent Heceta fine sand. The Waldport soil is on stabilized sand dunes, and the Heceta soil is in interdunal swales and depressional areas. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used.

Included in this unit are small areas of Netarts and Yaquina soils and Dune land. Included areas make up about 20 percent of the total acreage.

The Waldport soil is deep and excessively drained. It formed in eolian deposits. Slope is 7 to 30 percent. Typically, the surface layer is very dark grayish brown and brown fine sand 7 inches thick. The substratum to a depth of 60 inches or more is dark yellowish brown fine sand.

Permeability of the Waldport soil is very rapid. Available water capacity is about 3 to 4 inches. Effective rooting depth is 60 inches or more. Runoff is very slow, and the hazard of water erosion is slight. The hazard of soil blowing is severe.

The Heceta soil is deep and poorly drained. It formed in eolian material. Slope is 0 to 3 percent. Typically, the surface layer is very dark grayish brown fine sand 4 inches thick. The substratum to a depth of 60 inches or more is mottled, grayish brown sand.

Permeability of the Heceta soil is rapid. Available water capacity is about 1 inch to 2 inches. Effective rooting depth is 60 inches for water-tolerant plants, but it is limited by the water table for non-water-tolerant plants. Runoff is ponded, and the hazard of water erosion is slight. The water table fluctuates from 12 inches above the surface to 6 inches below the surface from October to May.

The Waldport soil in this unit is used mainly for timber production, and the Heceta soil is used mainly for wildlife habitat. The unit is also used for recreation.

The Waldport soil is suited to the production of shore pine. Other species that grow on this soil include western hemlock, Sitka spruce, and Douglas fir. The understory vegetation is mainly Pacific rhododendron, salal, red huckleberry, evergreen huckleberry, and European beachgrass. The Heceta soil is poorly suited to the production of timber. The vegetation on this soil is mainly slough sedge, salt rush, coast willow, waxmyrtle, evergreen huckleberry, and salal.

On the basis of a 100-year site curve, the mean site index for shore pine is 90 on the Waldport soil. At the culmination of the mean annual increment (CMAI), the production of 60-year-old shore pine trees 1.5 inches in diameter or more at breast height is 79 cubic feet per acre per year. High winds from the Pacific Ocean may seriously limit the growth of trees unless they are in a protected area.

The main limitations for the management of timber on this soil are seedling mortality and plant competition. Careful use of wheeled and tracked equipment reduces the disturbance of the protective layer of duff. The risk of soil blowing increases if the timber is harvested or the understory is removed. Conventional methods can be used for harvesting timber, but use of skid trails can accelerate erosion.

Proper design of road drainage systems and care in the placement of culverts help to control erosion. Seeding cuts and fills helps to stabilize the soil and reduce soil blowing. Windthrow is a hazard when the soil is wet and winds are strong.

When openings are made in the canopy, invading brushy plants can delay natural reforestation. Undesirable plants reduce adequate natural or artificial reforestation. Intensive site preparation and maintenance generally are not needed. Reforestation can be accomplished by planting shore pine and Sitka spruce seedlings. Droughtiness increases seedling mortality.

If this unit is used for recreational development, the main limitations are the hazard of soil blowing, the instability of the Waldport soil, and the wetness of the Heceta soil. These limitations restrict the use of this unit mainly to low-intensity types of recreation, such as hiking and horseback riding. The unit can be used for other kinds of recreational activities that require a minimum of construction and soil disturbance.

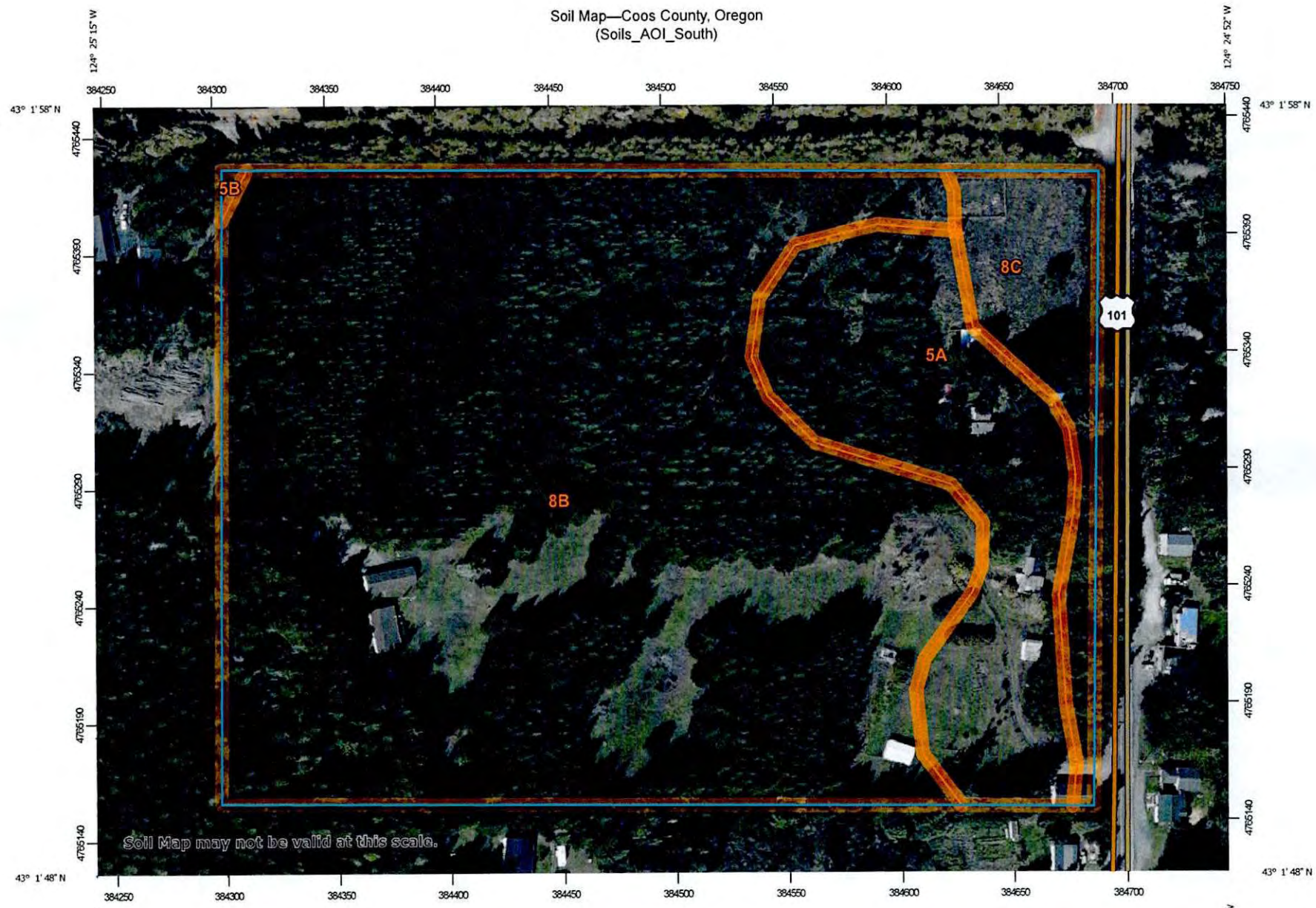
Areas used for recreation can be protected from soil blowing by maintaining plant cover. Plant cover can be maintained by limiting traffic. Excavation for houses and access roads exposes material that is highly susceptible to soil blowing. Revegetating disturbed areas around construction sites as soon as feasible helps to control soil blowing.

Roads, paths, and trails are difficult to maintain because of the loose sand. Cutbanks are not stable and are subject to slumping.

Wetness limits most recreational development on the Heceta soil. Use of paths and trails may be limited to 2 to 3 months in summer. Drainage is impractical because of the lack of suitable outlets.

This map unit is in capability subclass VIIe.

Soil Map—Coos County, Oregon
(Soils_AOI_South)



Map Scale: 1:2,310 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Coos County, Oregon
Survey Area Data: Version 15, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 5, 2019—Oct 10, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5A	Blacklock fine sandy loam, 0 to 3 percent slopes	4.5	17.1%
5B	Blacklock fine sandy loam, 3 to 7 percent slopes	0.0	0.1%
8B	Bullards sandy loam, 0 to 7 percent slopes	19.8	75.8%
8C	Bullards sandy loam, 7 to 12 percent slopes	1.8	6.9%
Totals for Area of Interest		**26.1**	**100.0%**

5A-Blacklock fine sandy loam, 0 to 3 percent slopes.

This deep, poorly drained soil is in depressional areas of marine terraces. It formed in sandy marine deposits. The native vegetation is mainly conifers, shrubs, forbs, and sedges. Elevation is 25 to 350 feet. The average annual precipitation is 55 to 75 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface is covered with a mat o' organic litter 1 inch thick. The surface layer is black and very dark gray fine sandy loam and loamy fine sand 9 inches thick. The subsurface layer is gray loamy fine sand 4 inches thick. The upper 2 inches of the subsoil is black mucky loam, and the lower 37 inches is mottled, strong brown to yellowish brown, cemented sand. The substratum to a depth of 75 inches or more is mottled, light olive brown, red, and brown sand.

Included in this unit are small areas of Bandon and Bullards soils. Also included are small areas of soils that are similar to this Blacklock soil but do not have a cemented layer and have a clayey substratum. Included areas make up about 25 percent of the total acreage. The percentage varies from one area to another.

Permeability of this Blacklock soil is moderate above the cemented layer, very slow through it, and moderately rapid below it. Available water capacity is about 1.5 to 3.5 inches. Effective rooting depth is 12 to 24 inches. Runoff is very slow, and the hazard of water erosion is slight. The water table fluctuates from 6 inches above the surface to 30 inches below the surface from October to May.

This unit is used mainly for timber production and wildlife habitat. It is also used for cranberry production and recreation.

This unit is suited to the production of shore pine. Among the other species grown on the soil in this unit are Sitka spruce, western hemlock, and Port Orford cedar. The understory vegetation is mainly salal, evergreen huckleberry, Pacific rhododendron, manzanita, and slough sedge.

On the basis of a 100-year site curve, the mean site index for shore pine is 90. At the culmination of the mean annual increment (CMAI), the production of 60-year-old shore pine trees 1.5 inches in diameter or more at breast height is 79 cubic feet per acre per year. High winds from the Pacific Ocean may seriously limit the growth of trees unless they are in a protected area.

The main limitations for the management of timber on this unit are seasonal wetness and the hazard of windthrow. The seasonal high water table limits the use of equipment to dry periods. Because roots are restricted by the cemented layer, trees commonly are subject to windthrow.

Reforestation can be accomplished by planting shore pine, Sitka spruce, and western hemlock. Tree seedlings have only a moderate rate of survival because of the seasonal high water table.

Irrigation and drainage are needed if the soil in this unit is intensively managed for cranberry production. Fields are prepared by removing the soil material above the cemented layer and replacing it with about 10 inches of sandy soil material. The top of the cemented layer should be graded toward the edge of the field to provide internal drainage. Open ditches and dikes are needed around the edge of fields to provide drainage and to control the water level; however, open ditches should not extend into the cemented layer.

Sprinkler irrigation is an efficient method of applying water during the dry period in summer. Sprinklers can also be used to control the temperature during summer, to prevent frost damage during winter, and to apply fertilizer, pesticides, and herbicides.

The very slow permeability of the cemented layer facilitates water management by preventing excessive seepage and reduces losses of fertilizer and soil amendments. Excess seepage may occur in the sandy substratum. Yields vary greatly depending on the management practices used.

If this unit is used for recreational development, the main limitations are wetness and the very slow permeability. Water perched above the cemented layer may limit the use of recreational facilities to 3 or 4 months during the dry period. Drainage should be provided for paths and trails. Septic tank absorption fields do not function properly because of the seasonal high water table and the cemented layer. If sanitary facilities are constructed on this unit, holding tanks or effluent treatment systems should be used.

This map unit is in capability subclass Vlw.

5B-Blacklock fine sandy loam, 3 to 7 percent slopes.

This deep, poorly drained soil is in depressional areas on marine terraces. It formed in sandy marine deposits. The native vegetation is mainly conifers, shrubs, forbs, and sedges. Elevation is 25 to 350 feet. The average annual precipitation is 55 to 75 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface is covered with a mat of organic litter 1 inch thick. The surface layer is black and very dark gray fine sandy loam 9 inches thick. The subsurface layer is gray fine sandy loam 4 inches thick. The upper 2 inches of the subsoil is black mucky loam, and the lower 37 inches is mottled, strong brown to yellowish brown, cemented sand. The substratum to a depth of 75 inches or more is mottled, light olive brown sand.

Included in this unit are small areas of Bandon, Bullards, and Heceta soils. Included areas make up about 25 percent of the total acreage. The percentage varies from one area to another.

Permeability of this Blacklock soil is moderate above the cemented layer, very slow through it, and moderately rapid below it. Available water capacity is about 1.5 to 3.5 inches. Effective rooting depth is 12 to 24 inches. Runoff is very slow, and the hazard of water erosion is slight. The water table fluctuates from 6 inches above the surface to 30 inches below the surface from October to May.

This unit is used mainly for timber production and wildlife habitat. It is also used for cranberry production and recreation.

This unit is suited to the production of shore pine. Among the other species that grow on this unit are Sitka spruce, western hemlock, and Port Orford cedar. The understory vegetation is mainly salal, evergreen huckleberry, Pacific rhododendron, manzanita, and slough sedge.

On the basis of a 100-year site curve, the mean site index for shore pine is 90. At the culmination of the mean annual increment (CMAI), the production of 60-year-old shore pine trees 1.5 inches in diameter or more at breast height is 79 cubic feet per acre per year. High winds from the Pacific Ocean may seriously limit the growth of trees unless they are in a protected area.

The main limitations for the management of timber on this unit are seasonal wetness and the hazard of windthrow. The seasonal high water table limits the use of equipment to dry periods. Because roots are restricted by the cemented layer, trees commonly are subject to windthrow. Reforestation can be accomplished by planting shore pine. Sitka spruce, and western hemlock seedlings. Tree seedlings have only a moderate rate of survival because of the seasonal high water table.

Irrigation and drainage are needed if the soil in this unit is intensively managed for cranberry production. Fields are prepared by removing the soil material above the cemented layer and replacing it with about 10 inches of sandy soil material. The top of the cemented layer should be graded toward the edge of the field to provide internal drainage. Open ditches and dikes are needed around the edge of fields to provide drainage and to control the water level; however, open ditches should not extend into the cemented layer.

Sprinkler irrigation is an efficient method of applying water during the dry period in summer. Sprinklers can also be used to control the temperature in summer, to prevent frost damage during winter, and to apply fertilizer, pesticides, and herbicides.

The very slow permeability of the cemented layer facilitates water management by preventing excessive seepage and reduces losses of fertilizer and soil amendments. Excessive seepage may occur in the sandy substratum. Yields vary greatly depending on management practices used. Because of the steepness of slope, deep cuts and fills may be necessary to provide level fields. Excessive seepage may occur if cuts are made below the cemented layer.

If this unit is used for recreational development, the main limitations are wetness and the very slow permeability. Water perched above the cemented layer may limit the use of recreational facilities to 3 or 4 months during the dry period. Drainage should be provided for paths and trails. Septic tank absorption fields do not function properly because of the seasonal high water table and the cemented layer. If sanitary facilities are constructed on this unit, holding tanks or effluent treatment systems should be used.

This map unit is in capability subclass Vlw.

8B-Bullards sandy loam, 0 to 7 percent slopes.

This deep, well drained soil is on dissected marine terraces. It formed in mixed eolian and marine deposits. The native vegetation is mainly conifers, shrubs, forbs, and hardwoods. Elevation is 50 to 600 feet. The average annual precipitation is 55 to 75 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface is covered with a mat of undecomposed organic matter 3 inches thick. The surface layer is very dark grayish brown sandy loam 7 inches thick. The subsoil is dark reddish brown, dark brown, and strong brown gravelly sandy loam 34 inches thick. The substratum to a depth of 60 inches or more is yellowish brown sand.

Included in this unit are small areas of Blacklock and Bandon soils. Also included are small areas of Templeton soils. Included areas make up about 25 percent of the total acreage.

Permeability of this Bullards soil is moderate. Available water capacity is about 4.0 to 5.5 inches. Effective rooting depth is 60 inches or more. Runoff is slow, and the hazard of water erosion is slight. The hazard of soil blowing is severe.

This unit is used mainly for timber production, wildlife habitat, and homesite development. It is also used for pasture and recreation.

This unit is suited to the production of Douglas fir. Among the other species that grow on this unit are Sitka spruce, western hemlock, western redcedar, shore pine, and red alder. The understory vegetation is mainly evergreen huckleberry, creambush oceanspray, salal, Pacific rhododendron, cascara, and western swordfern.

On the basis of a 100-year site curve, the mean site index for Douglas fir is 132. At the culmination of the mean annual increment (CMAI), the production of 60-year-old Douglas fir trees 1.5 inches in diameter or more at breast height is 133 cubic feet per acre per year. On the basis of a 50-year site curve, the mean site index for Douglas fir is 105.

The main limitations for the management of timber on this unit are the hazard of windthrow and plant competition. Careful use of wheeled and tracked equipment reduces the disturbance of the protective layer of duff. Maintaining the understory is essential in controlling erosion. Logging roads require suitable surfacing for year-round use. Rock for road construction is not readily available in this unit.

Windthrow is a hazard when the soil is wet and winds are strong. When openings are made in the canopy, invading brushy plants can delay natural reforestation. Undesirable plants reduce natural or artificial reforestation unless intensive site preparation and maintenance are provided. Reforestation can be accomplished by planting Douglas fir, Sitka spruce, and western hemlock seedlings.

If this unit is used for homesite development, the main limitation is droughtiness in summer. In summer, irrigation is needed for lawn grasses, shrubs, vines, shade trees, and ornamental trees.

If this unit is used for pasture, the main limitation is droughtiness in summer. Supplemental irrigation is needed for maximum production. Sprinkler irrigation is a suitable method of applying water. Use of this method permits the even, controlled application of water. Water should be applied in amounts sufficient to wet the root zone but small enough to minimize the leaching of plant nutrients. Applications of water should be adjusted to the available water capacity, the water intake rate, and the crop needs.

Fertilizer is needed to ensure optimum growth of grasses and legumes. Grasses respond to nitrogen, and legumes respond to sulfur and phosphorus. Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion. Periodic mowing and clipping help to maintain uniform growth, discourage selective grazing, and reduce clumpy growth.

This unit is well suited to recreational development. It has few limitations.

This map unit is in capability subclass IIIe.

8C-Bullards sandy loam, 7 to 12 percent slopes.

This deep, well drained soil is on dissected marine terraces. It formed in mixed eolian and marine deposits. The native vegetation is mainly conifers, shrubs, forbs, and hardwoods. Elevation is 50 to 600 feet. The average annual precipitation is 55 to 75 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface is covered with a mat of undecomposed organic matter 3 inches thick. The surface layer is very dark grayish brown sandy loam 7 inches thick. The subsoil is dark reddish brown, dark brown, and strong brown gravelly sandy loam 34 inches thick. The substratum to a depth of 60 inches or more is yellowish brown sand.

Included in this unit are small areas of Bandon and Templeton soils. Also included are small areas of Blacklock soils. Included areas make up about 25 percent of the total acreage.

Permeability of this Bullards soil is moderate. Available water capacity is about 4.0 to 5.5 inches. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is severe.

This unit is used mainly for timber production, wildlife habitat, and homesite development. It is also used for pasture and recreation.

This unit is suited to the production of Douglas fir. Among the other species that grow on this unit are Sitka spruce, western hemlock, western redcedar, shore pine, and red alder. The understory vegetation is mainly evergreen huckleberry, creambush oceanspray, salal, Pacific rhododendron, cascara, and western swordfern.

On the basis of a 100-year site curve, the mean site index for Douglas fir is 132. At the culmination of the mean annual increment (CMAI), the production of 60-year-old Douglas fir trees 1.5 inches in diameter or more at breast height is 133 cubic feet per acre per year. On the basis of a 50-year site curve, the mean site index for Douglas fir is 105.

The main limitations for the management of timber on this unit are the hazard of windthrow and plant competition. Careful use of wheeled and tracked equipment reduces the disturbance of the protective layer of duff.

Proper design of road drainage systems and care in the placement of culverts help to control erosion. Logging roads require suitable surfacing for year-round use. Rock for road construction is not readily available in this unit. Windthrow is a hazard when the soil is wet and winds are strong. When openings are made in the canopy, invading brushy plants can delay natural reforestation. Undesirable plants reduce natural or artificial reforestation unless intensive site preparation and maintenance are provided. Reforestation can be accomplished by planting Douglas fir, Sitka spruce, and western hemlock seedlings.

If this unit is used for homesite development, the main limitations are slope and droughtiness in summer. Absorption lines should be installed on the contour. In summer, irrigation is needed for lawn grasses, shrubs, vines, shade trees, and ornamental trees.

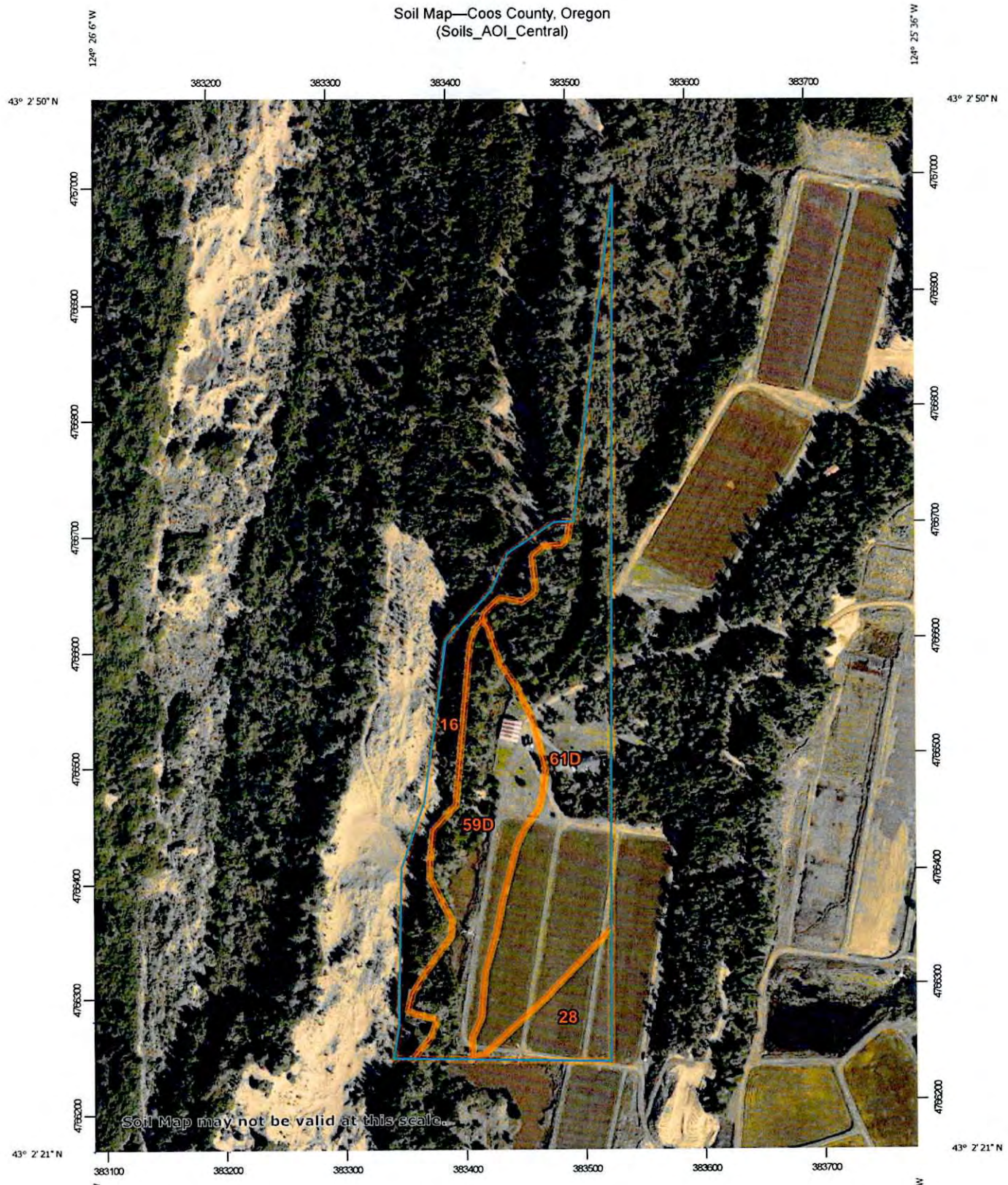
If this unit is used for pasture, the main limitation is droughtiness in summer. Supplemental irrigation is needed for maximum production. Sprinkler irrigation is a suitable method of applying water. Use of this method permits the even, controlled application of water. Water should be applied in amounts sufficient to wet the root zone but small enough to minimize the leaching of plant nutrients. Applications of water should be adjusted to the available water capacity, the water intake rate, and the crop needs.

Fertilizer is needed to ensure optimum growth of grasses and legumes. Grasses respond to nitrogen, and legumes respond to sulfur and phosphorus. Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion. Periodic mowing and clipping help to maintain uniform growth, discourage selective grazing, and reduce clumpy growth.

If this unit is used for recreational development, the main limitation is steepness of slope. Slope may restrict some kinds of activities and increase the cost of constructing facilities.

This map unit is in capability subclass IIIe.

Soil Map—Coos County, Oregon
(Soils_AOI_Central)



Map Scale: 1:4,430 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Coos County, Oregon
Survey Area Data: Version 15, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 5, 2019—Oct 10, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
16	Dune land	2.8	15.2%
28	Heceta fine sand	1.5	8.4%
59D	Waldport fine sand, 0 to 30 percent slopes	4.9	26.6%
61D	Waldport-Heceta fine sands, 0 to 30 percent slopes	9.2	49.9%
Totals for Area of Interest		**18.4**	**100.0%**

16 - Dune Land

Dune land consists mainly of hills and ridges of shifting fine and medium textured sand. It formed in eolian deposits derived dominantly from deflation basins adjacent to coastal beaches. Slope is 0 to 30 percent. Areas of Dune land do not support vegetation. Elevation is 5 to 100 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Included in this unit are small areas of Waldport soils, some of which have a thin surface layer, and Heceta soils. Included areas make up about 20 percent of the total acreage.

Permeability of Dune land is very rapid. Runoff is slow, and the hazard of water erosion is slight. The hazard of soil blowing is severe.

This unit is used for recreation. The hazard of soil blowing and the instability of the areas limit the unit for most kinds of recreational development. It is suitable for low-intensity uses such as hiking and horseback riding and for off-road vehicle traffic.

This map unit is in capability subclass VIIIe.

28 - Heceta fine sand

This deep, poorly drained soil is in deflation basins and depressional areas between dunes. It formed in eolian material. Slopes are 0 to 3 percent. The native vegetation is mainly sedges, rushes, water-tolerant grasses, and shrubs. Elevation is 0 to 80 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface layer is very dark grayish brown fine sand 4 inches thick. The substratum to a depth of 60 inches or more is mottled, grayish brown sand.

Included in this unit are small areas of Waldport and Netarts soils and Dune land. Included areas make up about 20 percent of the total acreage. The percentage varies from one area to another.

Permeability of this Heceta soil is rapid. Available water capacity is about 1 to 2 inches. Effective rooting depth is 60 inches of water-tolerant plants, but it is limited by the water table for non-water-tolerant plants. Runoff is ponded, and the hazard of water erosion is slight. The water table fluctuates from 12 inches above the surface to 6 inches below the surface from October to May.

This unit is used for recreation and wildlife habitat.

If this unit is used for recreational development, the main limitation is wetness. Use of paths and trails may be limited to 2 or 3 months in summer.

This map unit is in capability subclass IVw.

59D - Waldport fine sand, 0 to 30 percent slopes

This deep, excessively drained soil is on stabilized sand dunes. It formed in eolian deposits. The native vegetation is mainly conifers, shrubs, grasses, and forbs. Elevation is 10 to 120 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

Typically, the surface layer is very dark grayish brown and brown fine sand 7 inches thick. The underlying material to a depth of 60 inches or more is dark yellowish brown fine sand.

Included in this unit are small areas of Heceta soils and Dune land. Also included are small areas of Netarts soils. Included areas make up about 25 percent of the total acreage.

Permeability of this Waldport soil is very rapid. Available water capacity is about 3 to 4 inches. Effective rooting depth is 60 inches or more. Runoff is very slow, and the hazard of water erosion is slight. The hazard of soil blowing is severe.

This unit is used mainly for timber production, wildlife habitat, and recreation. It is also used for homesite development.

This unit is suited to the production of shore pine. Among the other species that grow on this unit are western hemlock, Sitka spruce, and Douglas fir. The understory vegetation is mainly Pacific rhododendron, salal, red huckleberry, evergreen huckleberry, and European beachgrass.

On the basis of a 100-year site curve, the mean site index for shore pine is 90. At the culmination of the mean annual increment (CMAI), the production of 60-year-old shore pine trees 1.5 inches in diameter or more at breast height is 79 cubic feet per acre per year. High winds from the Pacific Ocean may seriously limit the growth of trees unless they are in a protected area.

The main limitations for the management of timber on this unit are seedling mortality and plant competition. Careful use of wheeled and tracked equipment reduces the disturbance of the protective layer of duff. The risk of soil blowing increases if the timber is harvested or the understory is removed. Conventional methods can be used for harvesting timber, but use of skid trails can accelerate erosion.

Proper design of road drainage systems and care in the placement of culverts help to control erosion. Seeding road cuts and fills helps to stabilize the soil and reduces the risk of soil blowing. Windthrow is a hazard when the soil is wet and winds are strong.

When openings are made in the canopy, invading brushy plants delay natural reforestation. Undesirable plants reduce adequate natural or artificial reforestation. Intensive site preparation and maintenance generally are not needed. Reforestation can be accomplished by planting shore pine and Sitka spruce seedlings. Droughtiness increases seedling mortality.

If this unit is used for recreational development, the main limitations are the hazard of soil blowing, the instability of the soil, and slope. Use of the unit is restricted to low-intensity types of recreation, such as hiking and horseback riding. Areas used for recreation can be protected from soil blowing by maintaining plant cover. Plant cover can be maintained by limiting traffic.

Roads, paths, and trails are difficult to maintain because of the loose sand. Cutbanks are not stable and are subject to slumping. Access roads should be placed on lower slopes and designed to provide low cut-slope grades.

If this unit is used for homesite development, the main limitations are the hazard of ground water pollution, slope, the hazard of soil blowing, and droughtiness in summer. The very rapid permeability of the subsoil may permit untreated effluent to enter the ground water. Special designs may be needed to prevent contamination of water supplies. The steeper areas of this unit are not suitable for installation of absorption fields. Community sewage treatment systems may be needed.

Extensive cutting and filling are required to provide level building sites. Excavation for houses and access roads exposes material that is highly susceptible to soil blowing. Revegetating disturbed areas around construction sites as soon as feasible helps to control soil blowing. It is difficult to establish plants in

areas where the surface layer has been removed. Mulching and fertilizing cut areas help to establish plants. In summer, irrigation is needed for lawn grasses, shrubs, vines, shade trees, and ornamental trees.

This map unit is in capability subclass VIIe.

61D - Waldport-Heceta fine sands, 0 to 30 percent slopes

This map unit is mainly on stabilized sand dunes and in depressional areas between sand dunes. Some areas are on deflation basins. The native vegetation is mainly conifers, shrubs, grasses, and forbs on the Waldport soil and sedges, rushes, water-tolerant grasses, and shrubs on the Heceta soil. Elevation is 0 to 80 feet. The average annual precipitation is 50 to 70 inches, the average annual air temperature is 51 to 53 degrees F, and the average frost-free period is 200 to 240 days.

This unit is 50 percent Waldport fine sand and 30 percent Heceta fine sand. The Waldport soil is on stabilized sand dunes, and the Heceta soil is in interdunal swales and depressional areas. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used.

Included in this unit are small areas of Netarts and Yaquina soils and Dune land. Included areas make up about 20 percent of the total acreage.

The Waldport soil is deep and excessively drained. It formed in eolian deposits. Slope is 7 to 30 percent. Typically, the surface layer is very dark grayish brown and brown fine sand 7 inches thick. The substratum to a depth of 60 inches or more is dark yellowish brown fine sand.

Permeability of the Waldport soil is very rapid. Available water capacity is about 3 to 4 inches. Effective rooting depth is 60 inches or more. Runoff is very slow, and the hazard of water erosion is slight. The hazard of soil blowing is severe.

The Heceta soil is deep and poorly drained. It formed in eolian material. Slope is 0 to 3 percent. Typically, the surface layer is very dark grayish brown fine sand 4 inches thick. The substratum to a depth of 60 inches or more is mottled, grayish brown sand.

Permeability of the Heceta soil is rapid. Available water capacity is about 1 to 2 inches. Effective rooting depth is 60 inches for water-tolerant plants, but it is limited by the water table for non-water-tolerable plants. Runoff is ponded, and the hazard of water erosion is slight. The water table fluctuates from 12 inches above the surface to 6 inches below the surface from October to May.

The Waldport soil in this unit is used mainly for timber production, and the Heceta soil is used mainly for wildlife habitat. The unit is also used for recreation.

The Waldport soil is suited to the production of shore pine. Other species that grow on this soil include western hemlock, Sitka spruce, and Douglas fir. The understory vegetation is mainly Pacific rhododendron, salal, red huckleberry, evergreen huckleberry, and European beachgrass. The Heceta soil is poorly suited to the production of Timber. The vegetation on this soil is mainly slough sedge, salt rush, coast willow, waxmyrtle, evergreen huckleberry, and salal.

On the basis of a 100-year site curve, the mean site index for shore pine is 90 on the Waldport soil. At the culmination of the mean annual increment (CMAI), the production of 60-year-old shore pine trees 1.5 inches in diameter or more at breast height is 79 cubic feet per acre per year. High winds from the Pacific Ocean may seriously limit the growth of trees unless they are in a protected area.

The main limitations for the management of timber on the soil are seedling mortality and plant competition. Careful use of wheeled and tracked equipment reduces the disturbance of the protective layer of duff. The risk of soil blowing increases if the timber is harvested or the understory is removed. Conventional methods can be used for harvesting timber, but use of skid trails can accelerate erosion.

Proper design of road drainage systems and care in the placement of culverts help to control erosion. Seeding cuts and fills helps to stabilize the soil and reduce soil blowing. Windthrow is a hazard when the soil is wet and winds are strong.

When openings are made in the canopy, invading brushy plants can delay natural reforestation. Undesirable plants reduce adequate natural or artificial reforestation. Intensive site preparation and maintenance generally are not needed. Reforestation can be accomplished by planting shore pine and Sitka spruce seedlings. Droughtiness increases seedling mortality.

If this unit is used for recreational development, the main limitations are the hazard of soil blowing, the instability of the Waldport soil, and the wetness of the Heceta soil. These limitations restrict the use of this unit mainly to low-intensity types of recreation, such as hiking and horseback riding. The unit can be used for other types of recreational activities that require a minimum of construction and soil disturbance. Areas used for recreation can be protected from soil blowing by maintaining plant cover. Plant cover can be maintained by limiting traffic. Excavation for houses and access roads exposes material that is highly susceptible to soil blowing. Revegetating disturbed areas around construction sites as soon as feasible helps to control soil blowing.

Roads, paths, and trails are difficult to maintain because of the loose sand. Cutbanks are not stable and are subject to slumping.

Wetness limits most recreational development on the Heceta soil. Use of paths and trails may be limited to 2 to 3 months in summer. Drainage is impractical because of the lack of suitable outlets.

This map unit is in capability subclass VIIe.

After recording return to:

Lawrence F. Finneran
PO Box 359
Coos Bay, OR 97420

Coos County, Oregon
$101.00

2021-08283
07/22/2021 11:09 AM
Pgs=4

00136580202100082830040040

Debbie Heller, CCC, Coos County Clerk

Until a change is requested,
send all tax statements to:

David Kranick and Marci Murray
87228 Cranberry Creek Lane
Bandon, OR 97411

The consideration is $280,000.00

Tax account numbers of property: 12416.00; 12417.00; 12406.90; 12406.00; 12409.90; 12409.00

Address of Grantors: 87226 Cranberry Creek Lane, Bandon, OR 97411

Address of Grantee: 87228 Cranberry Creek Lane, Bandon, OR 97411

WARRANTY DEED

FLOYD BROWN and VIVIAN M. BROWN hereinafter called "Grantors", convey to DAVID KRANICK and MARCI MURRAY, hereinafter called "Grantees", all that real property situated in Coos County, State of Oregon, described as follows:

> See Exhibit 1 attached hereto and incorporated herein by reference.
>
> Together with a non-exclusive easement for ingress and egress as set forth in instrument recorded January 16, 1981 as Microfilm No. 81-1-0684, and in instrument recorded December 14, 1932 in Volume 118, Page 119, Deed Records of Coos County, Oregon.

Reserving unto Grantors a life estate on the real property described in Exhibit 1 for the joint lives of Vivian M. Brown and Floyd Brown in the residence

occupied by Floyd Brown and Vivian M. Brown on the date of this Deed, and the property immediately surrounding that residence, consisting of approximately five (5) acres, more or less.

And covenant that Grantors are the owners of the above described property free of all encumbrances, except as follows:

1. The assessment roll and the tax roll disclose that the premises herein described were specially assessed as Forest Land pursuant to ORS 321.358 to 321.372. If the land becomes disqualified for the special assessment under the statute, an additional tax may be levied for the last five (5) or lesser number of years in which the land was subject to the special land assessment.

2. The assessment roll and the tax roll disclose that the within described premises were specially zoned or classified for Farm use. If the land has become or becomes disqualified for such use under the statute, an additional tax or penalty may be imposed.

3. The rights of the public in and to that portion of the premises herein described lying within the limits of streets, roads and highways.

4. Easement, including the terms and provisions contained therein recorded October 13, 1989 as Microfilm Reel No. 89-10-0840, Records of Coos County, Oregon in favor of General Telephone Company of the Northwest, Inc.

5. Easement, including the terms and provisions thereof recorded May 2, 1990 as Microfilm No. 90-5-0134, Records of Coos County, Oregon in favor of Coos-Curry Electric Cooperative, Inc.

6. Easement, including the terms and provisions thereof recorded October 22, 1999 as Microfilm No. 1999-13390, Records of Coos County, Oregon in favor of Coos Curry Electric Cooperative, Inc.

and will warrant and defend the same against all persons who may lawfully claim the same.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO

THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

DATED this 20th day of June, 2003.

Floyd Brown

Vivian M. Brown, formerly Vivian Kranick, aka Vivian M. Kranick

STATE OF OREGON)
) ss.
County of Coos)

Personally appeared the above named Floyd Brown and Vivian M. Brown and acknowledged the foregoing instrument to be their voluntary act and deed. Before me this 20th day of June, 2003.

OFFICIAL SEAL
VICKI FALKE
NOTARY PUBLIC - OREGON
COMMISSION NO. 349654
MY COMMISSION EXPIRES SEPT. 6, 2005

Notary Public for Oregon

EXHIBIT "A"
Legal Description

PARCEL A:
Beginning at the Northeast corner of the SE 1/4 of the NW 1/4 of Section 24, Township 29 South, Range 15 west of the Willamette Meridian, Coos County, Oregon; thence South 0° 03' 00" West 2607.57 feet along the North/South centerline of said Section 24 to the Northeast corner of the SE 1/4 of the SW 1/4, the same being the CS 1/16 corner of said Section 24; thence continuing South 374 feet along said North/South centerline; thence North 78° 25' 00" West 345.6 feet; thence South 10° 45' 00" West 338.7 feet; thence North 80° 30' 00" West 83.0 feet; thence South 5° 05' 00" West 167.0 feet; thence South 83° 15' 00" West 124.2 feet; thence South 9° 35' 00" West 494 feet, more or less, to the South line of said Section 24; thence Westerly a record deed distance of 615 feet along said South boundary to the Northeast corner of the NW 1/4 of the NW 1/4 of Section 25, said Township and Range; thence Southerly 753.11 feet, more or less, along the East line of said NW 1/4 of the NW 1/4 to a point which bears due East 247.76 feet from a 5/8 inch iron rod; thence due West 247.76 feet to said 5/8" iron rod; thence continuing due West 30.00 feet; thence North 38° 33' 45" West 235.10 feet to a 5/8" iron rod; thence North 70° 00' 03" West 209.12 feet to a 5/8" iron rod; thence North 9° 00' 32" East 600.82 feet to a 5/8" iron rod; thence North 0° 56' 41" East 451.89 feet to a 5/8" iron rod; thence North 19° 04' 01" East 193.18 feet to a 5/8" iron rod; thence North 11° 25' 26" East 474.96 feet to a point (from which a 5/8" iron rod bears due West 35.00 feet); thence North 32° 51' 38" East 168.24 feet to a 5/8" iron rod; thence North 22° 44' 55" East 113.84 feet to a 5/8" iron rod; thence North 53° 50' 11" East 162.01 feet to a point (from which a 5/8" iron rod bears due West 60.00 feet)): thence due East 50.00 feet; thence North 5° 20' 10" East 1650.84 feet to a point (from which a 5/8" iron rod bears due West 50.00 feet); thence due North 735.89 feet, more or less to the North line of the SE 1/4 of the NW 1/4 of said Section 24; thence South 88° 55' 38" East 1214.33 feet along said North line to the point of beginning.

PARCEL B:
The NE 1/4 of the NW 1/4 of Section 25 AND the SE 1/4 of the SW 1/4 of Section 24, all in Township 29 South, range 15 West of the Willamette Meridian, Coos County, Oregon, EXCEPTING THAT PART DESCRIBED AS FOLLOWS:

Beginning at the Northeast corner of said SE 1/4 of the SW 1/4; thence South 374 feet; thence North 78° 25' West 345.06 feet; thence South 10° 45' West 338.7 feet; thence North 80° 30' West 83 feet; thence South 5° 05' West 167 feet; thence South 83° 15' West 124.2 feet; thence South 9° 35' West 494 feet; thence West 615 feet along South boundary of said Section 24; thence North 1320 feet; thence East 1320 feet to the point of beginning.

ALSO SAVE AND EXCEPT THEREFROM THE FOLLOWING DESCRIBED PARCEL:
Beginning at the Southeast corner of the NE 1/4 of the NW 1/4 of Section 25, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon; thence 1320 feet West; thence 330 feet North; thence 1320 feet East; thence 330 feet South to the point of beginning

TOGETHER WITH an easement for ingress and egress as conveyed in deed recorded December 14, 1932 in Book 118, Page 219, Deed Records of Coos County, Oregon.

TL 100 SEC 25

Return to F.A.T.C.O.

THIS SPACE RESERVED FOR RECORDER'S USE

COOS COUNTY, OREGON **2014-02185**

$51.00 **03/24/2014 02:22:55 PM**

Pgs=2

00005144201400021850020024

Terri L.Turi, Coos County Clerk

After recording return to:
Bandon Biota LLC
2450 N. Lakeview Avenue
Chicago, IL 60614

Until a change is requested all tax statements shall be sent to the following address:
Bandon Biota LLC
2450 N. Lakeview Avenue
Chicago, IL 60614

File No.: 7131-2200775 (VRR)
Date: March 14, 2014

RECORDED BY
FIRST AMERICAN TITLE

STATUTORY WARRANTY DEED

Brian K. Flanagan and Connie R. Flanagan, as tenants by the entirety, Grantor, conveys and warrants to **Bandon Biota LLC** , Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

LEGAL DESCRIPTION: Real property in the County of Coos, State of Oregon, described as follows:

Beginning at the Northwest corner of the Northeast quarter of the Southeast quarter of Section 25, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon, running thence East to the West side of the Oregon Coast Highway; thence South on the West side of said Highway, 495 feet; thence West to a point due South of the place of beginning; thence North 495 feet to the place of beginning.

Subject to:

1. Covenants, conditions, restrictions and/or easements, if any, affecting title, which may appear in the public record, including those shown on any recorded plat or survey.

The true consideration for this conveyance is **$300,000.00.** (Here comply with requirements of ORS 93.030)

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Dated this 17 day of March, 2014.

Brian K Flanagan

Connie R Flanagan

STATE OF Oregon)
)ss.
County of Coos)

This instrument was acknowledged before me on this 17 day of March, 2014 by **Brian K Flanagan and Connie R Flanagan.**

Notary Public for Oregon
My commission expires:

OFFICIAL SEAL
KATHLEEN A DOWNARD
NOTARY PUBLIC-OREGON
COMMISSION NO. 460814
MY COMMISSION EXPIRES AUGUST 21, 2015

After recording, return to:

Michael L. Dado Surveying, Inc.
Professional Land Surveyor #2661
2047 Grant Street
North Bend, OR 97459

RE-RECORDING CERTIFICATE COVER SHEET

PROPERTY LINE ADJUSTMENT DEED

GRANTOR: Fugate Farms, L.L.C.

GRANTEE: Bandon Biota, L.L.C. a Delaware Limited Liability Company

Consideration: None

Send Tax Statements to: Bandon Biota, L.L.C.
2450 Lakeview Avenue
Chicago, IL 60614

MICHAEL L. DADO

This deed is being re-recorded at the request of the Coos County Assessor's office in order to correct the legal descriptions in "Exhibit A" and "Exhibit B" by changing the reference from Tax Lot Numbers in the earlier deed, to the Coos County Document number of the Deed describing said Tax Lots. This instrument was previously recorded in the Coos County deed records at No. 2007-11974, consisting of 6 pages. See attached corrected legals.

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $86.00
RE-RECORD
06/01/2010 03:10:58PM
PAGE 1 OF 10
2010 4903

RETURN TO F.A.T. CO.

875812

RECORDED BY
FIRST AMERICAN TITLE

Send tax statements to:

Bandon Biota, L.L.C.
2450 Lakeview Avenue
Chicago, IL 60614

After recording return to:

Bandon Biota, L.L.C.
2450 Lakeview Avenue
Chicago, IL 60614

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $51.00

09/11/2007 02:36PM #2007-11974
1 OF 6

PROPERTY LINE ADJUSTMENT DEED

Fugate Farms L.L.C GRANTOR(s) conveys and warrants to

Bandon Biota, L.L.C. a Delaware Limited Liability Company GRANTEE(s) the following described real property, situated in the County of Coos, State of Oregon:

SEE LEGAL DESCRIPTION ON ATTACHED EXHIBIT "A"

Subject to and excepting:

1. The rights of the public in and to that portion of the premises herein described lying within the limits of roads, streets and highways.

Coos County real property Tax Account No. 12403.00 and 12396.06.

The consideration for this conveyance stated in terms of dollars is $657,170.95

This is a property line adjustment deed. In compliance with ORS 92.190, the following information is furnished:

1. The names of the parties to this deed are as set forth above.

2. The description of the adjusted line is as follows:

SEE LEGAL DESCRIPTION ON ATTACHED EXHIBIT "B"

3. The deed whereby Grantor acquired title to the transferred property is recorded in Microfilm Reel No. 95-12-0453 of the Deed of Records of Coos County, Oregon.

4. The deed whereby Grantee acquired title to the property to which the transferred property is joined is recorded in Microfilm Reel No. 2003-10695 of the Deed Records of Coos County, Oregon.

5. The survey and monumentation, as required by ORS 92.060 and ORS 209.250, were done by Michael L. Dado PLS No.2661. His survey is filed with the County Surveyor under Coos County Surveyor's Records, Map No. N/A.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

COUNTY CLERK

State of Oregon
County of Coos ss.
I hereby certify that the within is a copy of the original record on file in the County Clerk's office and custody.

This date: 5-26-10
TERRI TURI CMC, COUNTY CLERK
By Mary Kempelen Deputy

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $86.00

RE-RECORD 06/01/2010 03:18:58PM
PAGE 2 OF 10

2010 4903

DATED this 6 day of September 2007.

John R. Fugate

Barbara Fugate

STATE OF OREGON)
)ss.
County of Coos)

This instrument was acknowledged before me on 9-6, 2007, by John R. Fugate and Barbara Fugate

OFFICIAL SEAL
VICKI ROSSBACK
NOTARY PUBLIC-OREGON
COMMISSION NO. 418114
MY COMMISSION EXPIRES JULY 11, 2011

Notary Public of Oregon

My Commission expires: 7/11/11

ACCEPTANCE

The undersigned grantee(s) hereby accept(s) this property line adjustment deed and signs this acceptance in accordance with ORS 92.190(4).

Representative: Bandon Biota, L.L.C.

STATE OF OREGON)
)ss.
County of Coos)

This instrument was acknowledged before me on _____, 200__, by _____.

Notary Public of Oregon

My Commission expires: _____

DATED this 7th day of September 2007

John R. Fugate

Barbara Fugate

STATE OF OREGON)
) ss.
County of Coos)

This instrument was acknowledged before me on _____, 200__, by _____.

Notary Public of Oregon

My Commission expires: _____

ACCEPTANCE

The undersigned grantee(s) hereby accept(s) this property line adjustment deed and signs this acceptance in accordance with ORS 92.190(4).

Representative: Bandon Bleta, L.L.C.

STATE OF Ill.)
) ss.
County of Cook)

This instrument was acknowledged before me on Sept. 2, 2007 by Michael Keiser.

Notary Public of Oregon Illinois

My Commission expires: 8/26/08

"OFFICIAL SEAL"
KAREN G. THOMPSON
Notary Public, State of Illinois
My Commission Expires August 26, 2008

Page 2 of 2

3

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK TOTAL $51.00

09/11/2007 02:36PM #2007-11974 3 OF 6

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $86.00
RE-RECORD 06/01/2010 03:10:50PM
PAGE 4 OF 10
2010 4903

"Exhibit A"

Being a portion of the North ½ of Section 24 and the South ½ of Section 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon

Beginning at a point on the West line of the NE ¼ of the NE ¼ of Section 24, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon, said point being North 89° 01' 34" West - 1300.71 feet and South 00° 09' 47" East - 398.04 feet from the Northeast corner of said Section 24: thence leaving said West line, South 57° 32' 44" West for a distance of 81.06 feet; thence North 40° 31' 25" West for a distance of 40.35 feet; thence South 62° 06' 14" West for a distance of 21.06 feet; thence North 87° 59' 24" West for a distance of 165.71 feet; thence North 57° 53' 22" West for a distance of 151.73 feet; thence North 67° 59' 10" West for a distance of 108.11 feet; thence North 39° 01' 30" West for a distance of 53.74 feet; thence North 06° 01' 49" West for a distance of 56.84 feet; thence North 12° 55' 13" East for a distance of 111.77 feet; thence North 05° 39' 42" West for a distance of 266.90 feet; thence North 29° 13' 47" West for a distance of 89.70 feet; thence North 48° 59' 49" West for a distance of 84.01 feet; thence North 32° 28' 36" West for a distance of 73.61 feet; thence North 09° 27' 50" West for a distance of 132.67 feet; thence North 21° 50' 37" West for a distance of 106.74 feet; thence North 00° 30' 37" West for a distance of 82.76 feet; thence North 03° 59' 42" East for a distance of 88.06 feet; thence North 10° 48' 38" West for a distance of 119.94 feet; thence North 30° 50' 34" West for a distance of 77.30 feet; thence North 74° 25' 22" West for a distance of 91.29 feet; thence North 59° 03' 45" West for a distance of 111.26 feet; thence North 84° 08' 11" West for a distance of 73.32 feet; thence South 79° 55' 15" West for a distance of 212.31 feet; thence South 87° 37' 22" West for a distance of 164.22 feet to the East line of Tax Lot 1903, Map 29-15-13; thence Southerly along the East line of said Tax Lot 1903 for a distance of 1232 feet more or less to the Northeast corner of Tax Lot 100, Map 29-15-24; thence Southerly along the East line of said Tax Lot 100 for a distance of 1405 feet more or less to the Southeast corner of said Tax Lot 100, said point being on the South line of the NE ¼ of the NW ¼ of Section 24, Township 29 South, Range 15 W.W.M.; thence East along said 1/16 line for a distance of 3047.5 feet more or less to the Southeast Corner of the NE ¼ of the NE ¼ of said Section 24; thence along the East line of said Section 24, North 00° 19' 06" West for a distance of 579.64 feet; thence leaving said East line, thence North 65° 47' 03" West for a distance of 819.48 feet; thence North 78° 48' 33" West for a distance of 455.53 feet; thence South 57° 32' 44" West for a distance of 129.41 feet back to the point of beginning. Said parcel containing 96.8 acres of land more or less.

ALSO AND INCLUDING THE FOLLOWING DESCRIBED EASEMENT:

4

An easement for ingress, egress and utilities including the installation and maintenance of such, said easement being 50 feet in width, 10 feet to the right and 40 feet to the left of the following described line:

Beginning at a point on the West line of the NE ¼ of the NE ¼ of Section 24, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon, said point being North 89° 01' 34" West - 1300.71 feet and South 00° 09' 47" East - 398.04 feet from the Northeast corner of said Section 24:
thence leaving said West line, South 57° 32' 44" West for a distance of 81.06 feet; thence North 40° 31' 25" West for a distance of 40.35 feet; thence South 62° 06' 14" West for a distance of 21.06 feet; thence North 87° 59' 24" West for a distance of 165.71 feet; thence North 57° 53' 22" West for a distance of 151.73 feet; thence North 67° 59' 10" West for a distance of 106.11 feet; thence North 39° 01' 30" West for a distance of 53.74 feet; thence North 06° 01' 49" West for a distance of 56.84 feet; thence North 12° 55' 13" East for a distance of 111.77 feet; thence North 05° 39' 42" West for a distance of 266.90 feet; thence North 29° 13' 47" West for a distance of 89.70 feet; thence North 48° 59' 49" West for a distance of 84.01 feet; thence North 32° 28' 36" West for a distance of 73.61 feet; thence North 09° 27' 50" West for a distance of 132.67 feet; thence North 21° 50' 37" West for a distance of 106.74 feet; thence North 00° 30' 37" West for a distance of 82.76 feet; thence North 03° 59' 42" East for a distance of 88.06 feet; thence North 10° 48' 38" West for a distance of 119.94 feet; thence North 30° 50' 34" West for a distance of 77.30 feet; thence North 74° 25' 22" West for a distance of 91.29 feet; thence North 59° 03' 45" West for a distance of 111.26 feet; thence North 84° 08' 11" West for a distance of 73.32 feet; thence South 79° 55' 15" West for a distance of 212.31 feet; thence South 87° 37' 22" West for a distance of 164.22 feet to the East line of Tax Lot 1903, Map 29-15-13.

ALSO AND INCLUDING THE FOLLOWING DESCRIBED EASEMENT:

Being located in the NE ¼ of the NE ¼ of Section 24, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon

An easement for the continued use and maintenance of an existing underground waterline, said easement being 50 feet in width, 25 feet on both sides of the following described line:

Beginning at a point 1283 feet South and 1039 feet West of the Northeast corner of said Section 24:
thence North 02° 17' East for a distance of 950 feet.

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 14, 1982
MICHAEL L DADO
#2661

06-07-900C

5

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK TOTAL $51.00

09/11/2007 02:36PM #2007-11974
5 OF 6

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $86.00

RE-RECORD 06/01/2010 03:10:58PM
PAGE 6 OF 10

2010 4903

"Exhibit B"

Being located in the North ½ of Section 24 and the South ½ of Section 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon

Beginning at the Southeast corner of Tax Lot 100, Map 29-15-24, said point being on the South line of the NE ¼ of the NW ¼ of Section 24, Township 29 South, Range 15 W.W.M. said point also being the point of beginning of the following adjusted line:
thence East along said 1/16 line for a distance of 3047.5 feet more or less to the Southeast Corner of the NE ¼ of the NE ¼ of said Section 24; thence along the East line of said Section 24, North 00° 19' 06" West for a distance of 579.64 feet; thence leaving said East line, thence North 65° 47' 03" West for a distance of 819.48 feet; thence North 78° 48' 33" West for a distance of 455.53 feet; thence South 57° 32' 44" West for a distance of 129.41 feet; thence continuing South 57° 32' 44" West for a distance of 81.06 feet; thence North 40° 31' 25" West for a distance of 40.35 feet; thence South 62° 06' 14" West for a distance of 21.06 feet; thence North 87° 59' 24" West for a distance of 165.71 feet; thence North 57° 53' 22" West for a distance of 151.73 feet; thence North 67° 59' 10" West for a distance of 106.11 feet; thence North 39° 01' 30" West for a distance of 53.74 feet; thence North 06° 01' 49" West for a distance of 56.84 feet; thence North 12° 55' 13" East for a distance of 111.77 feet; thence North 05° 39' 42" West for a distance of 266.90 feet; thence North 29° 13' 47" West for a distance of 89.70 feet; thence North 48° 59' 49" West for a distance of 84.01 feet; thence North 32° 28' 36" West for a distance of 73.61 feet; thence North 09° 27' 50" West for a distance of 132.67 feet; thence North 21° 50' 37" West for a distance of 106.74 feet; thence North 00° 30' 37" West for a distance of 82.76 feet; thence North 03° 59' 42" East for a distance of 88.06 feet; thence North 10° 48' 38" West for a distance of 119.94 feet; thence North 30° 50' 34" West for a distance of 77.30 feet; thence North 74° 25' 22" West for a distance of 91.29 feet; thence North 59° 03' 45" West for a distance of 111.26 feet; thence North 84° 08' 11" West for a distance of 73.32 feet; thence South 79° 55' 15" West for a distance of 212.31 feet; thence South 87° 37' 22" West for a distance of 164.22 feet to the East line of Tax Lot 1903, Map 29-15-13.

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
MICHAEL L. DADO
#2661

06-07-900D

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK TOTAL $51.00
09/11/2007 02:36PM #2007-11974 6 OF 6

6

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $86.00
RE-RECORD 06/01/2010 03:10:58PM PAGE 7 OF 10
2010 4903

CORRECTED

"Exhibit A"

Being a portion of the North ½ of Section 24 and the South ½ of Section 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon

Beginning at a point on the West line of the NE ¼ of the NE ¼ of Section 24, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon, said point being North 89° 01' 34" West - 1300.71 feet and South 00° 09' 47" East - 398.04 feet from the Northeast corner of said Section 24: thence leaving said West line, South 57° 32' 44" West for a distance of 81.06 feet; thence North 40° 31' 25" West for a distance of 40.35 feet; thence South 62° 06' 14" West for a distance of 21.06 feet; thence North 87° 59' 24" West for a distance of 165.71 feet; thence North 57° 53' 22" West for a distance of 151.73 feet; thence North 67° 59' 10" West for a distance of 106.11 feet; thence North 39° 01' 30" West for a distance of 53.74 feet; thence North 06° 01' 49" West for a distance of 56.84 feet; thence North 12° 55' 13" East for a distance of 111.77 feet; thence North 05° 39' 42" West for a distance of 266.90 feet; thence North 29° 13' 47" West for a distance of 89.70 feet; thence North 48° 59' 49" West for a distance of 84.01 feet; thence North 32° 28' 36" West for a distance of 73.61 feet; thence North 09° 27' 50" West for a distance of 132.67 feet; thence North 21° 50' 37" West for a distance of 106.74 feet; thence North 00° 30' 37" West for a distance of 82.76 feet; thence North 03° 59' 42" East for a distance of 88.06 feet; thence North 10° 48' 38" West for a distance of 119.94 feet; thence North 30° 50' 34" West for a distance of 77.30 feet; thence North 74° 25' 22" West for a distance of 91.29 feet; thence North 59° 03' 45" West for a distance of 111.26 feet; thence North 84° 08' 11" West for a distance of 73.32 feet; thence South 79° 55' 15" West for a distance of 212.31 feet; thence South 87° 37' 22" West for a distance of 164.22 feet to the East line of a tract of land, as described in Coos County Document # 2003-10695; thence Southerly along the East line of said tract for a distance of 1232 feet more or less to the Northeast corner of a second tract of land as described in Coos County Document # 2003-10695; thence Southerly along the East line of said second tract for a distance of 1405 feet more or less to the Southeast corner of said second tract, as described in Coos County Document # 2003-10695, said point being on the South line of the NE ¼ of the NW ¼ of Section 24, Township 29 South, Range 15 W.W.M.; thence East along said 1/16 line for a distance of 3047.5 feet more or less to the Southeast Corner of the NE ¼ of the NE ¼ of said Section 24; thence along the East line of said Section 24, North 00° 19' 06" West for a distance of 579.64 feet; thence leaving said East line, thence North 65° 47' 03" West for a distance of 819.48 feet; thence North 78° 48' 33" West for a distance of 455.53 feet; thence South 57° 32' 44" West for a distance of 129.41 feet back to the point of beginning. Said parcel containing 96.8 acres of land more or less.

ALSO AND INCLUDING THE FOLLOWING DESCRIBED EASEMENT:

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $85.00
RE-RECORD 06/01/2010 03:10:50PM
PAGE 8 OF 16
2010 4903

An easement for ingress, egress and utilities including the installation and maintenance of such, said easement being 50 feet in width, 10 feet to the right and 40 feet to the left of the following described line:

Beginning at a point on the West line of the NE ¼ of the NE ¼ of Section 24, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon, said point being North 89° 01' 34" West - 1300.71 feet and South 00° 09' 47" East - 398.04 feet from the Northeast corner of said Section 24:
thence leaving said West line, South 57° 32' 44" West for a distance of 81.06 feet; thence North 40° 31' 25" West for a distance of 40.35 feet; thence South 62° 06' 14" West for a distance of 21.06 feet; thence North 87° 59' 24" West for a distance of 165.71 feet; thence North 57° 53' 22" West for a distance of 151.73 feet; thence North 67° 59' 10" West for a distance of 106.11 feet; thence North 39° 01' 30" West for a distance of 53.74 feet; thence North 06° 01' 49" West for a distance of 56.84 feet; thence North 12° 55' 13" East for a distance of 111.77 feet; thence North 05° 39' 42" West for a distance of 266.90 feet; thence North 29° 13' 47" West for a distance of 89.70 feet; thence North 48° 59' 49" West for a distance of 84.01 feet; thence North 32° 28' 36" West for a distance of 73.61 feet; thence North 09° 27' 50" West for a distance of 132.67 feet; thence North 21° 50' 37" West for a distance of 106.74 feet; thence North 00° 30' 37" West for a distance of 82.76 feet; thence North 03° 59' 42" East for a distance of 88.06 feet; thence North 10° 48' 38" West for a distance of 119.94 feet; thence North 30° 50' 34" West for a distance of 77.30 feet; thence North 74° 25' 22" West for a distance of 91.29 feet; thence North 59° 03' 45" West for a distance of 111.26 feet; thence North 84° 08' 11" West for a distance of 73.32 feet; thence South 79° 55' 15" West for a distance of 212.31 feet; thence South 87° 37' 22" West for a distance of 164.22 feet to the East line of a tract of land, as described in Coos County Document # 2003-10695.

ALSO AND INCLUDING THE FOLLOWING DESCRIBED EASEMENT:

Being located in the NE ¼ of the NE ¼ of Section 24, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon

An easement for the continued use and maintenance of an existing underground waterline, said easement being 50 feet in width, 25 feet on both sides of the following described line:

Beginning at a point 1283 feet South and 1039 feet West of the Northeast corner of said Section 24:
thence North 02° 17' East for a distance of 950 feet.

EXP 12-31-11

06-07-900C

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $86.00
RE-RECORD 06/01/2010 03:10:56PM
PAGE 9 OF 10
2010 4903

CORRECTED

"Exhibit B"

Being located in the North ½ of Section 24 and the South ½ of Section 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon

Beginning at the Southeast corner of a tract of land, as described in Coos County Document # 2003-10695, said point being on the South line of the NE ¼ of the NW ¼ of Section 24, Township 29 South, Range 15 W.W.M. said point also being the point of beginning of the following adjusted line:
thence East along said 1/16 line for a distance of 3047.5 feet more or less to the Southeast Corner of the NE ¼ of the NE ¼ of said Section 24; thence along the East line of said Section 24, North 00° 19' 06" West for a distance of 579.64 feet; thence leaving said East line, thence North 65° 47' 03" West for a distance of 819.48 feet; thence North 78° 48' 33" West for a distance of 455.53 feet; thence South 57° 32' 44" West for a distance of 129.41 feet; thence continuing South 57° 32' 44" West for a distance of 81.06 feet; thence North 40° 31' 25" West for a distance of 40.35 feet; thence South 62° 06' 14" West for a distance of 21.06 feet; thence North 87° 59' 24" West for a distance of 165.71 feet; thence North 57° 53' 22" West for a distance of 151.73 feet; thence North 67° 59' 10" West for a distance of 106.11 feet; thence North 39° 01' 30" West for a distance of 53.74 feet; thence North 06° 01' 49" West for a distance of 56.84 feet; thence North 12° 55' 13" East for a distance of 111.77 feet; thence North 05° 39' 42" West for a distance of 266.90 feet; thence North 29° 13' 47" West for a distance of 89.70 feet; thence North 48° 59' 49" West for a distance of 84.01 feet; thence North 32° 28' 36" West for a distance of 73.61 feet; thence North 09° 27' 50" West for a distance of 132.67 feet; thence North 21° 50' 37" West for a distance of 106.74 feet; thence North 00° 30' 37" West for a distance of 82.76 feet; thence North 03° 59' 42" East for a distance of 88.06 feet; thence North 10° 48' 38" West for a distance of 119.94 feet; thence North 30° 50' 34" West for a distance of 77.30 feet; thence North 74° 25' 22" West for a distance of 91.29 feet; thence North 59° 03' 45" West for a distance of 111.26 feet; thence North 84° 08' 11" West for a distance of 73.32 feet; thence South 79° 55' 15" West for a distance of 212.31 feet; thence South 87° 37' 22" West for a distance of 164.22 feet to the East line of a tract of land, as described in Coos County Document # 2003-10695.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 10, 1984
MICHAEL L. DADO
#2661

EXP 12-31-11

06-07-900D

COOS COUNTY, OREGON TOTAL $36.00 05/09/2003 #2003-6464
TERRI L. TURI, CMC, COUNTY CLERK 03:17:00PM 1 OF 3

THIS SPACE RESERVED FOR RECORDER'S USE

After recording return to:
Bandon Biota, LLC
3535 North Broadway
Chicago, IL 60613

Until a change is requested all tax statements shall be sent to the following address:
Bandon Biota, LLC
3535 North Broadway
Chicago, IL 60613

File No.: 7132-117409 (VEF)
Date: May 08, 2003

RETURN TO F.A.T. CO.

STATUTORY WARRANTY DEED

Marci Murray and David Kranick as tenants by the entirety, Grantor, conveys and warrants to **Bandon Biota, LLC, a Delaware Limited Liability Company**, Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

See Attached Exhibit "A"

This property is free from liens and encumbrances, EXCEPT: those liens or encumbrances of record, if any

1. Covenants, conditions, restrictions and/or easements, if any, affecting title, which may appear in the public record, including those shown on any recorded plat or survey.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

The true consideration for this conveyance is **$270,000.00.** (Here comply with requirements of ORS 93.030)

(3)

APN: **12417.00**

Statutory Warranty Deed
- continued

File No.: **7132-117409 (VEF)**
Date: **05/08/2003**

Marci Murray

David Kranick

STATE OF Oregon)
)ss.
County of Coos)

This instrument was acknowledged before me on this 9th day of May, 2003 by **Marci Murray and David Kranick.**

Notary Public for Oregon

OFFICIAL SEAL
VICKI FALKE
NOTARY PUBLIC - OREGON
COMMISSION NO. 349654
MY COMMISSION EXPIRES SEPT. 6, 2005

My commission expires: 9/6/05

Date: **February 25, 2003**

File No.: **7132-117409 (VEF)**

EXHIBIT 'A'

LEGAL DESCRIPTION:

Beginning on the North line of the Southeast Quarter (SE 1/4) of the Northwest Quarter (NW 1/4) of Section 24, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon, from which it's Northeast Corner (CN 1/16 corner) bears South 88° 55' 38" East 1214.33 feet; thence due South 735.89 feet to a point (from which a 5/8" iron rod bears due West 50.00 feet); thence South 5° 20' 10" West 1650.84 feet; thence due West 50.00 feet to a point (from which a 5/8" iron rod bears due West 60.00 feet); thence South 53° 50' 11" West 162.01 feet to a 5/8" iron rod; thence South 22° 44' 55" West 113.84 feet to a 5/8" iron rod; thence South 32° 51' 38" West 168.24 feet to a point (from which a 5/8" iron rod bears due West 35.00 feet); thence South 11° 25' 25" West 472.96 feet to a 5/8" iron rod; thence South 19° 04' 01" West 193.18 feet to a 5/8" iron rod; thence South 0° 56' 41" West 451.89 feet to a 5/8" iron rod; thence South 9° 00' 32" West 600.82 feet to a 5/8" iron rod; thence South 70° 00' 03" East 209.12 feet to a 5/8" iron rod; thence South 38° 33' 45" East 235.10 feet to a point (from which a 5/8" iron rod bears due East 30.00 feet); thence due East 30.00 feet to a said 5/8" iron rod; thence continuing due East 247.76 feet, more or less, to the East line of the Northwest Quarter (NW 1/4) of the Northwest Quarter (NW 1/4) of Section 25, and Township 29 South, Range 15 West; thence Southerly 552.20 feet, more or less, along said East line into the South line of said Northwest Quarter (NW 1/4) of the Northwest Quarter (NW 1/4); thence Westerly 1299.29 feet, more or less, along said South line to a 5/8" iron rod at the Southwest corner of said NW 1/4 of the NW 1/4; thence North 0° 02' 17" West 1314.64 feet, along the Bandon State Park Boundary to a 2 1/2" brass cap iron pipe at the Northwest corner of said Section 25; thence continuing along said park boundary North 00° 18' 28" East 3919.44 feet to a 5/8" iron rod at the Northwest corner of the Southwest Quarter (SW 1/4) of the Northwest Quarter (NW 1/4) of Section 24; thence South 88° 55' 38" East 1316.22 feet along the North line of said Northwest Quarter (NW 1/4) to a 5/8" iron rod; thence continuing South 88° 55' 38" East 71.45 feet to the point of beginning.

The above described property is based on that survey dated April 16, 2003 and recorded as CS#39B84, Survey Records of said Coos County, Oregon.

"Together with a non-exclusive easement for ingress and egress as set forth in instrument recorded January 16, 1981 as Microfilm No. 81-1-0684, and in instrument recorded December 14, 1932 in Vol. 118, Page 119, Deed Records of Coos County, Oregon

TL 1000
HOFFERLANE.

THIS SPACE RESERVED FOR RECORDER'S USE

RECORDED BY
FIRST AMERICAN TITLE

After recording return to:
Bandon Biota, LLC
2450 Lakeview Ave.
Chicago, IL 60614

Until a change is requested all tax statements shall be sent to the following address:
Bandon Biota, LLC
2450 Lakeview Ave.
Chicago, IL 60614

File No.: 7132-1531282 (VRR)
Date: February 08, 2010

STATUTORY WARRANTY DEED

Ronald Dale Puhl and Mary Anne Puhl, trustees of the Ronald & Mary Anne Puhl Trust under agreement, dated December 1, 1995, Grantor, conveys and warrants to **Bandon Biota, LLC, a Delaware limited liability company** , Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

See Legal Description attached hereto as Exhibit A and by this reference incorporated herein.

Subject to:

1. Covenants, conditions, restrictions and/or easements, if any, affecting title, which may appear in the public record, including those shown on any recorded plat or survey.

The true consideration for this conveyance is **$1,300,000.00.** (Here comply with requirements of ORS 93.030)

CODE COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $51.00

05/25/2010 03:12:34PM
PAGE 1 OF 3

2010 4708

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195-336 AND SECTIONS 5 TO 11, OF CHAPTER 424, OREGON LAWS 2007. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930 AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195-336 AND SECTIONS 5 TO 11, OF CHAPTER 424, OREGON LAWS 2007.

Dated this 24 day of May, 2010.

Ronald Dale Puhl and Mary Anne Puhl, trustees of the Ronald & Mary Anne Puhl Trust under agreement dated December 1, 1995

Ronald Dale Puhl, Trustee

Mary Anne Puhl, Trustee

STATE OF Oregon)
)ss.
County of Coos)

This instrument was acknowledged before me on this 24 day of May, 2010 by Ronald Dale Puhl and Mary Anne Puhl as Trustees of Ronald & Mary Anne Puhl Trust under agreement dated December 1, 1995, on behalf of the Trust.

OFFICIAL SEAL
VICKI ROSSBACK
NOTARY PUBLIC-OREGON
COMMISSION NO. 418114
MY COMMISSION EXPIRES JULY 11, 2011

Notary Public for Oregon
My commission expires: 7/11/11

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $51.00
05/25/2010 03:12:34PM
PAGE 2 OF 3
2010 4708

EXHIBIT A

LEGAL DESCRIPTION: Real property in the County of Coos, State of Oregon, described as follows:

PARCEL I:

THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 25, TOWNSHIP 29 SOUTH, RANGE 15 WEST OF THE WILLAMETTE MERIDIAN, COOS COUNTY, OREGON.

EXCEPTING THEREFROM THE SOUTH 60 FEET OF THE ABOVE DESCRIBED PARCEL.

ALSO: BEGINNING AT THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 25, TOWNSHIP 29 SOUTH, RANGE 15 WEST OF THE WILLAMETTE MERIDIAN, COOS COUNTY, OREGON; THENCE WEST 1320 FEET; THENCE NORTH 330 FEET; THENCE EAST 1320 FEET; THENCE SOUTH 330 FEET TO THE POINT OF BEGINNING.

ALSO: THE SOUTH 60 FEET OF THE NORTH HALF OF SECTION 25, TOWNSHIP 29 SOUTH, RANGE 15 WEST OF THE WILLAMETTE MERIDIAN, COOS COUNTY, OREGON.

EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE STATE OF OREGON, BY AND THROUGH ITS DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION, BY INSTRUMENT RECORDED APRIL 30, 1984 AS MICROFILM NO. 84-3-4121, RECORDS OF COOS COUNTY, OREGON.

PARCEL II:

THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 25, TOWNSHIP 29 SOUTH, RANGE 15 WEST OF THE WILLAMETTE MERIDIAN, COOS COUNTY, OREGON.

COOS COUNTY CLERK, OREGON
TERRI L. TURI, CCC, COUNTY CLERK
TOTAL $51.00
05/25/2010 03:12:34PM
PAGE 3 OF 3
2010 4708

RECORDED BY
FIRST AMERICAN TITLE

TL 700, SEC 2

After recording return to:
Bandon Biota, LLC
2450 N. Lakeview Avenue
Chicago, IL 60614

Until a change is requested all tax statements shall be sent to the following address:
Bandon Biota, LLC
2450 N. Lakeview Avenue
Chicago, IL 60614

File No.: 7131-2344093 (VRR)
Date: November 05, 2014

THIS SPACE RESERVED FOR RECORDER'S USE

COOS COUNTY, OREGON **2015-00427**

$56.00 **01/16/2015 02:22:41 PM**

Pgs=3

00018668201500004270030037

Terri L.Turi, Coos County Clerk

STATUTORY WARRANTY DEED

Edward D. Mills and F. Eileen Mills, as tenants by the entirety, Grantor, conveys and warrants to **Bandon Biota, LLC** , Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

See Legal Description attached hereto as Exhibit A and by this reference incorporated herein.

Subject to:

1. Covenants, conditions, restrictions and/or easements, if any, affecting title, which may appear in the public record, including those shown on any recorded plat or survey.

The true consideration for this conveyance is **$325,000.00**. (Here comply with requirements of ORS 93.030)

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Dated this 15 day of Jan, 2015.

Edward D. Mills

F. Eileen Mills

STATE OF Oregon)
)ss.
County of Coos)

This instrument was acknowledged before me on this 15 day of Jan, 2015 by **Edward D. Mills and F. Eileen Mills.**

OFFICIAL SEAL
VICKI R ROSSBACK
NOTARY PUBLIC-OREGON
COMMISSION NO. 459990
MY COMMISSION EXPIRES JULY 13, 2015

Notary Public for Oregon
My commission expires: 7/13/15

EXHIBIT A

LEGAL DESCRIPTION: Real property in the County of Coos, State of Oregon, described as follows:

PARCEL I: The North 100 feet of the S 1/2 of the N 1/2 of the S 1/2 of the NE 1/4 of the SE 1/4 of Section 25, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon.

ALSO: The South 50 feet of the N 1/2 of the N 1/2 of the S 1/2 of the NE 1/4 of the SE 1/4 of Section 25, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon.

PARCEL II: Beginning at a point which is the Northwest corner of the NE 1/4 of the SE 1/4 of Section 25, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon; thence South 495 feet to the place of beginning; thence South 165 feet; thence East 1320 feet; thence North 165 feet; thence West 1320 feet to the place of beginning.

ALSO: The N 1/2 of the N 1/2 of the S 1/2 of the NE 1/4 of the SE 1/4 of Section 25, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon. Except the South 50 feet thereof

NOTE: This Legal Description was created prior to January 01, 2008.

TL 100 +

RETURN TO F.A.T. CO.

THIS SPACE RESERVED FOR RECORDER'S USE

After recording return to:
Bandon Biota,LLC
2450 Lakeview Ave
Chicago, IL 60614

Until a change is requested all tax statements shall be sent to the following address:
Bandon Biota,LLC
2450 Lakeview Ave
Chicago, IL 60614

File No.: 7132-194678 (VEF)
Date: July 16, 2003

STATUTORY WARRANTY DEED

John R. Fugate and Barbara Fugate, Grantor, conveys and warrants to **Bandon Biota,LLC, a Delaware Limited Liability Company**, Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

See Legal Description attached hereto as Exhibit A and by this reference incorporated herein.

This property is free from liens and encumbrances, EXCEPT: those liens and encumbrances of record if any

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

The true consideration for this conveyance is **$1,150,000.00**. (Here comply with requirements of ORS 93.030)

COOS COUNTY, OREGON TOTAL $41.00
TERRI L. TURI, CMC, COUNTY CLERK
07/18/2003 #2003-10695
04:09:46PM 1 OF 4

Barbara Fugate
Barbara Fugate

John R. Fugate
John R. Fugate

STATE OF Oregon)
)ss.
County of Coos)

This instrument was acknowledged before me on this 17th day of July, 2003 by **John R. Fugate and Barbara Fugate.**

Vicki Falke
Notary Public for Oregon

OFFICIAL SEAL
VICKI FALKE
NOTARY PUBLIC - OREGON
COMMISSION NO. 349654
MY COMMISSION EXPIRES SEPT. 6, 2005

My commission expires: 9/6/05

COOS COUNTY, OREGON TOTAL $41.00
TERRI L. TURI, CMC, COUNTY CLERK
07/18/2003 #2003-10695
04:09:46PM 2 OF 4

EXHIBIT A

LEGAL DESCRIPTION:

Parcel I

A portion of the Southeast 1/4 of the Southwest 1/4 of Section 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon.

Beginning at a point on the South line of Section 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon, said point being North 88° 56' 17" West a distance of 482.22 feet from the 5/8" iron rod which marks the 1/4 corner common to Sections 24 and 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon:

Thence continuing along said South line, North 88° 56' 17" West for a distance of 643.41 feet more or less to a point which is 175.00 feet from the Southwest corner of said Southeast 1/4 of the Southwest 1/4 of Section 13; thence in a Northerly direction, parallel to and 175.00 feet from the East line of said Southeast 1/4 of the Southwest 1/4 of Section 13, North 00° 05' 10" East for a distance of 1309.34 feet more or less to the North line of the Southeast 1/4 of the Southwest 1/4 of Section 13; thence along said North line, South 88° 56' 24" East for a distance of 669.22 feet; thence leaving said North line of the Southeast 1/4 of the Southwest 1/4 of Section 13, South 11° 52' 14" East for a distance of 579.13 feet, thence South 04° 31' 42" East for a distance of 183.66 feet; thence South 14° 16' 03" West for a distance of 145.09 feet; thence South 05° 06' 48" West for a distance of 361.77 feet; thence South 58° 07' 21" West for a distance of 110.00 feet more or less back to the point of beginning.

EXCEPT: That portion conveyed to Melvin E. Boak, et ux, in instrument bearing Microfilm No. 81-2-7779, Records of Coos County, Oregon.

Parcel II

The North half of the Northwest quarter of Section 24, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon.

Save and except therefrom the following described parcel;

A portion of the Northeast 1/4 of the Northwest 1/4 of Section 24, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon.

Beginning at the 5/8" iron rod which marks the 1/4 corner common to Sections 24 and 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon:

COOS COUNTY, OREGON TOTAL $41.00 07/18/2003 #2003-10695
TERRI L. TURI, CMC, COUNTY CLERK 04:09:46PM 3 OF 4

Thence along the North line of said Section 24, North 88° 56' 17" West for a distance of 482.22 feet; thence leaving said North line, South 14° 24' 12" West for a distance of 129.16 feet; thence South 27° 16' 00" West for a distance of 184.16 feet; thence South 00° 47' 58" East for a distance of 450.24 feet; thence South 60° 51' 35" East for a distance of 130.08 feet; thence South 21° 34' 47" East for a distance of 80.74 feet; thence South 09° 17' 13" East for a distance of 169.10 feet; thence South 10° 00' 56" West for a distance of 119.20 feet; thence South 01° 33' 48" East for a distance of 145.80 feet more or less to the South line of the Northeast 1/4 of the Northwest 1/4 of said Section 24; thence along said South line, South 88° 56' 13" East for a distance of 434.47 feet more or less to the Southeast corner of said Northeast 1/4 of the Northwest 1/4 of Section 24; thence along the East line of said Northeast 1/4 of the Northwest 1/4 of Section 24, North 00° 10' 49" East for a distance of 1306.58 feet more or less back to the point of beginning.

Parcel III

A portion of the East 1/2 of the Southwest 1/4 of Section 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon.

Beginning at a point on the South line of Section 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon, said point being North 88° 56' 17" West a distance of 482.22 feet from the 5/8" inch iron rod which marks the 1/4 corner common to Sections 24 and 13, Township 29 South, Range 15 West of the Willamette Meridian, Coos County, Oregon:

Thence North 58° 07' 21" East for a distance of 110.00 feet; thence North 05° 06' 48" East for a distance of 361.77 feet; thence North 14° 16' 03" East for a distance of 145.09 feet; thence North 04° 31' 42" West for a distance of 183.66 feet; thence North 11° 52' 14" West for a distance of 161.73 feet to the true point of beginning of the following described parcel:

Thence North 75° 31' 01" East for a distance of 100.20 feet; thence North 83° 12' 58" East for a distance of 98.42 feet; thence North 67° 52' 48" East for a distance of 53.89 feet; thence North 03° 19' 43" West for a distance of 52.11 feet; thence North 23° 32' 17" West for a distance of 115.00 feet; thence North 10° 44' 51" West for a distance of 70.05 feet; thence North 02° 02' 34" East for a distance of 182.52 feet; thence North 12° 49' 49" East for a distance of 91.49 feet; thence North 23° 37' 04" East for a distance of 119.16 feet; thence North 32° 18' 25" East for a distance of 43.99 feet; thence North 40° 59' 47" East for a distance of 61 feet more or less to a point on the Northwesterly line of that property described as "PARCEL D" in Coos County Document 93-06-1183; thence following said Northwesterly line in a Southerly direction to a point on the 1/16 line running East-West through the center of the Southwest 1/4 of said Section 13; thence along said 1/16 line, North 88° 56' 24" West for a distance of 133 feet more or less to a point which bears North 11° 52' 14" West from the true point of beginning; thence South 11° 52' 14" East for a distance of 417 feet more or less back to the true point of beginning.

EXCEPT: Any portion of the above described parcel, conveyed to Melvin E. Boak, et ux, in instrument bearing Microfilm No. 81-2-7779, Records of Coos County, Oregon.

COOS COUNTY, OREGON TOTAL $41.00
TERRI L. TURI, CMC, COUNTY CLERK 07/18/2003 #2003-10695
04:09:46PM 4 OF 4