

SELECTION CRITERIA-DESIGNATION BY DESCRIPTION (DXD)

The selection criteria shown below shall be used by the purchaser in determining which trees are to be retained and which trees are to be cut and removed.

The selection of retention and cut trees shall comply with the Gentle Annie Timber Sale Special Provisions Section 43. The Purchaser shall leave all boundary trees, trees marked with orange paint, all hardwood trees, and non-hazardous snags. Trees that are removed to facilitate logging do not count toward the leave tree requirements described below.

I. Training

One acre of the harvest area has been marked with orange paint showing leave trees. This area can be viewed by perspective bidders and will be used as a training area for fallers to understand the forest management prescription. The location of this marking sample area can be found on the Timber Sale Contract Map- Exhibit A.

At the Authorized Officer's discretion, or at the request of the purchaser, additional areas may be marked according to the forest management prescription prior to harvesting operations.

Any mechanical harvester operator and/or fallers designated to conduct falling operations may be required to mark (with paint or flagging) a one (1) acre mark area to demonstrate their ability to meet the Selection Criteria stated below. The test mark area marking must be approved by the Authorized Officer prior to any falling in the contract area. Additional marking may be required based on the results of the sample mark. Upon acceptance of the sample mark by the Authorized Officer, the Purchaser may proceed with operations.

II. Selection Criteria

The selection criteria shown below shall be used by the Purchaser in determining which trees greater than 7 inches diameter at breast height (DBH- defined as 4.5 feet, above ground level on the uphill side of the tree) are designated for retention and which are designated for falling.

- A. Retain approximately 50 trees per acre across the harvest unit. Upon completion, the average spacing of the total stand will be 30 x 30 feet. In areas with root rot and insect infestation, spacing will be greater to prioritize forest health over trees per acre targets. Utilize variable density thinning by creating gaps (small openings in the canopy) and clumps of retention trees. Tree removal shall be focused on insect and root diseased pockets, and intermediate or suppressed trees growing into the crowns of healthy dominant and/or co-dominant trees.
- B. Diameter limits:

1. Retain all ponderosa pine, healthy western white pine, and western larch trees, that are greater than **24 inches DBH**, regardless of condition or form.
 2. Retain all western redcedar that are greater than **18 inches DBH**, regardless of condition or form.
- C. Retain all hardwood tree species, pacific yew and do not include in spacing requirements.
1. Hardwood species include:
 - a. Quaking aspen
 - b. Paper and water birch
 - c. Alder
- D. An emphasis will be placed on retaining approximately 5 standing dead trees (snags) greater than 16 inches DBH per acre, except those snags that must be felled to permit safe working operations.
- E. Any large woody debris and/or logs which do not meet the minimum requirements for merchantable timber (as described in Exhibit B), can be removed for pulp or firewood.
- F. No “snapped off” leave tree timber inside the logging unit may be severed unless determined to be a safety hazard.
- G. In selecting which trees to retain to meet the density management requirement shown above, apply the following criteria in the hierarchically designated order of importance:
1. Where available, retain vigorous trees exhibiting the desired form and vigor. Such vigorous trees are defined as:
 - a. Trees that have a live crown ratio of 40 percent or greater. The live crown ratio is determined by dividing the height of the tree containing a live crown by the total height of the tree.
 - b. Trees that exhibit mostly dark green needles with very little yellowing of the needles.
 - c. Trees that are free from severe mistletoe, disease, wounds, insect, or poor form (dead or forked tops, sweep, or crook, etc.).
 2. Where available, on a per-acre-basis, 75 percent or more of retained trees shall consist of the dominant and co-dominant trees of the initial stand.
 3. Where available, retain the following preferred tree species in the designated order of preference:
 - a. Ponderosa pine (PP).
 - b. Western redcedar (WRC).
 - c. Western larch (WL).
 - d. Healthy western white pine (WP)
 4. Primary species to be harvested in order of preference are:

- a. Lodgepole pine (LPP)
- b. Grand fir (GF)
- c. Douglas-fir (DF)
- d. Diseased western white pine (WP)

III. Compliance Inspection Criteria

Compliance inspection will consist of visual observation of on-going operations and collecting plot data after the trees have been felled as specified below:

1. Visual observation compliance will consist of subjective monitoring by the Authorized Officer for compliance with the selection criteria. Compliance will be considered satisfactory if 90 percent of the observed cut or retained trees are determined by the Authorized Officer to meet the selection criteria.
2. The Authorized Officer shall inspect felling operations by random plot selections through felled areas. At each plot, the following will be inspected to determine if the approval level is being met:
 - a. Diameter and species of stumps measured at 1 foot or less above ground on the uphill side.
 - b. DBH and species of residual trees.
 - c. Average spacing between residual trees 7 inches DBH and larger.
 - d. Number of trees significantly damaged by the Purchaser's operation at each plot.
 - e. The selection of residual trees and the work quality.
3. The purchaser's operations will be considered approved if:
 - a. 90 percent of the residual trees meet the selection criteria in Section II.
 - b. More than 95 percent of the residual trees are not significantly damaged by operations under the contract. Significant damage is defined as any tree having greater than 30 percent of the bark removed from the circumference of the tree, any tree with top diameter broken at 3 inches in diameter or greater, or any tree being visually root-sprung.

If the Purchaser's operations fall below any one of these approval levels, a written warning will be immediately issued to the Purchaser.

IV. Definitions

Co-dominant- Trees with crowns forming the general level of the main canopy that receive full light from above but comparatively little from the sides.

DBH- Diameter of a tree at breast height, measured at a point four and a half (4.5) feet above ground level on the uphill side of the tree.

Dominant- Trees with crowns of extending above the general level of the main canopy that receive full light from above and partial light from the sides.

Form (tree form) - The general shape of the tree. For this contract, good form will be defined as trees with straight boles, full crowns, small branches that are perpendicular to the bole that have pyramidal crowns (not flattened).

Snag- A standing dead tree at least fourteen (14) inches in diameter and at least twenty (20) feet tall, from which the leaves and most of the branches have fallen.