

## 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 Blue Creek East Special Provisions Section 41. The Purchaser shall leave all boundary trees, trees marked with orange paint and/or blue flagging, all hardwood trees, non-hazardous snags, and pre-existing dead and down material (decay class 3 and 4) in harvest units. Trees that are removed to facilitate logging do not count toward the leave tree requirements described below.

### I. Training

- A. Prior to any harvesting operations the Authorized Officer will designate test mark areas. Any mechanical harvester operator and/or fallers designated to conduct falling operations will 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 seven (7) inches diameter at breast height (DBH defined as four and one-half feet (4.5), above ground level on the uphill side of the tree) are designated for retention and which are designated for harvest:

- A. Due to severe root disease issues, all Douglas-fir and grand fir that meet merchantable specifications in Exhibit B that are greater than or equal to seven ( $\geq 7$ ) inches and less than or equal to twenty-four ( $\leq 24$ ) inches in DBH shall be harvested regardless of spacing.
- B. Retain approximately thirty-six (36) trees per acre across all the harvest units when possible. On average the spacing will be thirty-five by thirty-five (35 x 35) feet.
- C. Favor ponderosa pine, western larch and western white pine, western redcedar.
- D. The trees species listed in section C above, between eight (8) and twenty (24) inches, will be thinned according to the desired spacing in section A above.
- E. Favor ponderosa pine trees fourteen (14) inches and greater with good form and healthy crowns.
- F. Retain all hardwood tree species and do not include in spacing requirements.

1. Hardwood species include:
  - a. Quaking aspen
  - b. Paper and water birch
  
- G. All trees regardless of species, twenty-five (25) inches or larger in diameter outside bark measured at DBH are reserved from cutting. Note: This equates to approximately a twenty-seven (27) inch diameter tree inside the bark at one (1) foot above the ground on the uphill side.
  
- H. An emphasis will be placed on retaining approximately four (4) standing dead trees (snags) greater than fourteen (14) inches DBH per acre, except those snags that must be felled to permit safe working operations.
  
- I. All existing downed wood in decay classes three and four are reserved from harvesting. (Exhibit G). No “snapped off” leave tree timber inside the logging unit may be severed unless determined to be a safety hazard.
  
- J. In selecting which trees within 8-24 DBH class to retain, in order to meet the density management requirement shown above in Section II.A., 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 forty (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, seventy-five (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 larch (WL).
    - c. Western white pine (WWP).
    - d. Western redcedar (WRC).

### 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 ninety (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 one (1) foot or less above ground on the uphill side.
  - b. DBH and species of residual trees.
  - c. Average spacing between residual trees seven (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. Ninety (90) percent of the residual trees meet the selection criteria in Section II.
  - b. More than ninety-five (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 thirty (30) percent of the bark removed from the circumference of the tree, any tree with top diameter broken at three (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.