

Project #1 - Small Tree-Topping
Project #2 - Down Wood Creation

End Result: Improve stand structure and species diversity in even-aged monoculture plantations of Douglas-fir. The end result will create old growth habitat for the marbeled murrelet and spotted owl, and other old growth dependent species.

Measure of accomplishment: Trees topped and trees felled
Quantity: 1120 for Project #1, 1120 for Project #2

Project Specifications

Subdivision Numbers	1	2	2A	3	4	5	6	7	8	9	10	11	12	13	14
Subdivision Acres	33	68	17	67	28	25	58	15	41	46	31	41	11	66	15
Project #1 - number of trees to top	64	136	34	134	54	50	116	30	82	92	62	82	22	132	30
Project #2- number of trees to fall	64	136	34	134	54	50	116	30	82	92	62	82	22	132	30

- 1) Trees selected for treatment will consist only of plantation trees, and will be distributed following the criteria described below in the identified subdivisions.
- 2) All trees selected will be live Douglas-fir or hemlock trees. Hemlock will not be cut where this species is less than 50% of the specific treatment area. Trees selected will be sound: shall not have forked or broken tops, crooked boles, large scars, or other unique structural characteristics.
- 3) **Distribution shall be clumped or grouped. Groups and clumps shall be at least 100' from a stream or open road and at least 75' uphill and 50' downhill from any other road.**
 - a) Mingle topped trees and down wood (Tree Falling) in large clumps, but combined opening size should not exceed ½ acre; for example 120' wide and 200' long.
 - b) Clump is defined as an area containing 10 or more treated trees that are within 50' of another treated tree of the same clump. Clumped trees should be a combination of felled or topped trees. Total affected area when mingling treatments shall not exceed ½ acre; Minimum size of a clump should be 10 treated trees; such as 5 felled and 5 topped. Distance between clumps with more than 10 treated trees shall be 400-800 feet.
 - c) Group is defined as 2 to 9 treated trees that are within 50' of another treated tree of the same group. Distance between groups shall be 200-400 feet.
 - d) Location of treatment areas should be along secondary ridges and gentler slopes where possible. Locate clumps first around any big leaf maple trees - if present, second around large alder (> 8" dbh) - if present, and third around one or two "dominant" live conifer trees.

Chainsaw topping: intent is to create snags and live topped trees in equal proportion, but a ten percent tolerance is acceptable; e.g., 40% snags and 60% live topped or vice versa. Handsaws are permitted during nesting and fire restricted seasons. (Other methods of tree topping are not permitted, such as blasting tops out.)

- 4) **1.1a: Chainsaw topping: Snag trees.** Intent is to create a dead tree/snag.
 - a) **Snag trees will have two to four live limbs over five feet in length and will be at least 35' tall.**

- b) Remove epicormic branches, limbs shorter than 5 feet and any other live limbs below treatment, except for the 2-4 required.
 - c) The sawed surface will have 4 grooves, each at least 4 inches deep. Grooves will be created in a tic-tac-toe grid formation.
- 5) **1.1b: Chainsaw topping: Live trees.** The intent is to promote development of a stove-pipe cavity in a live tree. Topping to the specified standards will provide good conditions for fungi that cause heart-rot, and retaining adequate amount of live limbs below topping site should keep the tree alive and allow upper most limbs to grow vertically and eventually provide cover over the developing cavity.
- a) Live trees will be in the largest size class available.
 - b) Live trees shall retain at least 15 live limbs that are at least five feet in length. Retain all epicormic branches and shorter live limbs.
 - c) Live tree diameter (outside bark) at topping height shall be greater than 6 inches.
 - d) Live trees will have a minimum of 1-foot of bole area above the last whorl of green limbs. This will facilitate rot development above last live whorl of branches. The sawed surface will have 4 grooves, each at least 4 inches deep. Grooves will be created in a tic-tac-toe grid formation.
 - e) Trees meeting these specifications (a, b, c and d) for Live trees will be dominant trees with full crowns (30-50% crown ratio).
- 6) **1.6: Tree felling**
- a) At least 70% of felled trees shall be felled side-hill (within fifty degrees of horizontal). Over-lap felled trees where possible.
 - b) Minimum outside bark diameter at breast height (dbh) of felled trees will be 10".
- 7) **Marking treated trees**
- a) **Topping: Contractor will paint topped trees** with a band of orange paint at dbh level and orange tree number above dbh level and wrap orange and white striped flagging around the trees. "Wildlife Tree" signs will be placed at dbh. Nails shall not be completely nailed into the tree to allow for continued diameter growth on all live trees.
 - b) **Tree felling:** Contractor will establish an untreated tree as the clump identification tree by wrapping orange and white striped flagging around trees and painting two bands of orange paint around a tree and painting the clump or group number on the tree; e.g., C1 or G1.
- 8) **The Contractor will furnish** paint, flagging, aluminum nails. **Government will furnish** "Wildlife Tree" signs.
- 9) **Contractor will map** location of each clump/group with GPS. GPS location of individual trees is not required. Coordinates are NAD 83, UTM's. Contractor must provide an electronic and written file of coordinates to the CA. Electronic transfer can be accomplished by submitting a CD or by sending an email with the attached file. Acceptable electronic methods are listed below and shall include coordinates and corresponding name, number, and clump number for each clump. These methods are:
- a) A GDB file with locations of clumps from Mapsource or similar program.
 - b) An electronic spreadsheet containing X column and Y column coordinates, and a column identifying corresponding data.
- 10) Contractor will label a Reference Tree at each treated subdivision that is live and easily visible from a main, drivable road. Mark with a band of orange paint and "R" painted above the band. Two pieces of orange and white striped flagging shall be tied on a branch or around the bole and shall extend a minimum of two feet, with point of tie facing the road. The contractor shall record the project name, project area number, bearing and approximate distance to the treated tree closest to the road, and the treated tree number on the flagging with a permanent marker. If the reference tree is over 200

feet from the closest treated tree, flag the route to the tree with orange and white striped flagging.

11) The Contractor is REQUIRED to submit a weekly plan of work at least two days before implementing each weekly plan. This plan shall be submitted to the project Contract Administrator (CA).

The Contractor is REQUIRED to inform the project CA within 7 days of when a subdivision has been accomplished and provide a completed tree register form with signature and a map showing accurate location of clumps or groups of treated trees and their corresponding tree-numbers. See attached example of completed map and tree register form.

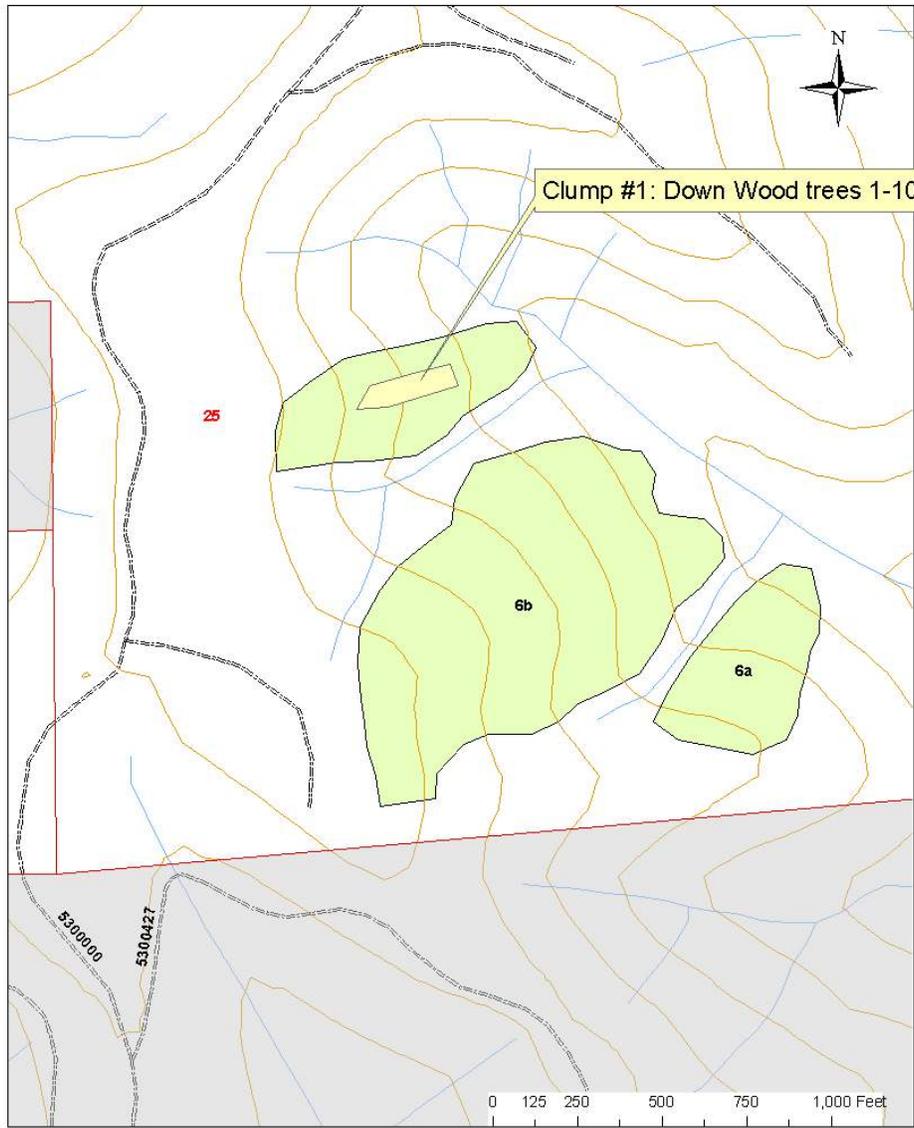
When: Work can occur anytime of year, with the following exceptions:

- After yarding is completed and accepted for the subdivision.
- In wind-prone areas of harvested subdivisions, allow at least 1 year after harvest to complete the felling and topping.
- **For operating restrictions, use felling restrictions described in K-G.3.1.5# PROJECT OPERATION SCHEDULE**
- Power tool use shall be restricted between April 1 and September 15 to two hours after sunrise to two hours before sunset if within 100 yards of mature or old growth forest.

Inspection details: contractor will provide inspection reports as detailed in the Quality Control Plan.

Inspected by a CA or other qualified inspector coordinating with wildlife biologist.

Earley School Unit Example Sale - Unit 6



Project #3 - Scalp, Gap Plant, and Tree Protection, Upland Areas
Project #4 - Scalp, Underplant, and Tree Protection, Upland Areas

End Result: Increase species diversity in even-aged monoculture plantations by planting other tree species that typically make-up old growth habitat.

Project # 3. Scalp, Gap Plant, and Tree Protection, Upland Areas -

Measure of Accomplishment: Number of seedlings/trees planted and protected.

Quantity: 1550 seedlings/trees. Plant and protect 1550 seedlings on approximately 15.5 acres (averages approximately 100 seedlings/acre).

Table 1

Subdivision Numbers	1	2	2A	3	8	13	14	Total
Subdivision Acres	33	68	17	67	41	66	15	
Project #3 - number of ½ acre gaps created		3	1				3	7
Project #3 - number of 1 acre gaps created	2			3	3	4		12
Project #3 - number of seedlings to plant in created gaps	200	150	50	300	300	400	150	1550

The creation of holes that average 1 acre and ½ acre in size is specified in the contract. The location of the gaps is shown on the Contract Area Map. The Contractor will adhere to the technical specifications below while planting the created holes with an average of 50 seedlings planted within each created ½ acre gap and 100 seedlings planted within each created 1 acre gap. This equates to an average spacing of 21' x 21'.

Project # 4. Scalp, Underplant, and Tree Protection, Upland Areas -

Measure of Accomplishment: Number of seedlings/trees underplanted and protected.

Quantity: 6704 seedlings/trees. Plant and protect 6704 seedlings on approximately 123 acres. (averages approximately 55 seedlings/acre).

See attached map.

Table 2

Subdivision Numbers	1	4	7	10	13	14	Total
Subdivision Acres	33	28	15	31	66	15	188
Project #4 - Planting Acres	32	19	15	14	30	13	123
Project #4 - number of seedlings to underplant in each thinning subdivision	1600	1180	750	868	1500	806	6704

It is expected that many small openings will be created following commercial thinning activities. It is in these small openings that underplanting activities will occur. **The Contractor should expect to cover the majority of the thinning subdivision acres (188 acres) to find 123 acres of acceptable planting spots as defined in the technical specifications presented below.**

TECHNICAL SPECIFICATIONS FOR PROJECTS #3 & #4**SECTION 1 - GENERAL****1. DESCRIPTION OF PROJECT:**

The Contractor shall provide any and all labor, training, and equipment necessary to perform the mobilization, site preparation, tree planting, and tree protection as described in the following sections. The Forest Service shall provide the tree seedlings, all tree protection devices, and self-inspection materials as specified in Section 3

2. ACCESSIBILITY:

Work areas may be reached by Forest roads that are accessible using a standard two-wheel drive pickup during normal operating seasons, unless otherwise indicated on Contract Area Maps. Vehicles shall not operate off system roads without prior written approval of the Contract Administrator (CA) or Contract Inspector (CI). Inaccessibility due to snow, fallen trees, slides or washouts on roads may or may not be permitted at the option of the Government. If road access is blocked, the Government may: (1) provide an alternate access route, or (2) substitute similar stewardship project. Roads shown on subdivision maps indicate access to subdivisions and are not to suggest the roads are open within the subdivisions or for any further travel. No vehicle shall by-pass any officially blocked road (barrier, locked gates, posted signs, rocks/log/dirt, etc.) without approval of the CA or CI.

SECTION 2 - DEFINITIONS

Planting hole - An area that is at least **15 feet** from a live residual tree of any species. Planting holes will typically be found inside thinned subdivisions within skyline corridors approved by the CA or CI as designated corridors, below landing areas, and in Phellinus infection centers.

Hole - An opening in the subdivision canopy generally between 1/2 and 1 acre in size absent of, or sparsely stocked with conifers. The holes are either deliberately created within a thinned subdivision or created as a consequence of harvest operations.

Plantable Spot - An area from which vegetation, ash, duff, and debris has been or can be removed, and a tree seedling can be planted as specified elsewhere herein.

Unplantable Spot - An area within the specified spacing limits in which it is not possible to plant a seedling according to specifications.

Satisfactorily Planted Seedling - A seedling planted in full accordance with all planting specifications set forth in this contract.

Unsatisfactorily Planted Seedling - A planted seedling which fails to meet one or more of the specifications for a CA or CI as designated satisfactorily planted seedling.

Wasted Seedlings - Seedlings which are lost, damaged, destroyed, or handled contrary to the specifications for care of seedlings. Planted seedlings in excess of the maximum number of seedlings creditable as specified elsewhere herein are also considered to be wasted seedlings.

Cotyledon Scar - Lowest point on stem from which branches will grow. Marked by a distinct ring in the bark on most species of tree seedlings.

Root Length - Root length will be measured from the longest root tip and the cotyledon scar.

Replanting - Any planting work done in a stewardship project, either voluntarily by the Contractor or as directed by the CA or CI as designated, after the Contractor has given the planting inspection cards to the Government.

Mineral Soil - Where soil content is less than 70 percent coarse rock fragments greater than 2mm in size.

Microsite Planting - The planting of tree seedlings in plantable spots most favorable to seedling survival and growth. Examples of favorable microsite features that provide protection from sun, wind, animals, and other damaging agents are logs, and stumps.

Prepared Sites - An area from which logging slash and competing vegetation has been removed to allow a seedling to be planted in full accordance with all specifications set forth in this contract.

Scalp - The removal of all vegetation which exposes at least 70% mineral soil.

Tree Height - Tree height will be measured from the ground to the tip of the seedling.

Suitable Tree - A tree of good form and vigor which shows no physical damage and which conforms to the size, characteristics, and species specified on the Planting Data Sheets.

SECTION 3 - GOVERNMENT FURNISHED PROPERTY

GOV'T FURNISHED DATA PROPERTY AND SERVICES	QUANTITY	WHERE, WHEN AND HOW TO BE FURNISHED TO CONTRACTOR
1-0, 1-1 and 2-0 Seedlings	Project 3 & 4- 8254	Brought to site by Government
Tree Tubes and Bamboo	Project 3 & 4 - 8254 tubes and 16508 bamboo stakes.	Brought to site by Government.
Inspection Book	CA or CI as designated satisfactory to complete the project.	Furnished at Pre-work meeting
Meadow Thin STWD Mandatory Stewardship Project Specs.	One Set	Furnished at Pre-work meeting
Contract Area Maps	One Set	Furnished at Pre-work meeting
Government Quality Assurance Plan	One Set	Furnished at Pre-work meeting

SEEDLING HANDLING EQUIPMENT

A. PLANTING BAGS

Planting bags shall be a light color, shall not retain heat, shall have a minimum depth of 15 inches and shall be free of defects or contaminants.

B. CARE OF SEEDLINGS

The Contractor shall adhere to the following specifications for care and protection of tree seedlings:

1. Seedlings shall be protected at all times from drying, heating, smothering, freezing, crushing, drowning, abrasion, rapid temperature fluctuations, or contact with injurious substances.
2. Seedlings stored in boxes, bags, or bundles shall not be exposed to direct sunlight. Punctured or torn bags or boxes shall be promptly resealed. Containers of seedlings shall be opened only in full shade. Bundles, bags, or boxes shall be separated to provide free air movement.
3. Seedlings shall not be removed from shipping containers until needed for preparation for planting.
4. Seedlings shall be planted without further root or top pruning or culling. If pruning or culling is necessary, or if mold, dry roots, evidence of injury, or drying is seen, the condition shall immediately be reported to the CA or INS as designated.

5. Frozen seedlings shall not be handled until completely thawed. They shall be thawed in full shade.
6. Seedlings removed from cold storage facilities shall not be allowed to stand or lay in water or snow or be covered with snow.
7. Seedlings in planting bags shall have only their tops exposed. Burlap-wrapped trees shall have the wrappings loosened slightly.
8. Seedlings shall not be removed from a planting bag until immediately before planting in a prepared planting hole.
9. Seedlings shall be gently removed, one at a time, to prevent stripping or other injury, and quickly and gently inserted into the planting hole.
10. Seedlings carried in planting bags shall not exceed the amount that can be carried or removed without injury, or which can be planted before critical heating or drying occur. Seedlings placed in planting bags shall be planted out and not returned to storage. Trees in planting bags shall be planted out before extended breaks, such as lunch.
11. The Contractor shall not touch the roots of the seedlings.
12. The Contractor shall not dig and replant seedlings other than those located on inspection plots or spot checks of below ground planting quality.
13. Unplanted seedlings shall be returned to the Government at the end of each working day.

C. PREPARATION OF SEEDLINGS

The Contractor shall provide water and a container at least 15 inches wide and 15 inches deep for dipping roots of bareroot seedlings. Water and container shall be kept free of contaminants and used only for dipping. Roots shall be dipped in water to wet them prior to placing seedlings in planting bags. Seedlings shall remain in the water for at least 3 seconds but not longer than 30 seconds.

D. SPACING AND SPOT SELECTION

A. Seedlings Spacing Requirements:

1. Seedlings are to be planted only in planting holes. A planting hole is defined as any opening where a seedling can be planted at least 15 feet or more away from a residual tree of any species.
2. Seedlings shall be planted to the boundary of all planting areas and around the perimeter of unplantable areas in spots distributed at intervals prescribed. For individual seedlings, the specified average spacing may be varied no more than 25 percent in any direction to find a suitable planting spot. The specified underplanting spacing shall be 24' X 24' for Project 4 and 21' x 21' for Project 3 unless favorable conditions exist where Microsite planting would be most favorable.
3. Where microsite planting sites are available as many as four seedlings can be "clump" planted at 8 foot spacing. In no case shall a planted seedling be closer than 15 feet to a residual tree.
4. Prepared sites shall extend to the boundary of all planting areas and around the perimeter of all unplanted areas.

B. Planting Spot Selection:

1. Brush patches containing planting spots shall be planted even though this may require spreading stems aside or working around the stems.
2. Whenever possible, within the 25 percent variance in average spacing, planting spots shall be prepared where stumps, logs, dead brush, and terrain features provide partial protection from the sun, wind, animals, loose debris, and other agents detrimental to seedlings.

C. Microsite Planting:

1. Only western red cedar and western Hemlock shall be planted in the microsite locations. Microsites are the shade side of stumps, logs, brush and where designated by the CA or CI as Designated. At each microsite location up to 3 to 4 seedlings can be planted a minimum of 8 feet apart depending on the size of the microsite.
2. Seedlings shall be spaced a minimum of 15 feet away from existing healthy residual trees.

E. PLANTING SPOT PREPARATION

Prior to digging the planting hole, the Contractor shall clear or "scalp" the planting spot of all limbs, logs, snow, bark, rotten wood, rocks and other loose debris and shall scalp ash, duff, sod, crowns of living plants, and roots to moist mineral soil. The scalp shall be a minimum of 24" x 24". Site preparation and scalping dimensions are further described in Section 4. If slash prohibits the specific diameter of scalp, a smaller scalp will be acceptable.

F. PREPARING THE PLANTING HOLE

A. Planting holes shall be located near the center of the prepared planting spot and shall be between perpendicular to the ground surface and true vertical.

B. For Handtools: An open planting hole, broken out as shown the attached Exhibit1, and deep and wide enough to fully accommodate the roots of the seedlings to be planted is required when hand planting tools are used. The planting hole shall be broken out on four sides, with the back of the planting hole being broken out after the seedling is suspended in the center of the planting hole.

G. SEEDLING PLACEMENT

The 1-0 and 2-0 Bare Root Seedlings - The bareroot seedling shall be suspended near the center of the planting hole with roots in a near natural arrangement at a depth such that, after filling, firming, and leveling, the soil comes to a point at or above the cotyledon scar of the tree. No portion of the roots shall be exposed. Roots shall not be doubled up, twisted, spiraled, or bunched. The root system shall be aligned with the axis of the planting hole with all roots extending downward. See Exhibit 1.

- It is permissible to cover the lowest whorl of branches with uncompacted soil.

H. FILLING AND FIRING

Moist mineral soil shall be filled in and firmed around seedling roots. Dry soil, ash, organic matter, rock and other foreign material shall be kept out of planting holes. Soil shall be filled in and firmed progressively so no loose soil or air pockets remain and the seedling is as firmly planted as soil conditions will allow. The Contractor shall not wedge the sides of the planting hole. Firming the soil around the roots shall be accomplished in a manner that assures the seedling and its root system is not

damaged. After the soil is firmed around the roots, it shall be smoothed out to the level of the surrounding mineral soil surface. After planting, the seedling stem shall be erect and free to grow. The seedling shall not be weighted down with mud or debris.

I. MIXTURE OF PLANTING STOCK

A mixture of planting stock will be used in each subdivision. The Contractor shall plant these mixtures or stages in locations as required by the CA or CI as designated.

SECTION 4. PERFORMANCE WORK STATEMENT TASKS AND CRITICAL SUBTASKS

The Contractor shall be responsible for all tasks concerning the handling, planting, and protection of the seedling. The Contractor shall perform the work to the Quality/Performance Requirements.

Planting

- Preparing seedlings for planting
- Spacing
- Planting spot preparation
- Scalping
- Seedling Placement

1. Plant in planting hole only. A planting hole is an area that is at least 15 feet from a live residual tree of any species.
2. For Projects 3 & 4 prepare a planting spot by creating 24 x 24 inch scalps. All vegetation will be removed from the scalps exposing mineral soil.
3. Government supplied seedlings will be a combination of 1-0, 1-1 or 2-0 Western Red Cedar, Sitka Spruce, Western Hemlock, Douglas-fir, and Red Alder.
4. Trees will be dipped in water before planting with shovel or hodad. Contractor will provide shovel or hodad and buckets for dipping trees prior to planting.
5. Trees will be left in their shipping containers or planting bags until they are ready to plant.
 Roots should only be exposed when dipping in water and when they are going into the ground.

Tree Protection
Tubing

1. Tube all trees except spruce. Tubes and stakes are provided by the Government. Tubes will be supported by two 4 foot bamboo woven through the tubes (see exhibit 2).
2. The bamboo's large end will be in the ground at least 12 inches. The tree top will be vertical and not bunched in the tube. The bottom of the tube will be flush with the ground.
3. If a seedling is too large to tube, tubing will not be required.
4. The Contractor is required to haul all tubes and bamboo to the planting sites.

Release

Demobilization and Cleanup

Documentation

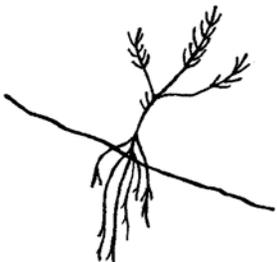
- Work Plan and Schedule

- Quality Control Plan

- Contractor Inspection will be clear, concise and contain all the required data in an approved format.

ATTACHMENT 2 - PLANTING/TUBING/SCALPING DIAGRAMS
Exhibit 1

Satisfactory and Unsatisfactory Plantings

<p>SATISFACTORY</p> 	<p>SATISFACTORY</p> 	<p>Unsatisfactory</p>  <p>Too deep. Needles buried.</p>
<p>Unsatisfactory</p>  <p>Improper orientation. Not planted into the slope or near vertical.</p>	<p>Unsatisfactory</p>  <p>"L" roots. Shallow hole.</p>	<p>Unsatisfactory</p>  <p>"J" roots. Shallow hole. Roots often exposed.</p>
<p>Unsatisfactory</p>  <p>Jammed roots. Hole too narrow and shallow.</p>	<p>Unsatisfactory</p>  <p>Hole too shallow. Roots exposed.</p>	<p>Unsatisfactory</p>  <p>Air pocket because of improper tamping.</p>
<p>Unsatisfactory</p>  <p>Planted in rotten wood. Roots not in mineral soil.</p>	<p>Unsatisfactory</p>  <p>"U"- or "J"-shaped tap root.</p>	<p>Unsatisfactory</p>  <p>Compacted roots. Hole too narrow.</p>

TUBING INSTALLATION WITH BAMBOO

TOP VEIW

SIDE VEIW

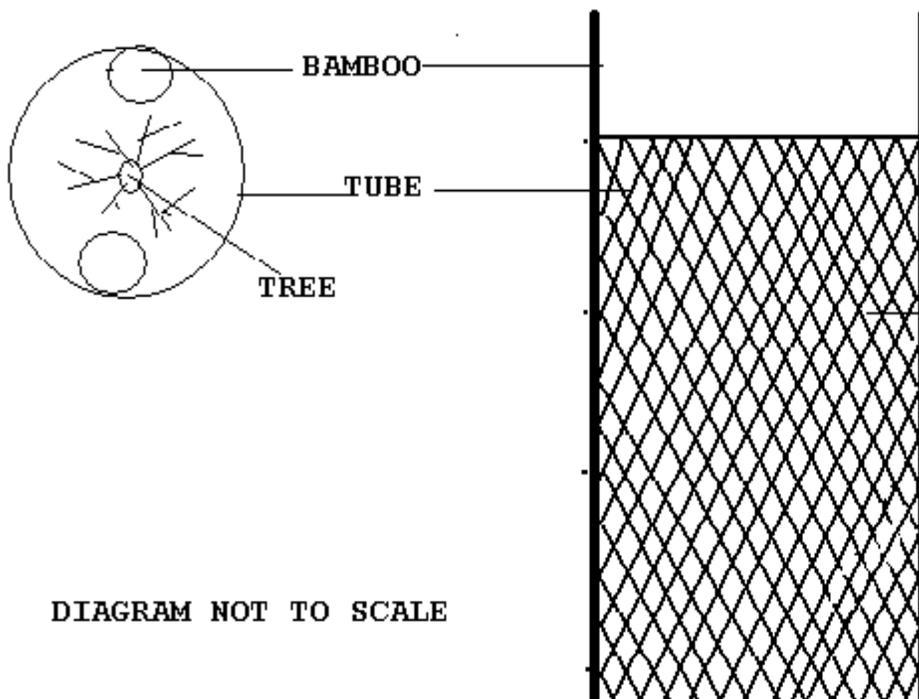


DIAGRAM NOT TO SCALE

TUBING INSTALLATION SHOWING WEAVE POINTS

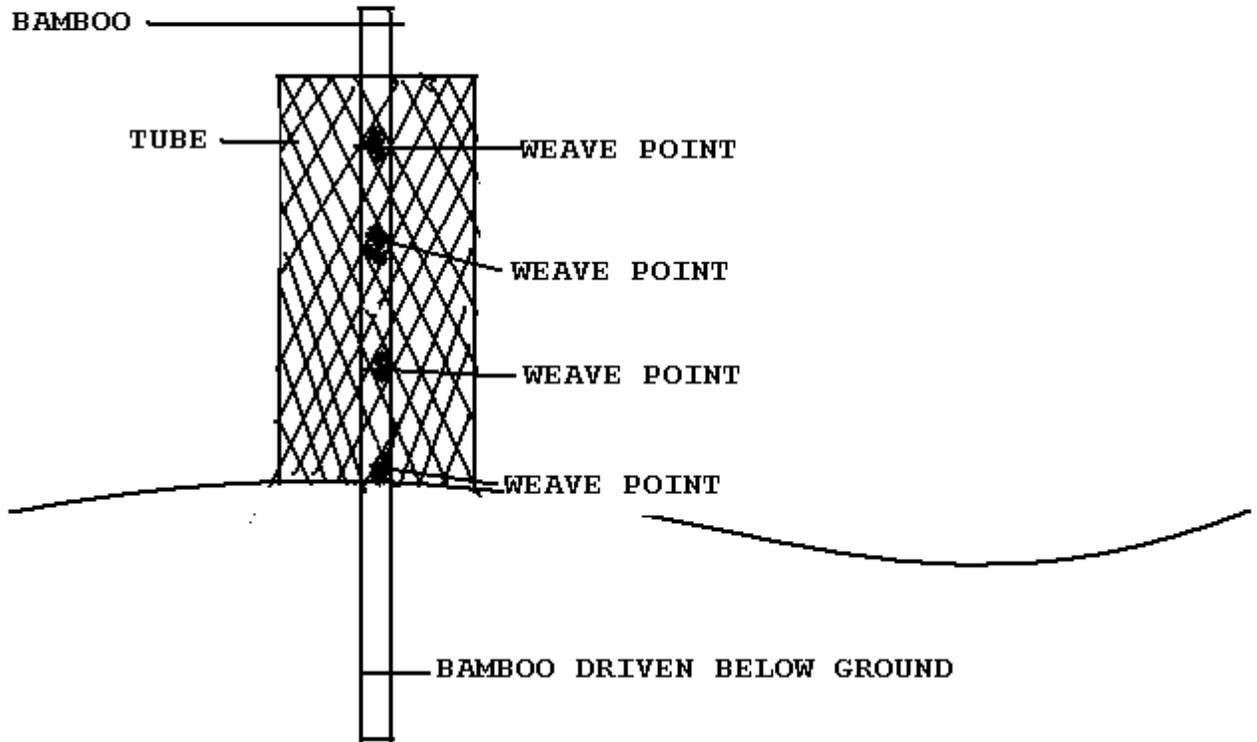


DIAGRAM NOT TO SCALE

SECTION 5 - INSPECTION AND ACCEPTANCE

1. INSPECTION OF SERVICES

(a) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the projects under this contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Government during contract performance and for as long afterwards as the contract requires.

(b) The Government has the right to inspect and test all services called for by the contract, to the extent practicable at all times and places during the term of the contract. The Government shall perform inspections and tests in a manner that will not unduly delay the work.

(c) If the Government performs inspections or tests on the premises of the Contractor or subcontractor, the Contractor shall furnish, and shall require subcontractors to furnish, without additional charge, all reasonable facilities and assistance for the CA or CI as needed and convenient performance of these duties.

(d) If any of the services do not conform with contract requirements, the Government may require the Contractor to perform the services again in conformity with contract requirements, at no increase in contract amount. When the defects in services cannot be corrected by reperformance, the Government may (1) require the Contractor to take necessary action to ensure that future performance conforms to contract requirements and (2) reduce the contract price to reflect the reduced value of the services performed.

2. CONTRACTOR INSPECTION PROCEDURES

Contractor shall:

Inspect the work of his or her crew in any fashion he chooses so long as the inspection procedure is thorough enough to ensure compliance with all of the planting specifications described herein. When the Contractor, through inspections and possible reinspections is satisfied that the crew's planting work is in compliance with the contract specifications, the Contractor shall then request that the Government representatives perform an inspection.

3. GOVERNMENT VERIFICATION (PLANTING)

The Government will conduct verification inspections to determine compliance with specifications. Each stewardship project/subdivision will be verified separately and inspection results on one stewardship project/subdivision will not be averaged with those of other stewardship projects/subdivisions. Determination of the acceptability of the work performed will be based on these verification inspections. The Contractor or a designated representative is encouraged to observe inspections while they are underway.

1. Verification inspection of a stewardship project/subdivision shall be performed within 2 days following notification by the Contractor that a planted stewardship project is ready for inspection.

Government verification inspection will consist of observation of tree handling, site preparation, planting and inspection procedures, and examination of individual trees on designated sample plots. When Government verification inspection fails to support Contractor's inspection results, the Government will inform the Contractor in writing and a full reinspection will be performed by the Government within five working days of the original Contractor inspection. The Government encourages the Contractor to observe this inspection.

If the area to be reinspected is at a quality that requires replanting and is also a tubing area, the Contractor will bear responsibility and expense to tube the replanted trees as specified in this contract.

A. Government shall:

1. Install a series of circular 1/20 acre plots, (with slope correction) sufficient in number to yield at least the following: 1.5 percent sample but not less than 3 plots. Plots shall be located throughout the planting areas to obtain a representative sample of the work.

MINIMUM ACRES IN STEWARDSHIP PROJECT	NUMBER OF 1/20 Ac. PLOTS
Project 3 - 15.5	5
Project 4 - 123	37

2. The inspection plots will be identified on the ground by using flagged markers to locate the plot centers and identify them by consecutively numbering each plot, and also indicate the date of inspection. Plastic flagging shall be a minimum of 1 inch in width and 12 inches in length.

3. Inspection plot results will be collected on Planting Inspection Sheets.

4. Additionally the Government will document seedling handling that is inconsistent with contract specifications as wasted seedlings on the Planting Inspection Sheets.

5. Inspection procedures on the plots will utilize the following codes for recording above and below ground noncompliance for planted trees:

<u>CODE</u>	<u>ABOVE-GROUND INSPECTION</u>
A	Planting Spot Selection
B	Planting Spot Preparation
C	Tree Location on Planting Site
D	Planting Depth and Exposed Roots
E	Stem Position or Damage
F	Firming
G	Shade
H	Spacing
AA	Other Specifications

<u>CODE</u>	<u>BELOW-GROUND INSPECTION</u>
I	Planting Hole Preparation
J	Planting Hole Orientation
K	Root Configuration and Orientation
L	Altered Root Length and Damage
M	"Foreign" Material in Planting Hole
N	Loose Soil or Air Pockets
II	Other Specification

B. Inspection Within Each Plot - each plot shall be inspected as follows:

1. The Government inspectors will determine from Table I the average number of planting spots for the plot based on the specified average spacing. From this number the number of suitable trees will be subtracted from the number of unplatable spots. The difference will be recorded as the number of plantable spots on which seedlings should be planted.

TABLE I

AVERAGE PLANTING SPACING (FEET)	AVERAGE NO. OF PLANTING SPOTS ON 1/20 ACRE
24 x 24	3.5 to 4.0
21 x 21	4.0 to 4.5

2. Determine and record the maximum number of allowable seedlings from Table II

TABLE II

Determination of the maximum allowable seedlings from number of plantable spots recorded in Step No. 1 above.

MAXIMUM PLANTABLE SPOTS	MAXIMUM NUMBER OF SEEDLINGS	PLANTABLE SPOTS	MAXIMUM NUMBER OF SEEDLINGS
0	1	13	16
1	2	14	17
2	3	15	18
3	4	16	19
4	5	17	20
5	6	18	22
6	7	19	23
7	8	20	24
8	10	21	25
9	11	22	26
10	12	23	28
11	13	24	29
12	14	25	30

3. The number of seedlings planted will be recorded on the plot.

4. The Government shall determine and record the number of wasted seedlings on the plot. This will be the number of seedlings determined by subtracting the maximum number of allowable seedlings from the number of planted seedlings recorded but not less than zero. When planted wasted seedlings are found, and they are considered minor in nature and in no way indicate a trend that average spacing requirements are being exceeded, the CA or CI may waive the wasted seedling charge. In no case will a waiver be given if the total of the Planting Inspection Sheet column "Planted Seedlings" exceeds the total of column "Maximum Number Allowable Seedlings" or the number of wasted seedlings is not minor and indicates a trend that average spacing requirements are being exceeded.

Wasted seedlings will be calculated by the following: Total number of wasted seedlings from inspection record divided by number of plots taken multiplied by the reciprocal of the plot size times number of acres in the stewardship project, plus seedlings determined wasted under care of seedlings specifications. For example, if a total of 27 wasted seedlings was found on 40 1/50 acre plots which were taken on a 60 acre stewardship project, and a bundle of 200 seedlings had been wasted through improper care, the calculation would be made as follows:

$$27 \times 50 \times 60 / 40 = 2025 + 200 = 2225 \text{ wasted seedlings}$$

5. The Government shall inspect and record the number of planted seedlings meeting the above-ground contract specifications. The maximum number of satisfactory seedlings to be credited shall not exceed that shown in Table II.

4. The Government shall determine and dig the number of seedlings from those determined satisfactory above-ground as shown in Table III. Digging to determine below ground quality (see Exhibit Section) shall be accomplished in such a manner as to expose the root system profile.

TABLE III

NUMBER OF SATISFACTORILY PLANTED SEEDLINGS ON PLOT - ABOVE GROUND	NUMBER TO BE DUG
1-3	0
3-6	1
6+	2

The satisfactory above ground seedlings shall be dug starting with those closest to the plot center and progressing outwards.

7. The Government shall record the number of seedlings meeting below-ground contract specifications.

8. The Government shall compute the planting quality by the following formula:

Planting Quality =

$$\frac{\text{No. of Trees Above-Ground}}{\text{No. of Plantable Spots}} \times \frac{\text{No. of Satisfactory Dug Seedlings}}{\text{No. of Dug Seedlings}} \times 100$$

The results of the above calculation will be applied as follows:

a. Plot

- (1) Divide the total satisfactory seedlings above ground by the total number of plantable spots.
- (2) Divide the total satisfactory seedlings below ground by the total dug:
- (3) Multiply the two totals to get planting quality percentage.
- (4) When the number of satisfactory seedlings above ground is zero or one and the number of plantable spots is zero, the result shall be 1.0.

b. Total Stewardship project

- (1) Add the total plot percentage of all plots in the stewardship project and divide by the total number of plots in the stewardship project to get the average percentage of plot quality in the stewardship project.

9. Percentage of planting quality as calculated above will be rounded to the nearest whole percent. MAXIMUM ALLOWABLE PERCENTAGE SHALL BE 133 PERCENT PER PLOT AS COMPUTED IN STEP 8.

10. Average planting spots and maximum number of satisfactory seedlings shown in Tables I and II have been rounded to the nearest whole number. It is mutually understood and agreed that these figures will be used for determining planting quality even though they are not precisely correct from a mathematical standpoint.

C. Inspection Results

1. Government inspection shall begin within 2 days of the Government being notified by the Contractor that a stewardship project is ready for inspection. Contractor inspection results may be requested by the Government prior to government inspection. Completed Planting

Inspection Sheets shall be shared with the Contractor within 24 hours of completion of each stewardship project/subdivision and will remain a part of the permanent contract file.

2. The Contractor shall submit legible inspection results when requested to do so. Illegible and incomplete results will be returned to the Contractor for correction and resubmission before Government verification inspections are performed.

3. By requesting a Government inspection, the Contractor is considered to be certifying that the subdivision is:

- a. Satisfactorily completed.
- b. Tree handling was completed in accordance with the contract provisions stated elsewhere in the contract.
- c. Written inspection results reflect the work accomplished.

5. UNSATISFACTORY PLANTING

A. If the percentage of planting quality for any stewardship project/subdivision falls below 90 percent the Contractor may be permitted to replant the stewardship project/subdivision in order to achieve a higher planting quality percentage. Replanting will be subject to availability of seedling stock and shall be requested in writing by the Contractor. Following completion and replanting, a new inspection shall be made by the Contractor. Payment will be based on the new inspection.

B. The Contractor may be required to replant any stewardship project or any 1/2 acre or larger portion of a stewardship project, as identified on the ground by the Government, where the average planting quality falls below 80 percent, provided that additional supplies of suitable seedlings are available.

C. Only one replant will be permitted. Acceptance will be based on a new inspection made after replanting. The Contractor shall bear the cost of all reinspections after replanting.

6. REINSPECTION UPON CONTRACTOR REQUEST (PLANTING)

A. If the original verification inspection results are unacceptable to the Contractor, the Contractor will have the option to request, in writing, a full inspection by the Government. Requests for reinspection shall be made, in writing, within five days after receipt of initial inspection results. If the Government's reinspection results differ by more than 5 percentage points from the Contractor's original inspection results, the Government's reinspection results will be used for payment.

B. Inspection results used for payment will be determined as specified elsewhere herein.

7. INSPECTION AND ACCEPTANCE (TUBING)

A. The Contractor shall:

Inspect the work of his or her crew in any fashion he chooses so long as the inspection procedure is thorough enough to ensure compliance with all of the tubing specifications described herein. When the Contractor, through inspections and possible corrections is satisfied that his crew's tubing work is in compliance with the contract specifications, the Contractor shall then request that the Government representatives perform an inspection.

8. GOVERNMENT VERIFICATION (TUBING)

The Government will conduct verification inspections of tubing to determine compliance with specifications and to provide the basis for computing the rate of payment. The inspection will be made based upon a survey unless determined by the CA or CI that possible marginal work exists, then formal plots will be taken on a series of 1/20 acre plots. Each

stewardship project/subdivision will be verified separately and inspection results on one stewardship project/subdivision will not be averaged with those of other stewardship projects/subdivisions. Determination of the acceptability of the work performed will be based on these verification inspections. The Contractor or a designated representative is encouraged to observe inspections while they are underway.

A. The Government shall:

- 1. Install a series of circular 1/20 acre plots, (with slope correction) sufficient in number to yield at least the following: 1.5 percent sample but not less than 3 plots. Plots shall be located throughout the planting areas to obtain a representative sample of the work.

MINIMUM ACRES IN STEWARDSHIP PROJECT	NUMBER OF 1/20 Ac. PLOTS
Project 3 - 15.5	5
Project 4 - 123	37

2 Plots shall be taken on a grid system located within each planting subdivision to provide a representative sample of the Tubing work.

- a. Flagging will be used to locate the plot centers. Flagging (colored plastic ribbon) shall be 1 inch minimum width and minimum length of 12 inches.

- 3. Complete inspection reports, Form Number R6-2400-114)

B. Each plot will be inspected for:

- 1. Number of trees tubed.
- 2. Number of trees needing tubing.
- 3. Number of trees satisfactorily tubed.
- 4. Excess tubed trees.

If inspections find that less than 90% of the seedlings requiring protection have been tubed, the Contractor will be required to rework the stewardship project. Additionally, any wasted tubes, or excess tubes shall be gathered by the Contractor and returned to the Government prior to Government acceptance of a tubing stewardship project.

9. REINSPECTION UPON CONTRACTOR'S REQUEST (TUBING)

1. If the original inspection results are unacceptable to the Contractor, a reinspection may be requested. Requests for reinspection must be made in writing within five days after receipt of notice of initial inspection results. The inspection procedure will be used as described in E-6, but new plots will be selected. The inspection pattern will be shifted so new inspection plots and will not overlap previously inspected plots.

SCHEDULE

When: January 1 to March 28.

Year of Project: The first January 1 - March 28 period following the completion of commercial thinning work in any given subdivision unless otherwise agreed to.

Inspection details: Self inspection by the Contractor using whatever means necessary to ensure crew compliance with all planting and tree protection specifications.

Formal Inspection/Acceptance by: The Forest Service

Project # 5 - Meadow Enhancement

End Result: Increase early seral habitat for wildlife, allow for future meadow maintenance and protect meadow from motorized vehicle traffic.

Measure of accomplishment: All red alder felled, flush cut, decked or piled, and gate installed.

Quantity: Approximately 125 red alder and 1 Gate

Project Specifications

Red alder removal: Cut all standing red alder in subdivision 6B North see attached map. Cut stumps flush to the ground when possible. Limb and deck all red alder logs with the following minimum specifications: small end diameter greater than 3 inches and a minimum length of 10 feet. See attached map for designated deck area. Material smaller than described above may be scattered on the outside edge of the meadow, or piled at landing A for disposal by the Forest Service.

Deck and pile specifications:

Decks: Deck logs parallel in a manner to avoid shifting and rolling. Unless otherwise agreed, these decks shall be no higher than 6 feet.

Piles: If slash piles are made, red alder must be placed on top of Douglas-fir slash to facilitate burning. Pile material in a compact, dirt free, uniform pile for disposal by the Forest Service. The pieces shall be placed so that shifting or rolling will not occur and so that no material will extend over the edge of disposal areas. Piles shall be no higher than 15 feet. Cover piles with a 10'x10' piece of 4 ml. plastic. Unless otherwise agreed, the base of the piles shall be no closer than 10 feet from the drip line of standing trees.

Timing: Contractor must coordinate with the Contract Administrator to have red alder decks accessible by public firewood permit holders within six months of felling operations.

Access barriers: On the northern side of subdivision 6B North, near the entrance and outside the subdivision boundary is a clump of red alders with an opening that will allow for vehicle access. Place a gate at the opening that will allow for future meadow maintenance, while blocking public motorised vehicle access. Fall some of the standing red alder at this location to create log barriers and prevent vehicles from driving around the gate into the meadow.

Gate Specifications:

- Two 7 foot long guard rail posts sunk 3 feet into the ground 8 feet apart
- Guard rail cross piece capable of swinging open
- Rock Barrier on either side of gate to prevent access

R. 10 W.

Meadow Thin Stewardship Project # 5
Meadow Enhancement

3437

Log Deck

Log Barriers

Gate

6

6B

Landing
A

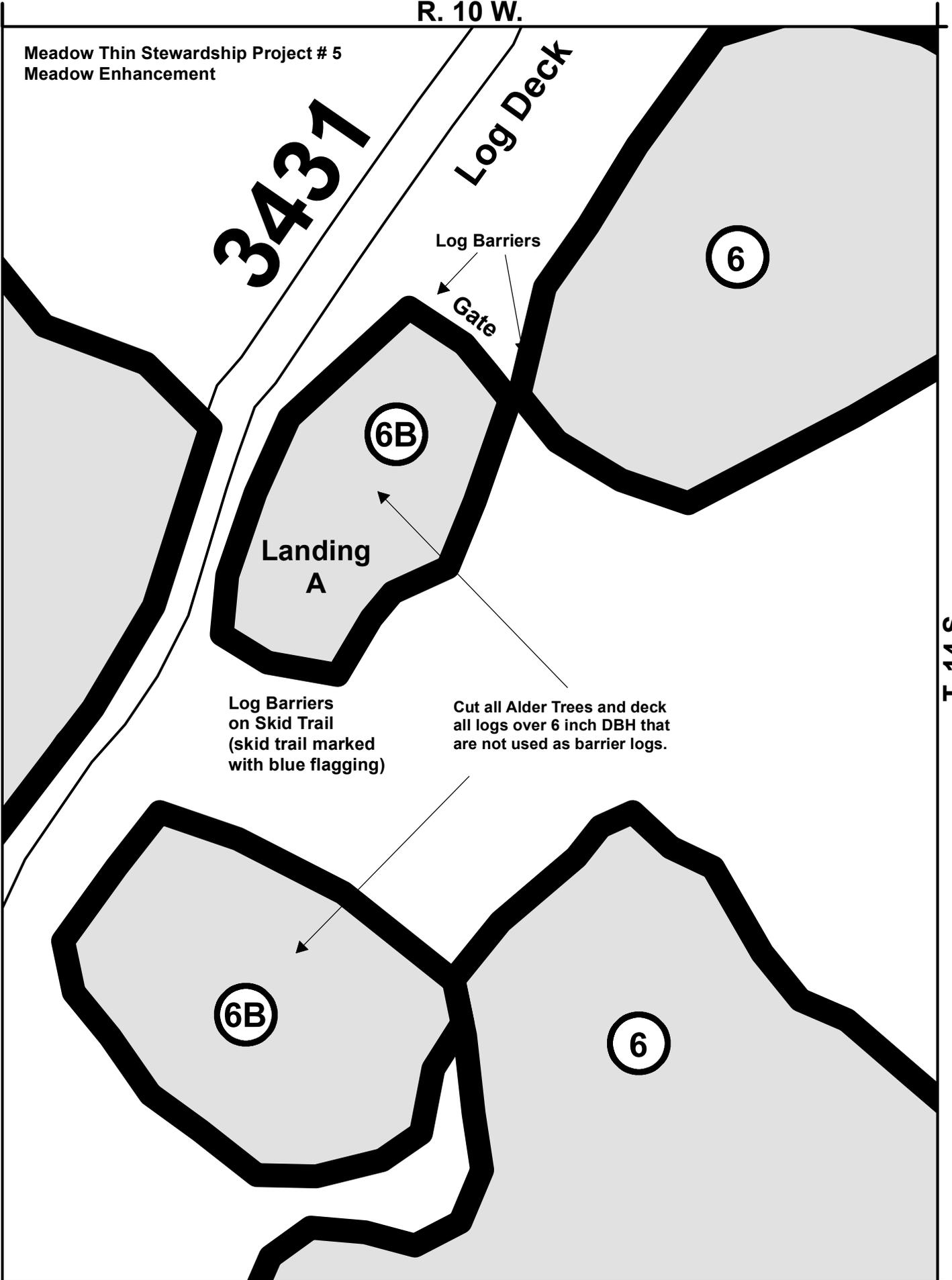
Log Barriers
on Skid Trail
(skid trail marked
with blue flagging)

Cut all Alder Trees and deck
all logs over 6 inch DBH that
are not used as barrier logs.

6B

6

T. 14 S.



Project # 6 - Road Decommissioning

End Result: Decommission roads and return road template to natural conditions and hydrologic functioning.

Objective is to reduce sediment movement to nearby streams.

Project Description: Project consists of decommissioning 0.84 miles of road 3430-112, by removing listed culverts and fills, installing waterbars, and placement of an earthen berm at the beginning of the project areas.

Project Road #	Beginning Termini	Ending Termini	Legal Description
3430-112	MP 0.00	MP 0.84	T 14 S, R 10 W, sections 2 & 11

Decommissioning of roads 3430-112 goes from the southern boundary of unit 2/2A to the temporary road to landing J. The road surfacing is native soil.

Completion Date: Completion date of the project is no later than October 15 of the same calendar year logging on Unit 2/2A, of Meadow Thin is completed.

Project Work Items: All work is on forest road 3430-112

Item Number	Work Item	Quantity	Description/Notes
1	Pull and Remove Culverts	7	Work restricted to July 1 through August 31. 18" and 24" stream culverts; normal fill. See specs below
2	Install Earthen Barricades	1	One at beginning of projects to effectively close road. See specs below
3	Install waterbars	As required by specs but estimate minimum of one every 200 feet or approximately 50 - 60 total	See specs below

Item # 1 - Culvert Removal and Disposal Specs and Location: - The Contractor shall remove all culverts from the specified road segment on 3430-112

Culvert Removal: The Contractor shall remove culverts off National Forest Lands as designated by the Government. The Contractor shall be responsible for disposal of the removed culverts in a legal manner and for the payment of any fees required and shall submit proof of legal disposal prior to final project acceptance.

Excavation of fill during culvert removal shall be accomplished in a manner that minimizes sedimentation from entering streams. Temporary sediment control structures such as silt fencing or straw bales for short term sediment abatement shall be installed as needed, immediately downstream before excavation on culverts that are running water.

Following culvert removal, any disturbed intermittent or perennial bed shall be reshaped to the natural stream gradient with sides sloped to a 1.5H to 1V grade or matched to the undisturbed side slopes associated with the channel. The re-established channel shall have a minimum bottom width of 4 feet. There are 5 known perennial stream beds within this project.

Remove culverts and excavate all fill material down to the original stream bed or

bottom of pipe bedding. The removed fill material on 3430-112 shall be placed against the cut slope and recontoured as close as possible to the original contours. The material shall be outsloped at a maximum of 20% gradient and no closer than 20 feet to stream courses. Material from pipe locations C, D, E and F shall be hauled to the disposal site as designated on the ground . The disposal site is a large landing from previous harvest activities

Trees cut or otherwise removed in the clearing area for the culvert removals shall be felled directionally in a manner that protects the trees outside the road prism from damage and shall be placed in the stream channel. Utilize rocks and boulders from excavation in the restored stream channel to dissipate energy and control flow path. Do not create areas which will cause head cutting.

3430-112 Culvert Work Listing.

Culvert Diameter Size	Designation	Type
24"	Pipe A	Perennial
18"	Pipe B	Intermittent
18"	Pipe B-1	Intermittent
18"	Pipe C	Perennial
24"	Pipe D	Perennial
18"	Pipe E	Perennial
18"	Pipe F	Perennial

Item #2 - Earthen Berm Road Closure Barricade Specs Location and Guidelines

The Contractor shall place an earthen berm barricade to completely close off roads to motor vehicle traffic. The barricade shall be placed at a location flagged in the field, or at the beginning of each project as described above. A Berm Barricade Typical Drawing is provided. Berm barricade shall be constructed to allow water drainage away from streams and other erodible surfaces.

Item #3 - Waterbar Specs and Location Guidelines

The Contractor shall storm proof designated roads by installing waterbars at locations flagged in the field, listed on work sheets, or at intervals as designated on the Typical Diagram(s) provided. The Government may increase or decrease the spacing intervals so as to fit specific road conditions. Road 3430-112 will not receive traffic; water bar installation type should be non-drivable, Type 1.

Waterbars shall be constructed so as to channel water away from existing ditch lines and across the road surface to the outside of the road shoulder. Waterbars shall be self-maintaining. See Waterbar Typical.

Waterbar Location Process

The first step is to plan for waterbars at critical locations using guidelines for water collection and discharge. Then select additional locations to meet spacing requirements shown in Table 1. See attached drawing for typical water bar locations.

Water Collection Guidelines

Place waterbars at natural small drainages that may not have justified a ditch relief culvert at the time of design. Try to keep as much of the water in its natural route as possible even if it requires an extra water bar.

Place waterbars to back-up removed culverts that provided ditch relief or natural channel flow.

Place waterbars to prevent road surface and cut bank sedimentation from entering directly into natural drainage channels.

Place waterbars to dissipate water prior to steep grades.

Place waterbars at road seeps, springs and wet subgrades to collect this water and quickly discharge it off the road. These areas may be notorious for potholes or fill failure.

Place waterbars to effectively reduce ditch erosion. Reduce the upper reach of the ditch by a length greater than the area showing ditch erosion. For example: if the lower 90 feet of ditch shows signs of erosion, eliminate at least the first 90 feet of ditch by using a water bar.

Water Discharge Guidelines - consider these items for all waterbars.

Discharge onto undisturbed areas, preferable rocky ground or areas protected with vegetative cover.

Avoid discharging directly over fills. Seek natural ground areas first and then areas along edges of fills.

On steep slopes, discharge on convex slopes rather than draws.

Avoid crossing road or shoulder cracks especially where steep slopes or side cast construction is evident.

If a vegetated or rocky location is not found, reduce water bar spacing to match native soil conditions found in Table 1.

Waterbar Spacing Guidelines

Waterbar location may be determined by measuring or estimating the distances and grades in Table 1. The road surface for this project is aggregate and contractor will use recommended spacing provided below for aggregated surfaced with vegetated/rocky discharge points. Care should be taken not to exceed 150% of distances shown. During storms in 1996 several waterbars exceeding 150% of recommended spacing received so much water that the waterbars themselves had excessive erosion.

The spacing shown for native surface roads is typical for most of the Siuslaw's soils. If fine and light soils (silt & silty sands) are encountered, reduce spacing by 20%. If silty clay or sandy clay soils are encountered, spacing may be increased up to 50%.

Table 1 Typical Waterbar Spacing

Road grade	Aggregate surfaced with vegetated/rocky discharge point		Native surface or barren soil discharge points	
	Feet	Meters	Feet	Meters
1-3	600	200	100	35
4-6	300	100	80	25
7-9	200	70	70	23
10-12	150	50	60	20
13-18	120	40	50	15
19+	80	25	30*	*

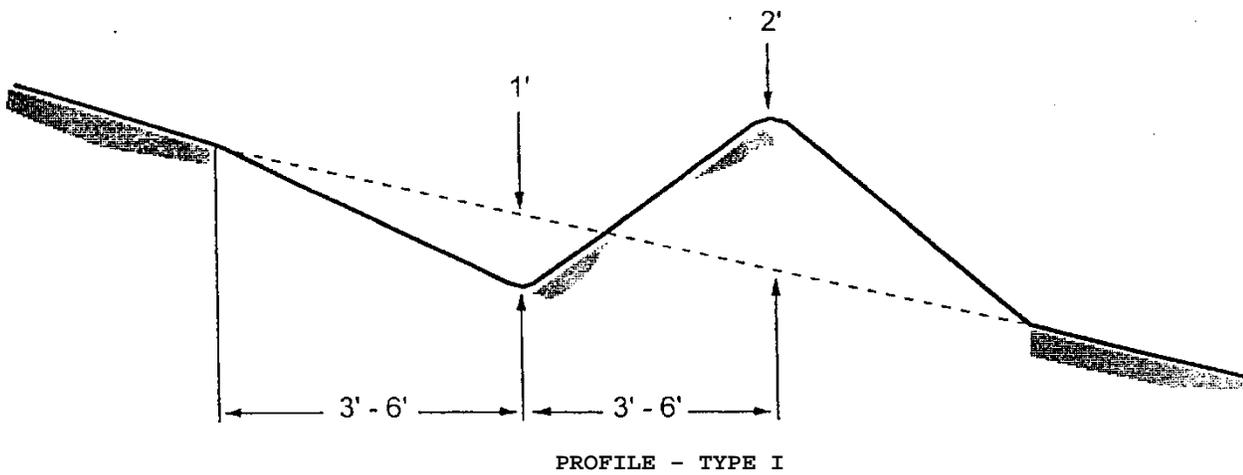
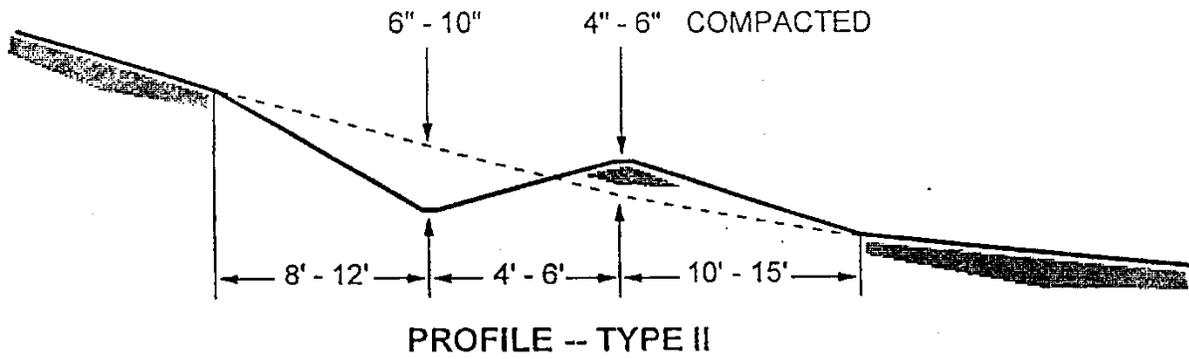
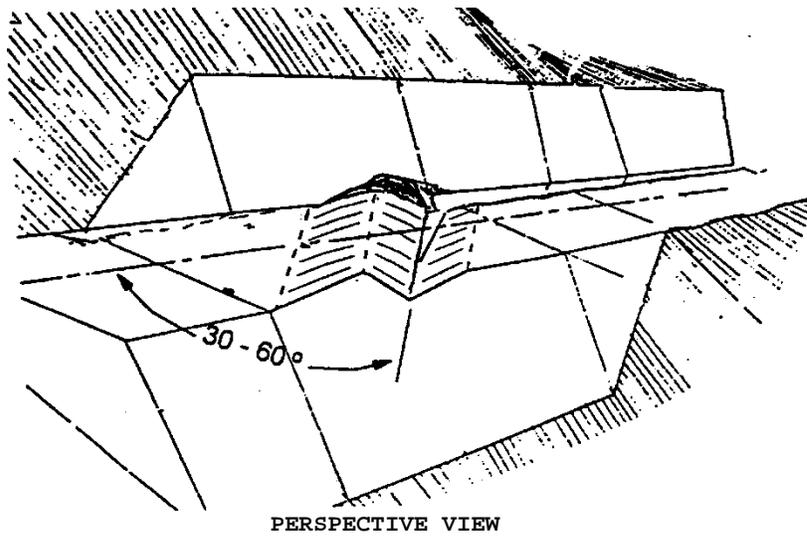
*Consider using surface protection measures such as aggregate.

Waterbar Construction Guidelines: This project will use Type I waterbars.

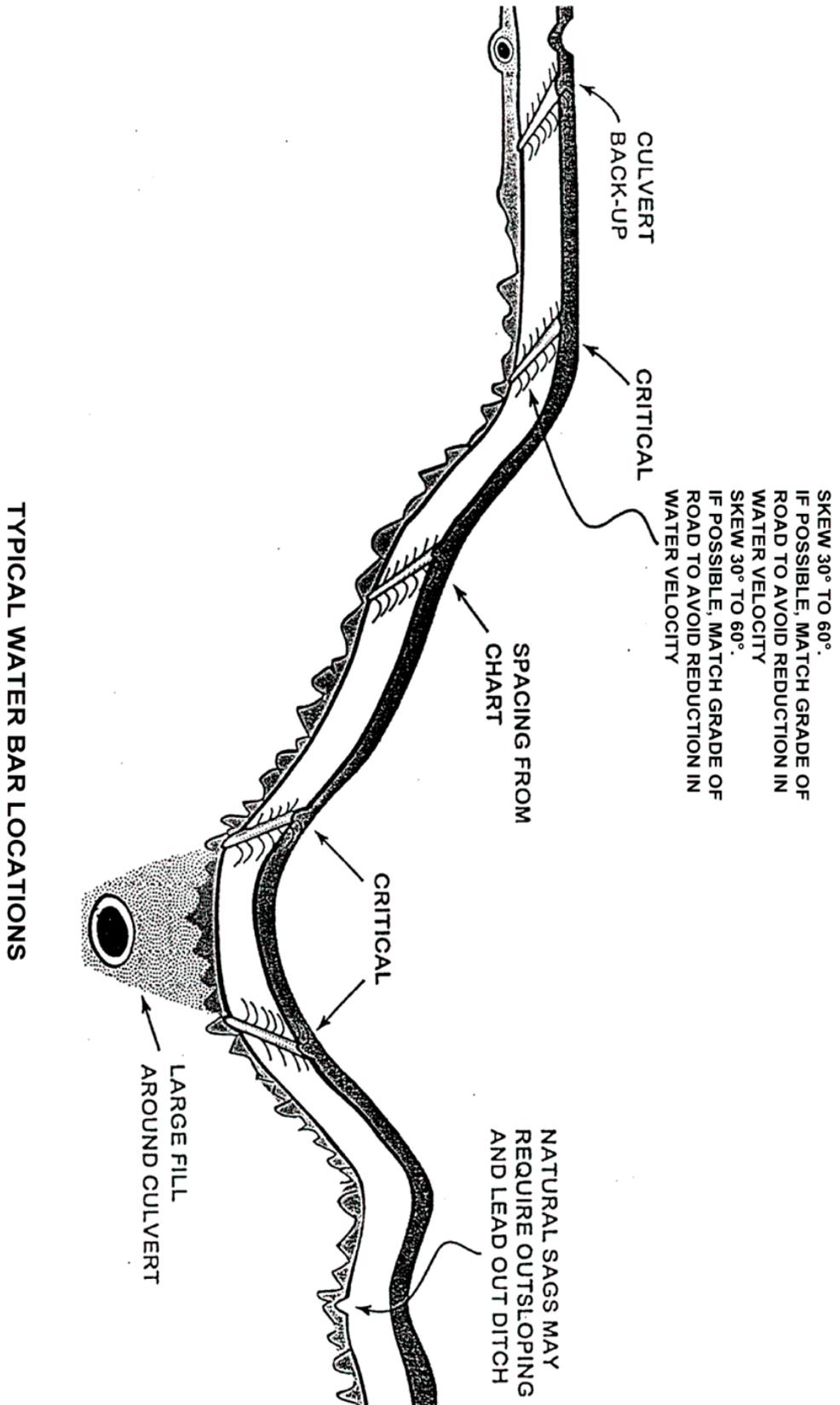
Type I Waterbars: Intended for use on roadbeds that will not have traffic. Use on closure of temporary roads, roads to be obliterated, decommissioned or long term closure of roads in maintenance level I. These waterbars are designed to remain effective until the road prism stabilizes with vegetation.

- AGGREGATE ROADS
Waterbars that cut through the aggregate base of a road and reach erosive soils need to have aggregate surfacing bladed back into the water bar channel.
- COMPACTION OF BERM
Compaction of the excavated material used to make the berm on the downhill side of the water bar is recommended. Wheel-rolling or walking the excavation equipment over the downhill berm is adequate.
- ROADSIDE DITCHES
Intercept ditch water by including a ditch block during construction of all waterbars.
- SKEW
Construct with a 30 to 60 degree angle from road centerline.
- DEPTH and WIDTH
Construction dimensions for a waterbar are shown on the attached typical drawings. For road grades over 10% the cut depth and berm height should approach maximum values.

WATERBAR CONSTRUCTION DETAILS

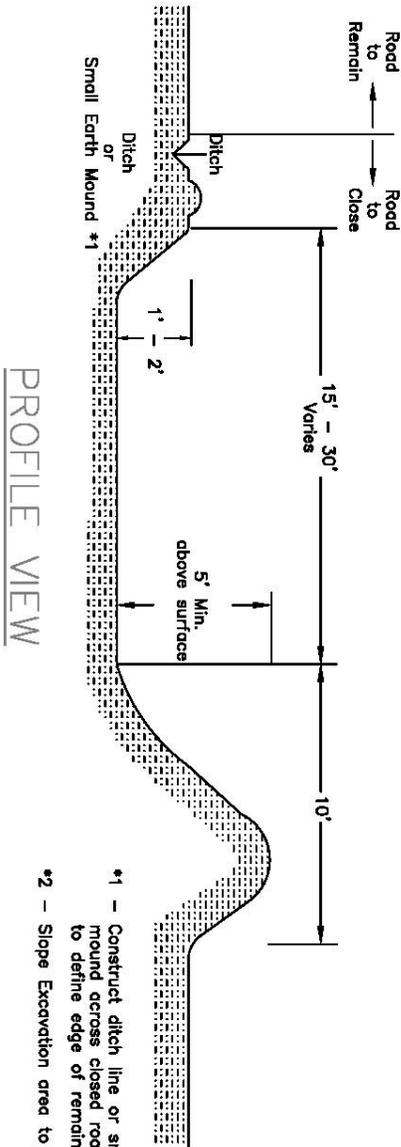
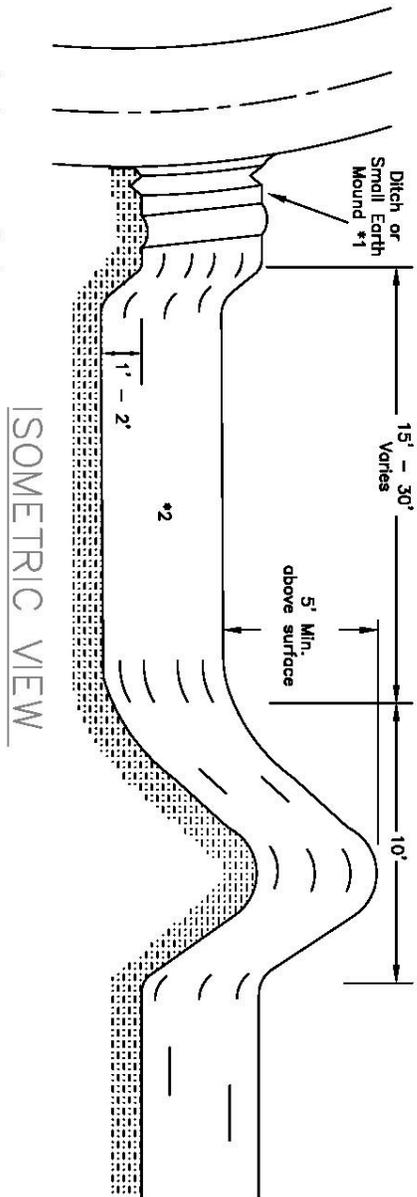


NOTE: Block ditchline with excavated material to prevent ditch water from bypassing waterbar.



ROAD CLOSURE - EARTH MOUND TYPICAL

PROJECT SHEET	TOTAL SHEETS
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- *1 - Construct ditch line or small earth mound across closed road entrance to define edge of remaining road.
- *2 - Slope Excavation area to drain

6-15-05

Project #7: Deferred Road Maintenance

End Results - return roads to standards to effectively drain water and minimize sediment reaching nearby streams.

Measure of Accomplishment: Entire Project

Quantity: 3 Items equaling one Project

Specifications Included by Reference:

FP-03 and Forest Service Supplemental Specifications as pertaining to similar work items as described in specified road package for Meadow Thin STWD.

Item Number	Road Number	Work Required	Quantity
1	3210	CLEAN CULVERTS DITCH MAINTENANCE BRUSHING BLADING SLOUGH AND SLIDE REMOVAL	1.84 MILES
2	5800	CLEAN CULVERTS DITCH MAINTENANCE	300 FEET
3	3210-411	CLEAN CULVERTS DITCH MAINTENANCE BRUSHING BLADING SLOUGH AND SLIDE REMOVAL	0.55 MILES
		WATERBAR INSTALLATION	2 waterbars
		AGGREGATE SURFACING GRAD C	50 CY
		PIT-RUN AGGREGATE 6" MAX SIZE	20 CY

Project #7: Deferred Road Maintenance General Notes, Worklist and Narrative

General Notes:

Roadway brushing width on 3210 will be 6 feet slope distance on the fill side, measured from the edge of the travel way and 10 feet slope distance on the cut side. Height will be 14 feet measured from the surface of the travel way.

Aggregate placement locations will be identified by the Forest Service on the ground. Aggregate shall be from commercial source, Grading C for surfacing and gradation L for waterbars. Aggregate courses shall be compacted using Method B. Other aggregate gradations may be utilized in lieu of specified gradations upon Forest Service approval.

Waste areas not identified in the worklist will be identified by the Forest Service on the ground.

Average haul distance will be 1.0 miles.

Item #3 ends near a Forest Service radio and weather installation. Keep all equipment away from constructed features. Provide access for Government Officials requiring access to the site at all times.

Worklist:

<u>Road</u>	<u>MP</u>	<u>Worklist</u>
3210	3.66	Reference: Junction 3210-123. Begin brushing, blading, cleaning culverts, ditch maintenance, slough and slide removal
	4.48	Disposal site Left
	5.35	Reference Junction 3210-411 Right.
	5.50	Junction 5800. End brushing, blading, cleaning culverts, ditch maintenance, slough and slide removal
5800	300 ft	Continue ditch maintenance for 200 feet left (south) and 100 feet right (north) from junction with 3210 to culverts. Clean culverts
3210-411	0.00	Reference: Junction 3210. Begin brushing, blading, cleaning culverts, ditch maintenance, slough and slide removal, and aggregate placement
	0.016	Construct driveable waterbar
	0.018	Reference: gate
	0.030	Construct driveable waterbar, end aggregate placement.
	0.065	Truck turn around Left
	0.080	Construct lead off ditch across turnout, end ditch right
	0.140	Clean culvert
	0.222	Clean culvert
	0.307	Junction: Project road continues left. Disposal area right
	0.378	Clean culvert
	0.460	Junction: Project road continues right. Disposal area Left
	0.550	End brushing, blading, cleaning culverts, ditch maintenance, slough and slide removal.

Narrative:

Item #1 begins at the end of asphalt on NFS 3210 and continues to the junction with NFS 5800. Remove all slough and slide material to disposal sites. Blading shall remove organic materials from the road surface, turnouts and curve widening without disturbing the surface unnecessarily except where scarification of potholes is needed.

Item #2 begins at the junction of NFS 3210 and NFS 5800. This item is a continuation of ditch maintenance and culvert cleaning from Item #1 to the first culvert encountered either side of the junction on NFS 5800.

Item #3 begins at the junction of NFS 3210 and NFS 3210-411. Place aggregate 12'W X 4" D for 150' taper to existing surface. Blading shall remove organic materials from the road surface, shoulders, ditch, turnouts and curve widening without disturbing the aggregate surface unnecessarily. Reshape and repair junction with 3210 to drain to existing ditches. Construct waterbars at locations staked by Government and in accordance with Type 2 Waterbar Specifications. Construct bottom of waterbars from 10 CY each Gradation L with smooth transitions to gradation C and extend length from ditch to beyond shoulders. Brushing limits are 10 feet from edge of road either side. Road prism varies in profile, maintain existing shape where feasible. Cut all vegetation within the brushing limits. Deck all material larger than 6 feet in length and 8 inches small end diameter at locations agreed to by the Government. Any conifer larger than 20" DBH shall be removed by the Forest Service under a separate project during summer 2013.

When: Any Time, subject to Engineering Staff approval

Inspected by: Engineering Staff

Inspection details: Base compliance on completion of each of the maintenance items