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United States Government **Department of Energy**

Bonneville Power Administration

memorandum

DATE: July 1, 2002

REPLY TO ATTN OF: KEP-4

SUBJECT: Supplement Analysis for the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285/SA 84 Monroe–Custer No.l

TO: Don Atkinson – TFN/Snohomish

Proposed Action: Vegetation Management along the Monroe–Custer No. 1500kV transmission line from structure 61/1 through structure 88/4. This project includes contemporaneous vegetation management along the Monroe-Custer No. 2 500kV and the Arlington-Bellingham 230kV transmission line corridors which run parallel to the subject transmission line. Corridor width varies from 140 to 825 feet. (All structure locations referenced in this SA refer to the Monroe-Custer No. 1.) The project area is located within Whatcom County, Washington.

Proposed by: Bonneville Power Administration (BPA).

Description of the Proposal: BPA proposes to remove unwanted vegetation along the right-of-way, access roads and around tower structures along the subject transmission line corridor. The right-of-way will be treated using selective and non-selective methods that include hand cutting, mowing and herbicide treatments. Approximately 30 miles of access roads will be cleared using selective and non-selective methods that include hand cutting, mowing and herbicide treatments. Approximately 318 tower sites will be treated using selective and non-selective methods that include hand cutting, mowing and herbicide treatments. Vegetation management is required for unimpeded operation and maintenance of the subject transmission line. See Section 1of the attached checklist for a complete description of the proposal.

Analysis: Please see the attached checklist for the resources present. Applicable findings and mitigation measures are discussed below.

Planning Steps:

1. Identify facility and the vegetation management need.

Unwanted vegetation, reclaim trees and danger trees will be removed and/or controlled using selective and nonselective methods that will include hand cutting, mowing, and herbicidal treatment. All methods of herbicide treatment will be used (except aerial) dependent on site conditions/restrictions. This proposal covers approximately 1100 acres of land between towers 61/1 through 88/4 on the subject transmission line.

2. Identify surrounding land use and landowners/managers and any mitigation.

The subject corridor traverses BPA fee-owned, private, city, and state lands used for residential, farming, forestry, and special (watershed) purposes. No other federal and no tribal lands are involved.

The City of Bellingham's watershed was identified from structure 61/4 +410 through structure 74/5 +850. The City has requested that no herbicides be applied within the watershed boundaries.

Other landowners requiring notification or under tree and brush agreements are shown in Section 2.4 of the attached checklist. Any remaining landowners will be contacted (letters, personal contact, door hangers, etc.) by BPA before and during the project. Any input received will be incorporated into the prescription/cut sheets.

3. ***Identify natural resources and any mitigation.***

Section 3 of the attached checklist identifies the natural resources present in the area of the proposed work. The following resources found along with applicable mitigation measures:

Riparian Habitat: Includes all wetlands, streams, and creeks meeting the definition of riparian habitat. Many areas were identified. See Section 3.1 for a complete listing.

Riparian Habitat Mitigation:

- County or private lands, within 30.5 m (100 ft.) of a stream or open water. Available: all manual, spot and localized herbicide, and biological treatments, except grazing. On slopes less than 20% there will be no disturbance within 35ft. of the stream or wetland. On slopes greater than 20% there will be no disturbance within the buffer.

- Within 50 ft. to edge of surface water only cut-stump and localized chemical treatments using practically non-toxic to slightly toxic formulations of glyphosate, imazapyr, and metsulfuron-methyl (Escort). Moderatly toxic to very highly toxic herbicides (to aquatic species) or those herbicides containing a groundwater or surfacewater label advisory will not be used in this zone. Triclopyr (Garlon 4) may be used only more than 100 ft. from streams or water.

Drinking Water Supply: A major watershed used by the City of Bellingham, one developed spring, and nine water wells were identified. See Sections 3.1 and 3.2 for a complete listing.

Drinking Water Supply Mitigation:

- City of Bellingham Watershed: No chemical applications within the watershed along the entire transmission right-of-way.

- Spring Development and Water Wells: No chemical application within a 100-foot radius of spring development or well head.

Aquatic Species (Bull Trout): Aquatic T&E species, bull trout (threatened), have been identified in the Nooksack River and Ten Mile Creek (Nooksack tributary) at structures 84/2 +815 through 84/2 +1550 and 82/1 +250 through 82/1 +320, respectively. See Section 3.3 of the attached checklist.

Aquatic Species Mitigation (Bull Trout): The USFWS has not established critical habitat or recovery plans for the bull trout. Washington Department of Fish and Wildlife has prepared a management plan outlining its goals and strategies for the protection of bull trout (WDFW, Bull Trout and Dolly Varden Management Plan, September 2000). While this plan does not offer specific protective mitigation measures, it does refer to consistentcy with future recovery plans and other management recommendations with respect to T&E species and priority riparian habitat. In this case, the most protective measure is to establish a 76 m (250 ft.) buffer zone, perpendicular to the high water mark (bank full level) of each side of a stream or river (WDFW, Management Recommendations for Washington's Priority Habitats *Riparian*, December 1997) supporting a T&E specie where recovery plans have not been developed. In addition to the Riparian Habitat Mitigation listed above, the following mitigation measures will apply for the protection of bull trout and their potential critical habitat:

- BPA, county, state, or private lands, within 76 m (250 ft.) of a listed bull trout stream. Available: all manual, except grazing. No mechanical treatments except along access roads and around structures. On slopes less than 20% there will be no disturbance within 35ft. of the stream or wetland. On slopes greater than 20% there will be no disturbance within the buffer.

- No chemical treatments allowed within 76 m (250 ft.) of the high water mark of stream or river.

Terrestrial Species (Bald Eagle): A bald eagle nesting area was found through BPA GIS and the Washington DNR Natural Heritage between towers 84/2 to 84/3 on/or near the Nooksak River. In a telephone conversation with Washington State Department of Fish and Wildlife (record of conversation attached), the state has confirmed the previously identified eagle nest is no longer there due to the nest tree being removed.

Terrestrial Species Mitigation (Bald Eagle):

- None required.

4. Determine vegetation control and debris disposal methods.

Vegetation will be removed using manual, mechanical, and chemical methods. Debris will be disposed onsite using either chip, lop and scatter, or mulch techniques as described in Section 5 of the attached checklist.

5. Determine revegetation methods, if necessary.

Re-vegetation needs will be determined onsite. Any areas identified with limited ground cover will be replanted with native plant species.

6. Determine monitoring needs.

The entire project will be inspected during the work period, and, the line will be patrolled annually after treatment to monitor the effectiveness of the treatment measures. Environmental monitoring to ensure sound application practices will be determined in the future as outlined in the BPA/NMFS/USFWS Biological Assessment currently being prepared.

7. Prepare appropriate environmental documentation.

Findings: This Supplement Analysis finds that 1) the proposed actions are substantially consistent with the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285) and ROD, and; 2) there are no new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts. This Supplement Analysis also finds the proposed actions will not affect the threatened specie, bull trout, since the mitigation measures in place for this project are more protective of similar species (T&E salmonids) in identical working situations having previous findings of no affect. Therefore, no further NEPA or ESA documentation is required.

/s/ Mark W. Hermeston
Mark W. Hermeston
Environmental Scientist (Environmental)
Licensed Hydrogeologist (WA 663)

CONCUR:*/s/ Thomas C. McKinney* DATE:07/12/2002
Thomas C. McKinney
NEPA Compliance Officer

Attachment

cc:
L. Croff – KEC-4
T. McKinney – KEC-4
P. Key – LC-7
M. Hermeston – KEP-4
J. Meyer – KEP-4
J. Sharpe – KEPR-4
M. Martin – KEPR/Covington
M. Johnson – TF/DOB-1
S. Davis – TFN/Snohomish
L. Alvarez – TFN/Snohomish
R. Sweet – TFNF/Snohomish
Environmental File – KEC
Official File – KEP-4 (EQ-14)

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Vegetation Management Checklist

Monroe-Custer No. 1
61/1-88/4

Prepared By: **Don Atkinson**
Natural Resource Specialist
June 25, 2002

1. IDENTIFY FACILITY AND THE VEGETATION MANAGEMENT NEED

1.1 Describe Right-of-way.

Corridor Name	Corridor Length & kV	Easement width	Miles of Treatment
Monroe-Custer No. 1 (Includes Monroe-Custer No.2 and Arlington-Bellingham)	61/1 to 88/4 500kv	140' to 825'	Approx. 27 miles

See Handbook — **List of Right-of-way Components** for checkboxes and the requirements for the components **Rights-of-way**, **Access Roads**, **Switch Platforms**, **Danger Trees**, and **Microwave Beam paths**.

Right Of Way:

Right-Of-Way – Clearing trees and brush within the right-of-way and treating with herbicides. The right-of-way will be treated using selective and non-selective methods that include hand cutting, mowing and herbicide treatments. Herbicide treatments will include spot treatment (stump treatment, basal treatment, and/or spot foliar), or localized treatments (including broadcast application and cut stubble treatments). The total project area consists of approximately 1442.9 acres. It is estimated that approximately 1100 acres of the project area will be cut.

Access Road Clearing – Approximately 30 miles of clearing using selective and non-selective methods that include hand cutting, mowing and herbicide treatments.

Transmission Structures – Approximately 318 tower sites will be treated using selective and non-selective methods that include hand cutting, mowing and herbicide treatments. The herbicide treatments include spot (cut stump or basal treatment), localized and broadcast applications including cut stubble treatments.

Clearing Requirements:

- Control all tree and brush species within about 30 ft. of transmission structures. Cut stumps are not to be taller than 2 – 4 inches.
- Pull all debris and slash out of the 30-ft. area around transmission structures.
- Access Road Clearing Requirements: - (there are approximately miles 30 of machine and hand cutting)
- Control all vegetation except grasses, to enable safe driving.
- The access road is to be 14 to 25 ft. wide with a 15-ft.- high clearance. Limbs should not hang down into the access road.
- Cut stumps are not to be taller than 2 – 4 inches in the roadbed.
- Cut stumps horizontal to the ground to prevent personal injuries and tire puncture.
- Trim limbs back as flush to the trunk as possible when trees are rooted outside of the access road.
- Pull all debris back from the access road as prescribed.
- Cut stumps horizontal to the ground to prevent personal injuries and tire puncture.
- Trim limbs back as flush to the trunk as possible when trees are rooted outside of the access road.
- Pull all debris back from the access road as prescribed.

Reclaim ("C") Trees – C trees will be cut as part of this project.

Danger Trees (off right-of-way): – All off-right-of-way trees (danger trees) that are marked as potentially unstable, or trees that are identified during the project, that would fall within the minimum approach distance (MAD) or into the safety zone of the power line, will be cut as part of this project. Danger trees may be treated with herbicides to prevent resprouting.

1.2 Describe the vegetation needing management.

See handbook — **List of Vegetation Types, Density, Noxious Weeds** for checkboxes and requirements.

Vegetation Types:

Western Red Cedar

Douglas fir

Grand fir

Hemlock

Alder

Willows – mid span or where ground to conductor clearance is low

Cottonwoods

Scotchbroom – along access roads and around structures or mid span where ground to conductor clearance is low

Blackberries - along access roads and around structures or mid span where ground to conductor clearance is low

Density:

The density is variable through the project and ranges from Low (50 stems or less per acre) to as High (250 + stems per acre).

1.3 List measures you will take to help promote low-growing plant communities. If promoting low-growing plants is not appropriate for this project, explain why. See Handbook — for requirements and checkboxes.

Vegetation that will grow tall will be selectively eliminated *before* it reaches a height or density to begin competing with low-growing species. Desirable low-growing plants will not be disturbed. Only selective vegetation control methods that have little potential to harm non-target vegetation will be used.

Cut-stump or follow-up spot herbicide treatments on species that re-sprout will be carried out to ensure that the roots are killed (follow-up treatment may take place during the next growing season). Herbicides will not be applied using high volume methods to ensure that non-target species are not treated.

Note: there is no Forest Service land in this project.

1.4 Describe overall management scheme/schedule.

See Handbook - **Overall Management Scheme/Schedule**.

Description of the Proposed Action: The project consists of clearing unwanted vegetation within the right-of-way, around structures, and along access roads that may impede the operation and maintenance of the subject transmission line. All work will be in accordance with the National Electrical Safety Code and BPA standards. It is the goal of this project to remove the tall growing vegetation that is currently or will soon be a hazard to the transmission line. The overall goal is to develop low-growing plant communities within the right-of-way.

Initial entry – Using hand cutting or mechanical mowers, BPA will complete brush management activities on the right-of-way, access roads and towers sites, chemically treat stumps and stubbles with herbicides (spot, localized, and broadcast treatments) to ensure that the roots are killed preventing new sprouts and selectively eliminating vegetation that prevents access to the power lines. Areas may be replanted or re-seeded with low-growing vegetation or grasses if there is limited vegetation for re-establishment of the site. Cut, lop and scatter, and stump treatment (where possible to prevent re-sprouting) are the preferred methods on State and Private lands. Areas where densities are high, or that have a lot of Scotch Broom and /or blackberries will be mowed using a track mounted mowing head. Access roads and structure sites will also be mowed and chemically treated.

Subsequent entries – Follow-up/re-treatment, within the right-of-way, around structure sites, and along access roads, is planned within the next growing season. This will be done with herbicides in areas that were not treated due to adverse weather conditions, there was not a good kill, or that were not treated in the initial entry.

Future cycles – This area is being managed on a 3 to 5 year maintenance free cycle for brush and danger trees. During routine patrol, the right-of-way will be examined for tall growing trees on the right-of-way and danger trees (DT's) off the right-of-way. The overall vegetation management scheme will be to cut and treat all encumbering vegetation on the right-of-way using a combination of manual, mechanical and herbicide treatments as outlined in the initial treatment every 3 to 5 years.

2. IDENTIFY SURROUNDING LAND USE AND LANDOWNERS/MANAGERS

2.1 List the types of landowners and land uses along your corridor.

See Handbook — **Landowners/Managers/Uses** for requirements, and **List of Landowners/Managers/Uses** for a checkbox list.

Washington State Department of Natural Resources, private landowners (rural residential, farms, grazing land) and private forest lands.

2.2 Describe method for notifying right-of-way landowners and requesting information (i.e., door hanger, letter, phone call, e-mail, and/or meeting). Develop landowner mail list, if appropriate.

See Handbook — **Methods for Notification and Requesting Information** for requirements.

Letters or Personal contact by BPA and/or the Contractor along with door hangers. This will be done before and during the project. The Prescription/Cut Sheets will be modified as needed based on any input received during the project.

2.3 List the specific land owner/land use measures — determined from the handbook or through your consultations with the entities — that will be applied.

See handbook — **Requirements and Guidance for Various Landowners/Uses** for requirements and guidance, also **Residential/Commercial**, **Agricultural**, **Tribal Reservations**, **FS-managed lands**, **BLM –managed lands**, **Other federal lands**, **State/ Local Lands.**.

The City of Bellingham has requested that we not use herbicides within the Bellingham Watershed. The Bellingham Watershed runs from 61/4 + 410 to 74/5 +850 and consists of approximately 705 acres. *Note-not all areas within the project area will be treated with chemicals, riparian areas, and areas where private landowners who do not want chemicals used will not be treated.

2.4 Review any existing landowner agreements (e.g. tree/brush Permits or Agreements). List in table above any provisions that need to be followed and where they are located.

See handbook — **Landowner Agreements** for requirements.

Monroe-Custer No. 1 (See attached maps for locations)

Span		Landowner/use	Specific measures to be applied
From	To		
70/5 + 800	71/2 + 50	David Davis – Sensitive Landowner	Notify landowner before cutting
71/2 + 550	71/3 + 1180	Sensitive Landowner	Notify landowner before cutting
83/2 + 250	83/2 + 460	Tree & Brush Agreement Les Larcom	Landowner will maintain
83/3 + 160	83/4 + 140	Tree & Brush Agreement Dennis Ritchie	Landowner will maintain

Sedro Woolley-Bellingham (See attached maps for locations)

Span		Landowner/use	Specific measures to be applied
From	To		
50/1 + 790	50/1 + 930	Tree & Brush agreement John Davis	Landowner will maintain (Across from 74/1 on Monroe-Custer #1)

Monroe-Custer No. 2 (See attached maps for locations)

Span		Landowner/use	Specific measures to be applied
From	To		
82/3 + 990	82/4 + 80	Tree & Brush agreement Don Goode	Landowner will maintain – See Plan & Profile for the area that will be maintained.

2.5 List any known casual informal use of the right-of-way by non-owner publics. List any constraints or measure's to take due to the informal use.

See handbook — **Casual Informal Use of Right-of-way** for requirements.

None Known

2.6 List other potentially affected people, agencies, or tribes (that are not landowners/managers) that need to be notified or coordinated with. Describe method of notification and coordination.

See handbook — Other Potentially Affected Publics for requirements and suggestions.

None known, no tribal lands involved. However, on February 11, 2002 the following tribes were notified by letter: Stillaguamish Tribes, Upper Skagit Tribe, Tulalip Tribes, Nooksack Tribe, Sauk-Suiattle Tribe, and Lummi Tribe.

The only responses regarding this project were from the Stillaguamish Tribe and the Upper Skagit Tribe. Neither tribe had any concerns about the proposed project.

3. IDENTIFY NATURAL RESOURCES

See Handbook — **Natural Resources**

3.1 List any water resources (streams, rivers, lakes, wetlands) that may be impacted by vegetation control activities. For each water body describe the control methods and requirements or mitigation measures that will be used.

See Handbook — Water Resources for requirements for working near water resources including buffer zones.

Monroe-Custer No. 1 (See attached maps for locations)

Span		Waterbody	T&E?	Treatment Zone	Herbicide	Application Technique	Buffer	Other
From	To							
61/1 + 425	61/1 + 540	Creek	no	Riparian	See below	See below	See below	
61/1 + 820	61/1 + 950	Creek	no	Riparian	See Below	See below	See below	
61/1 + 1040	61/1 + 1200	Draw	no	Riparian	See below	See below	See below	
61/2 + 90	61/1 + 190	Creek	no	Riparian	See below	See below	See below	
61/5 + 500	61/5 + 710	Mirror Lake	no	Riparian	See below	See below	See below	
63/3 + 325	63/3 + 625	Wetland	no	Riparian	See below	See below	See below	
63/4 + 150	63/4 + 250	Creek	no	Riparian	See below	See below	See below	
63/4 + 420	63/4 + 700	Creek	no	Riparian	See below	See below	See below	
64/1 + 40	64/1 + 150	Creek	no	Riparian	See below	See below	See below	
64/2 + 250	64/2 + 375	Creek	no	Riparian	See below	See below	See below	
64/3 + 30	64/3 + 200	Creek	no	Riparian	See below	See below	See below	

Span		Waterbody	T&E?	Treatment Zone	Herbicide	Application Technique	Buffer	Other
From	To							
64/4 + 60	64/4 + 280	Creek	no	Riparian	See below	See below	See below	
64/4 + 410	64/4 + 640	Creek	no	Riparian	See below	See below	See below	
65/2 + 320	65/2 + 460	Creek	no	Riparian	See below	See below	See below	
65/2 + 660	65/2 + 790	Creek	no	Riparian	See below	See below	See below	
65/2 + 1090	65/2 + 1240	Creek	no	Riparian	See below	See below	See below	
65/3 + 50	65/3 + 360	Creek	no	Riparian	See below	See below	See below	
65/4 + 400	65/4 + 550	Creek	no	Riparian	See below	See below	See below	
68/1 + 1110	68/1 + 1230	Creek	no	Riparian	See below	See below	See below	
68/4 + 1000	68/4 + 1150	Smith Creek	no	Riparian	See below	See below	See below	
69/2 + 380	69/2 + 530	Creek	no	Riparian	See below	See below	See below	
69/2 + 660	69/3 + 30	Creek	no	Riparian	See below	See below	See below	
69/4 +20	69/4 + 40	Creek	no	Riparian	See below	See below	See below	
69/4 + 830	69/4 + 970	Creek	no	Riparian	See below	See below	See below	
69/4 + 1190	69/4 + 1300	Creek	no	Riparian	See Below	See Below	See Below	
69/5 + 390	69/5 + 540	Creek	no	Riparian	See Below	See Below	See Below	
70/1 + 60	70/1 + 160	Creek	no	Riparian	See below	See below	See below	
70/1 + 480	70/1 + 620	Spring	no	Riparian	See below	See below	See below	
70/2 + 40	70/2 + 160	Creek	no	Riparian	See below	See below	See below	
70/2 + 330	70/2 + 450	Creek	no	Riparian	See below	See below	See below	

Span		Waterbody	T&E?	Treatment Zone	Herbicide	Application Technique	Buffer	Other
From	To							
70/3 + 370	70/3 + 500	Creek	no	Riparian	See below	See below	See below	
70/4 + 300	70/4 + 410	Creek	no	Riparian	See below	See below	See below	
70/5 + 150	70/5 + 270	Creek	no	Riparian	See Below	See Below	See Below	
70/5 + 800	70/5 + 1030	Olsen Creek	no	Riparian	See Below	See Below	See Below	
71/2 + 550	71/2 + 670	Carpenter Creek	no	Riparian	See below	See below	See below	
71/3 + 580	71/3 + 620	Pond	no	Riparian	See below	See below	See below	
71/3 + 620	71/3 + 670	Well	no	Riparian	See below	See below	See below	
71/4 + 65	71/4 + 200	Creek	no	Riparian	See below	See below	See below	
71/5 + 560	71/5 + 660	Creek	no	Riparian	See below	See below	See below	
72/1 + 660	72/1 + 830	Creek	no	Riparian	See below	See below	See below	
72/1 + 1350	72/1 + 1520	Creek	no	Riparian	See Below	See Below	See Below	
72/2 + 160	72/2 + 280	Creek	no	Riparian	See Below	See Below	See Below	
72/4 + 440	72/4 + 600	Creek	no	Riparian	See below	See below	See below	
73/1 + 320	73/1 + 550	Creek	no	Riparian	See below	See below	See below	
73/2 + 190	73/2 + 420	Creek	no	Riparian	See below	See below	See below	
73/2 + 900	73/3 + 170	Creek	no	Riparian	See below	See below	See below	
73/4 + 40	73/4 + 260	Creek	no	Riparian	See below	See below	See below	
73/5 + 0	73/5 + 510	Creek	no	Riparian	See below	See below	See below	
73/5 + 670	73/5 + 900	Creek	no	Riparian	See Below	See Below	See Below	

Span		Waterbody	T&E?	Treatment Zone	Herbicide	Application Technique	Buffer	Other
From	To							
74/2 + 270	74/2 + 370	Well	no	Riparian	See Below	See Below	See Below	
74/3 + 420	74/3 + 690	Creek	no	Riparian	See below	See below	See below	
74/4 + 640	74/4 + 850	Spring	no	Riparian	See below	See below	See below	
74/5 + 850	74/5 + 1070	Creek	no	Riparian	See below	See below	See below	
75/1 + 1080	75/2 + 90	Well	no	Riparian	See below	See below	See below	
75/2 + 540	75/2 + 680	Well	no	Riparian	See below	See below	See below	
75/3 + 300	75/4 + 40	Creek	no	Riparian	See below	See below	See below	
76/1 + 0	76/1 + 500	Lake	no	Riparian	See Below	See Below	See Below	
76/1 + 550	76/1 + 790	Squalicum Creek	no	Riparian	See Below	See Below	See Below	
76/4 + 0	76/4 + 360	Pond	no	Riparian	See below	See below	See below	
76/6 + 50	76/6 + 330	Creek	no	Riparian	See below	See below	See below	
77/1 + 170	77/1 + 370	Well	no	Riparian	See below	See below	See below	
77/2 + 910	77/2 + 1035	Pond	no	Riparian	See below	See below	See below	
77/4 + 960	77/4 + 1200	Creek	no	Riparian	See below	See below	See below	
77/5 + 230	77/5 + 605	Pond	no	Riparian	See below	See below	See below	
78/1 + 100	78/1 + 370	Pond & Well	no	Riparian	See Below	See Below	See Below	
78/1 + 935	78/2 + 380	Creek	no	Riparian	See Below	See Below	See Below	
79/2 + 100	79/2 + 310	Drain	no	Riparian	See below	See below	See below	
79/4 + 110	79/5 + 380	Drain	no	Riparian	See below	See below	See below	

Span		Waterbody	T&E?	Treatment Zone	Herbicide	Application Technique	Buffer	Other
From	To							
80/2 + 840	80/2 + 1040	Deer Creek	no	Riparian	See below	See below	See below	
81/1 + 770	81/2 + 40	Ditch	no	Riparian	See below	See below	See below	
82/1 + 250	82/1 + 320	Ten Mile Creek	yes	Riparian T&E	See below	See below	See 3.3 below	Bull Trout
82/1 + 840	82/1 + 1080	Ditch	no	Riparian	See below	See below	See below	
82/2 + 190	82/2 + 500	Ditch	no	Riparian	See below	See below	See below	
82/4 + 680	82/4 + 890	Ditch	no	Riparian	See below	See below	See below	
83/2 + 250	83/2 + 460	Well	no	Riparian	See below	See below	See below	
83/3 + 730	73/3 + 820	Well	no	Riparian	See below	See below	See below	
84/1 + 710	84/1 + 920	Ditch	no	Riparian	See Below	See Below	See Below	
84/2 + 815	84/2 + 1550	Nooksack River	yes	Riparian T&E	See Below	See Below	See 3.3 Below	Bull Trout
85/3 + 510	85/3 + 660	Well	no	Riparian	See below	See below	See below	
86/5 + 420	86/5 + 630	Ditch	no	Riparian	See below	See below	See below	

Riparian	**RIPARIAN**: All lands within 30.5 m (100 ft.) of a stream or open water. Available: all manual, spot and localized herbicide, and biological treatments, except grazing. On slopes less than 20% there will be no disturbance within 35ft. of the stream or wetland. On slopes greater than 20% there will be no disturbance within the buffer. **Herbicides**: Within 50 ft. to edge of surface water only cut-stump and localized chemical treatments using practically non-toxic to slightly toxic formulations of glyphosate, imazapyr, and metsulfuron-methyl (Escort). Moderately toxic to very highly toxic herbicides (to aquatic species) or those herbicides containing a groundwater or surface water label advisory will not be used in this zone. Triclopyr (Garlon 4) may be used only more than 100 ft. from streams or water.

3.2 If planning to use herbicides, list locations of any known irrigation source, wells, or springs (landowners maybe able to provide this info if requested).

See Handbook — **Herbicide Use Near Irrigation, Wells or Springs** for buffers and herbicide restriction

Monroe-Custer No. 1 (See attached maps for locations)

Span		Wells, Irrigation or Springs	Treatment Zone	Buffer
From	To			
61/4 + 410	74/5 + 850	City of Bellingham Watershed	Non Herbicide Area	Whole right-of-way
70/1 + 480	70/1 + 620	Spring	Non Herbicide Area	100 ft. radius around spring Also located within the City of Bellingham's Watershed
71/3 + 620	71/3 + 670	Well	Non Herbicide Area	100 ft. radius around well head Also located within the City of Bellingham's Watershed
74/2 + 270	74/2 + 270	Well	Non Herbicide Area	100 ft. radius around well head Also located within the City of Bellingham's Watershed
75/1 + 1080	75/2 + 90	Well	Non Herbicide Area	100 ft. radius around well head
75/2 + 540	75/2 + 680	Well	Non Herbicide Area	100 ft. radius around well head
77/1 + 170	77/1 + 370	Well	Non Herbicide Area	100 ft. radius around well head
78/1 + 100	78/1 + 370	Well	Non Herbicide Area	100 ft. radius around well head
83/2 + 250	83/2 + 460	Well	Non Herbicide Area	100 ft. radius around well head
83/3 + 730	83/3 + 820	Well	Non Herbicide Area	100 ft. radius around well head
85/3 + 510	85/3 + 660	Well	Non Herbicide Area	100 ft. radius around well head

NON-HERB	NON-HERBICIDE AREAS
	Water sources, springs, wells and other sensitive lands within 100 feet of sensitive Riparian areas or water sources. Hand Cutting Methods only, no Herbicides allowed. WELLS: No herbicides allowed within 100 feet of wellhead. Use only herbicides that do not have ground or surface water advisories between 100 and 165 feet of wellhead. Approved herbicides include: glyphosate, imazapyr, tryclopyr, Escort,

3.3 List below the areas that have Threatened or Endangered Plant or Animal Species and the name of the species, and any special measures that need to be taken due to their presence. Attach any BAs, T&E maps, or letters from US Fish and Wildlife.

See Handbook — **T&E Plant or Animal Species** for requirements and determining presence.

Monroe-Custer No. 1 (See attached maps for locations)

Span		Threatened or Endangered Plant or Animal Species	Method/mitigation measures
To	From		
82/1 + 250	82/1 + 320	Anadromous Fish & Bull Trout – Ten Mile Creek	See Below
84/2 + 815	84/2 + 1550	Anadromous Fish & Bull Trout – Nooksack River	See Below
Riparian T&E	**RIPARIAN T&E**: BPA, county, state, or private lands, within 76 m (250 ft.) of a listed bull trout stream. Available: all manual, except grazing. No mechanical treatments except along access roads and around structures. On slopes less than 20% there will be no disturbance within 35ft. of the stream or wetland. On slopes greater than 20% there will be no disturbance within the buffer. **Herbicides**: No herbicide treatments allowed within 76 m (250 ft.) of high water mark of stream or river.		

3.4 List any other measures to be taken for enhancing wildlife habitat or protecting species.

See Handbook — **Protecting Other Species** for requirements.

None mapped. Also, any areas in the corridor with ground to conductor clearances greater than 38.1 m (125 ft.) vertical distance will be select tree cut. This will help provide shade for salmon and other fish.

3.5 List any visually sensitive areas and the measures to be taken at these areas.

See Handbook — **Visual Sensitive Areas** for requirements.

None known within the project area.

3.6 List areas with cultural resources and the measures to be taken in those areas.

See Handbook – **Cultural Resources** for requirements.

None known within the right-of-way.

3.7 List areas with steep slopes or potential erosion areas and the measure and methods to be applied in those areas.

See Handbook – **Steep/Unstable Slopes** for requirements. See attached maps for exact locations.

Monroe-Custer No. 1

Span		Describe sensitivity	Method/mitigation measures
From	To		
61/1 + 300	61/1 + 1200	Steep slope	See below
61/4 + 410	62/2 + 560	Steep slope	See below
62/3 + 100	63/2 + 875	Steep slope	See below
64/3 + 750	64/3 + 830	Steep slope	See below
64/3 + 960	64/5 + 1041	Steep slope	See below
65/2 + 1090	65/4 + 720	Steep slope	See below
66/1 + 0	68/4 + 760	Steep slope	See below
68/4 + 1390	68/4 + 1992	Steep slope	See below
70/1 + 60	70/2 + 450	Steep slope	See below
71/3 + 1180	71/5 + 870	Steep slope	See below
72/1 + 420	72/1 + 940	Steep slope	See below
72/1 + 1350	72/1 + 815	Steep slope	See below
74/3 + 640	74/3 + 840	Steep slope	See below
75/4 + 0	75/4 + 130	Steep slope	See below
76/1 + 780	76/1 + 935	Steep slope	See below

Resource	Treatment Alternatives
SS	BPA Fee owned State DNR, or private lands where a steep slope or visual resources precludes mechanical treatments except on access roads and around structures. Available: all manual and biological treatments. All herbicide treatments including cut-stubble treatment following a mechanical treatment on access roads and structure sites. **Herbicides:** glyphosate, triclopyr (Garlon 3A and 4), imazapyr, dicamba may be prescribed for cut-stump, stem-injection, and basal-stem treatments. In addition to the above herbicides, Escort, and clopyralid can be used spot foliar and broadcast treatments. 2,4-d amine can be added to the list to control noxious weed species. See Table 111-1: Buffer width to Minimize Impacts on non-target Resources. (Transmission Vegetation Management EIS)

3.8 List areas of spanned canyons and the type of cutting needed.

See Handbook – **Spanned Canyons** for requirements.

Monroe-Custer No. 1

Span		Describe sensitivity	Method/mitigation measures
From	To		
61/5 + 220	61/5 + 1200	Select Tree Cut	See below
64/3 + 830	64/3 + 960	Select Tree Cut	See below
68/4 + 760	68/4 + 1390	Select Tree Cut	See below

Resource	Treatment Alternatives
STC	Any areas in the corridor with greater than 38.1 m (125 ft.) vertical distance between the ground surface and transmission lines. Here, removal is periodically required only of individual trees (single tree cuts) that could encroach into the transmission corridor danger zone. **Herbicides:** None.

4. DETERMINE VEGETATION CONTROL METHODS

See Handbook — **Methods**

4.1 List Methods that will be used in areas not previously addressed in steps above.

See Handbook — **Manual, Mechanical, Biological, and Herbicides** for requirements for each of the methods.

MANUAL: Manual control methods include the following: cutting with shears, clippers, or chainsaws; and girdling by cutting a ring around the tree. When chainsaws are used cut conifers below the lowest live limb to eliminate continued growth of the lateral branches and cut all stumps flat where possible.

MECHANICAL: Mechanical methods include the use of brush mowers and feller bunchers. Ground-disturbing mechanical equipment will not be used on slopes over 20% or in riparian areas (Refer to 3.1). Work will be done when the ground is sufficiently dry enough to sustain heavy equipment and minimize excessive rutting.

HERBICIDES: The herbicide treatments prescribed for the project area are spot stump treatment, localized basal treatment, and localized foliar treatment. Where possible the deciduous stumps will be treated to prevent resprouting. If we are unable to treat the stumps during the project, we will wait until the next growing season and do a localized foliar treatment. In areas where the trees are less than 6ft. tall and the density is light we may do a localized basal treatment.

Proposed Herbicides: Glyphosate, triclopyr (Garlon 3A and 4), imazapyr, and dicamba may be prescribed for cut-stump, stem-injection, and basal-stem treatments. In addition to the above herbicides, Escort, and clopyralid can be used for spot foliar and Broadcast treatments. 2,4-d amine may be added to the list to control Noxious weed species. See Tables 111-1: Buffer width to Minimize Impacts on non-target Resources, and 5-7: Herbicide Ecological Toxicities and Characteristics. (Transmission Vegetation Management EIS).

SEE CUT SHEET FOR CONTROL METHODS

5. DETERMINE DEBRIS DISPOSAL AND REVEGETATION

5.1 Describe the debris disposal methods to be used and any special considerations.

See Handbook — **Debris disposal** for a checkbox list and requirements.

Mulching/Mowing – This will be done on access roads and around structure sites.

Lope and Scatter – These areas are identified in the VEGETATION CONTROL PRESCRIPTION as Cut, Lope, and Scatter.

Some areas may require that the brush be chipped. These areas are identified in the VEGETATION CONTROL PRESCRIPTION as cut and treat as needed, and will depend on the requirements of the landowners.

5.2 List areas of reseeding or replanting (those areas not already described in steps 1, 2, or 3).

See Handbook — **Reseeding/replanting** for requirements.

Not planned at this time. However, if soil disturbance occurs during the project the area will be reseeded.

5.3 If not using native seed/plants, describe why.

Native seed will be considered in all mixes. Introduced species may be more competitive against invading tree species and protecting against erosion.

5.4 Describe timing and any follow-up that will need to take place to ensure germination/success of seeding/planting.

Not planned at this time. However, if reseeding is necessary it will take place in the fall just before the fall rains.

6. DETERMINE MONITORING NEEDS

See handbook — **Monitoring** for requirements.

6.1 Describe the follow-up/monitoring cycle that will be used to evaluate the effectiveness of the vegetation control methods used.

The project area will be inspected during treatment. In addition, it will be reviewed during routine patrols by the line crew and within one year by the NRS.

6.2 Describe any follow-up or monitoring needed to determine if mitigation measures were effective.

Will review during line patrol by the line crew and within one year by the NRS.

7. PREPARE APPROPRIATE ENVIRONMENTAL DOCUMENTATION

See handbook — **Prepare Appropriate Environmental Documentation** for requirements.

7.1 Describe any potential project impacts or project work that are different than those disclosed in the Transmission System Vegetation Management Program EIS. Describe how those differences impact natural resources and if the differences are "substantial".

Effects are expected to be the same or less than the description provided in the EIS.

7.2 Is there a need for additional NEPA documentation (i.e. Forest Service requirement, Record of Decision, supplemental EIS)? If so, attach.

No