

Pre-Operations Report

Operation Name: Rock Creek (Alternate)

County: Linn

Management Basin: Rock Creek

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres
	RC	73	71
Total		73	71

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

The operation is located within a temperate climate area. Typically the fall and winter seasons are wet. This area receives approximately 70 to 90 inches of rainfall per year. The operation is located within the *Tsuga heterophylla* Zone (Natural Vegetation of Oregon and Washington, Franklin & Dyrness, 1973).

The sale is located on moderate to gentle slopes of the east flank of Rock Creek. The sale is underlain by sedimentary and igneous rocks, mostly tuffs, mudflows deposits, flow breccias and conglomerates of the Western Cascades. This area is mapped as a very large landslide deposit on the new State geology map.

The soil within the operation consists of the Akerson series. Akerson is a deep well-drained colluvial soils. The 50 year site index for Douglas-fir is 130 and 100 for western hemlock. (Soil Survey of the Cascade Unit, Miller & Steinbrenner, 1980) The elevation within the operation ranges from 1,120 feet to 1,360 feet.

II. CURRENT STAND CONDITION:

The operation is located within a stand currently classified as Understory. There are four distinct age classes represented within the operation area. The age of the trees range from 35 years to well over 100 years. The age classes are not intermixed throughout the stand, but occur in groups or clumps. The overstory is patchy and contains mostly Douglas-fir with a smaller component of western hemlock, western redcedar, bigleaf maple and red alder. There are several Douglas-fir trees greater than 30 inches scattered or in clumps within the operation. The understory consists mainly of large vine maple patches and thick

sword fern. There are approximately 2 snags per acre and 100 cubic feet of down wood in all decay classes. (SLI, 2002)

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Acres ²
	RC	12697	DF	59	23	189	68	42	73
		Target			32	73	0-25	14	

1 The source of stand inventory information is SLI from 2005.

2 The acres are based on GIS and include roads, streams buffers, reserve areas, etc.

III. DESIRED STAND CONDITION:

This operation is located within the Rock Creek Basin. Approximately 55 percent of this basin is planned for Complex Structure stands. (Cascade District Implementation Plan, 2003). This basin is dominated by mature, densely stocked stands of Douglas-fir mixed with varying amounts of western hemlock, western red cedar, noble fir, and hardwoods. The diversity of tree species in these stands present good opportunities for structure based management, except for stands with very high overstory densities. The stands generally have high timber values and retain important structural components (snags, large old growth trees, large down logs, etc.) from legacy stands. This basin makes up 2.5% of the City of Salem’s municipal watershed.

The desired future condition for this stand is Layered. The pathway selected for moving this stand towards a layered condition is to conduct a diameter-limit retention cut. This approach will preserve the large tree structural component of the current stand while providing an opportunity to introduce a new cohort that will provide the desired layering. A substantial amount of the growth potential of this high site ground is currently monopolized by underproductive brush, hardwood patches, and patches of mature conifer. This operation will also provide an opportunity to improve the overall structure by developing snags and down wood at levels commensurate with NW FMP standards.

The **Anticipated Pathway** begins with a:

- Retention Cut leaving all trees 32 inches DBH and larger (0-25 trees per acre).
- Treat the bigleaf maple stumps to minimize re-sprouting.
- Prescribe and implement aggressive site preparation as a key component of the reforestation process.
- Plant with a mixture of Douglas-fir and western red cedar. Protect the cedar.
- Evaluate the plantation in 10-12 years to determine if a pre-commercial thinning is needed. The PCT will maintain a mixture of species to encourage layering.

- Evaluate the stand for a commercial thin 30 years after establishment of the new cohort. Thin the 30-year old layer retaining a mixture of conifers and hardwoods, and develop snags and down wood from the legacy trees if appropriate.
- Commercial thin a second time at about age 50 years, retaining a mixture of conifers and hardwoods.

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Acres
	12697	UDS	UDS	LYR	73

¹ The stand is expected to develop into this condition in the five to ten years after this operation is completed.

IV. PROPOSED MANAGEMENT PRESCRIPTION:

This stand will receive a diameter-limit harvest. The number of green trees remaining will vary from 0 to 25 per acre depending on location within the unit. These green trees will be the largest trees within the operation with a minimum diameter of 32 inches. Several of the green trees will be located along stream buffers. The southern portion of the operation area, and the area east of the North Rock Creek road, currently support the largest populations of legacy trees, and these locations will support the largest concentrations of green trees after the operation. A portion of the green tree patches may be located around areas of the stands that already exhibit complex structure. Portions of the planned operation will have comparatively few, if any, legacy trees where there are no legacy trees currently.

Site preparation following logging will create a competition-free environment for the reforestation process. All brush will be treated and piled with the slash: this includes non-merchantable hardwoods. Piles will be located away from the legacy trees and will be burned. In some locations, advance reproduction of hemlock and western red cedar (minimal amount) will be protected during harvesting.

The unit will be planted with a mixture of Douglas-fir and western red cedar seedlings.

All snags will be retained as safety permits. An important component of the stand, will be to leave the larger old-growth snags found within the stand. Additional snags will be developed from the current stand (to achieve 2 per acre on average after harvesting), and approximately 500 cubic feet per acre of sound down wood will be added to the site. Trees to be used for snags will be in addition to the legacy trees discussed above. Down wood will be developed from defective portions of harvested trees, and from non-legacy trees in the current stand. Any maple logs taken to a landing will be hauled at least 100 feet back

into the unit. These maple logs will be clumped together to form additional down wood habitat.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%	<input type="checkbox"/>	x
Planned Quarter:			

	Conifer	Hardwood	Total
Net Volume (MBF)	1,315	0	1,315
Stumpage Value (\$/MBF)	\$400		
Estimated Gross Value	\$525,937	0	\$525,937
		Project Costs:	\$90,000
		Estimated Net Value:	\$435,937

VI. TRANSPORTATION PLANNING AND HARVESTING:

Access to the sale area will be via the county paved road, to the Rock Creek and N. Rock Creek roads. One operator choice dirt spur of about 12+00 stations into the middle of the unit will be needed to facilitate ground yarding of the sale unit. It is anticipated that 100% of the sale will be ground yarded since the side slopes are generally less than 30% over the sale area.

Project work summary

- “Purchaser choice road”; Construct 12+00 stations of dirt road, vacate after sale is done.
- Crush rock and resurface the Rock Creek road from the pavement to second bridge. 2.5 miles of road
- Close the TC205 road

Table 5. Transportation Planning Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	0	0	.25
Improve	0	0	0	0
Maintain	0	0	2.5	0
Close/Block	0	0	0	0
Vacate	0	0	.1	.25

For determination of road class either use results of the Harvest and Habitat roads classifications, or if this information is not available then low use roads are spurs, medium use roads are collectors and high use roads are mainlines. Use these same criteria when comparing the total for all AOP sales to the IP plans.

VII. AQUATIC RESOURCES AND WATER QUALITY:

There are two small, seasonal streams located within the operation. There is also a small non-fish bearing perennial stream located just outside the southern boundary of the operation. All of these streams flow into Rock Creek. Rock Creek is a large fish stream which contains important habitat for steelhead.

Management activities within riparian areas of streams will focus on achieving properly functioning aquatic and riparian habitat conditions over time. Riparian Management Areas (RMAs) will be established immediately adjacent to streams for the purpose of protecting aquatic and riparian resources and maintaining the functions and ecological processes of the streams. The Management Standards for Aquatic and Riparian Areas found in the *NWO State Forests Management Plan* (pg. J-1 – J-16) will be followed within these RMAs.

The following measures will be used to minimize impacts to streams: 1. No ground based equipment will be allowed within 25 feet of the non-fish streams, 2. There will be seasonal restrictions as to when ground yarding and road construction will be allowed (i.e. during dry seasons), 3. Erosion control measures will be used on areas of soils exposed during road construction or improvement, 4. Road ditches will be disconnected from streams, 5. Road maintenance will be required during log hauling.

VIII. T&E SPECIES CONSIDERATIONS:

The operation was surveyed for Northern Spotted Owls during the 2006 survey season with no responses. The operation will be surveyed again during the 2007 survey season.

The operation area was checked against District knowledge for any listed plant location. The operation area was also checked against the Oregon Natural Heritage Program's database of known listed plant locations. No listed plant records were identified within the operation area.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

The initial risk assessment by the geotechnical specialist for the sale is low risk for landslides. A Field visit by the geotechnical specialist is not expected to be needed. The State geology map indication of landform origin as a very large landslide deposit is not expected to present any complication to the slope stability as related to this sale; however, if there is any indication of active slope

movement observed during sale layout the geotechnical specialist will be consulted.

X. RECREATION RESOURCES:

There are no developed recreation resources within the operation. Hunting, horseback riding and sightseeing occur in the area.

XI. CULTURAL RESOURCES:

Pre-operation reconnaissance revealed no visible cultural resource features or artifacts. If discovery is made, the cultural resource will be protected and field staff will consult with the Cultural Resource Specialist in Salem.

XII. SCENIC RESOURCES:

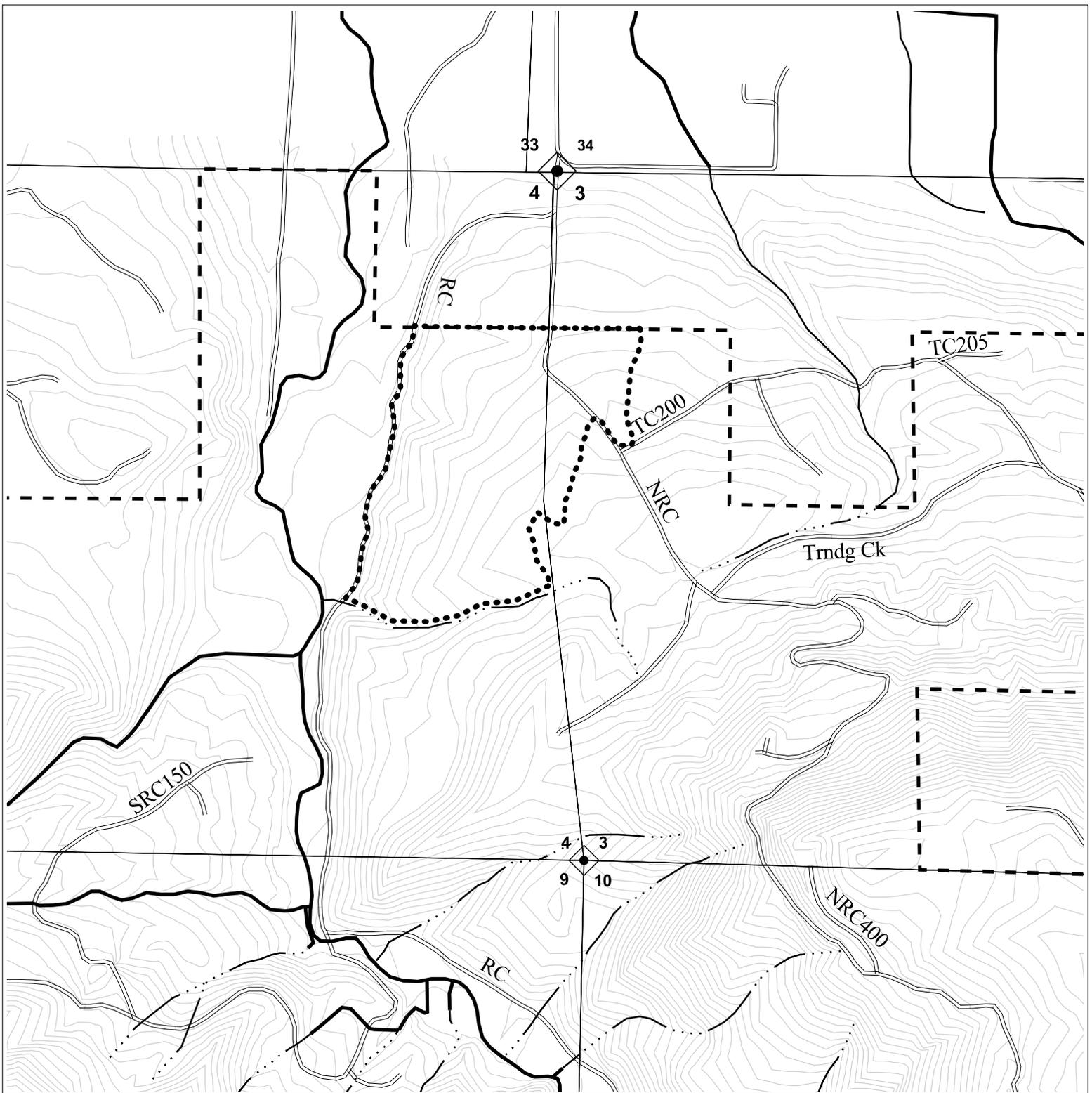
The operation is in a location that can be seen from Highway 22 and Mill City. The operation sits very low on the slope, so while it is visible, it is not a very prominent area. The combination of riparian management areas and large green tree clumps will help break up the visual aspect of the clearcut.

XIII. OTHER RESOURCE CONSIDERATIONS:

To protect air quality, the pile burning will comply with the Oregon Smoke Management Plan. The Smoke Management Plan is designed to reduce emissions from prescribed burning in western Oregon and to minimize smoke intrusions into designated population areas.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The operation contains Focused Stewardship, Aquatic and Riparian Habitat for three small type N streams. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized. The operation also contains Focused Stewardship Visual. See Section XII. Scenic Resources for the management guidelines to be utilized.



ROCK CREEK
--TOPOGRAPHY--
FY '08 SALE PLAN
NORTH CASCADE DISTRICT

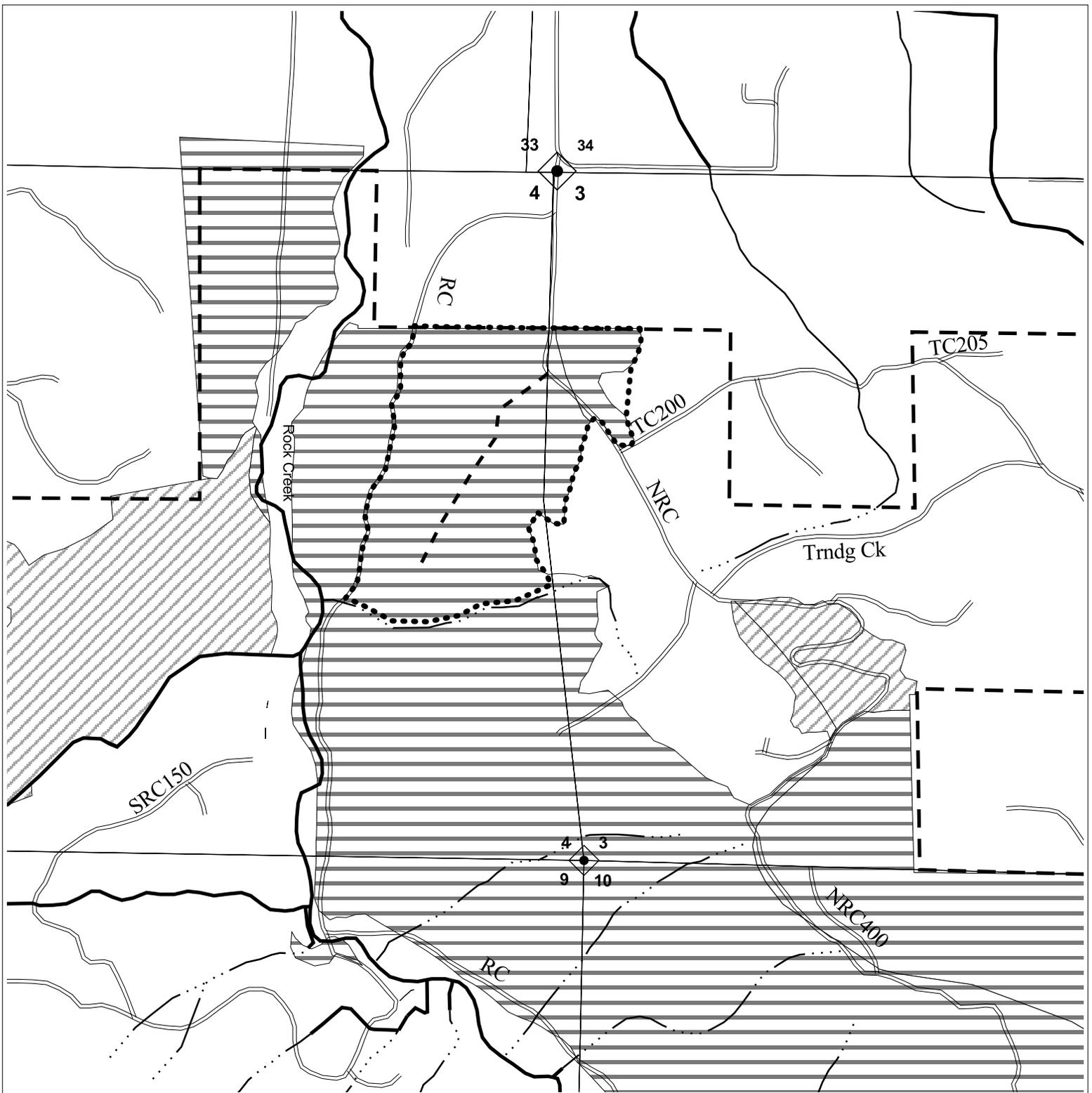
Portions of Sections 3 and 4
 T10S, R3E W. M. and
 Linn County, OR

Approximate Net Acreage:
 RC 71

-  Santiam State Forest
-  Rock Creek
-  Streams
-  FISH
-  NONFISH
-  UNKNOWN
-  Roads
-  20 foot contours



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ROCK CREEK
--DESIRED FUTURE CONDITION--
FY '08 SALE PLAN
NORTH CASCADE DISTRICT

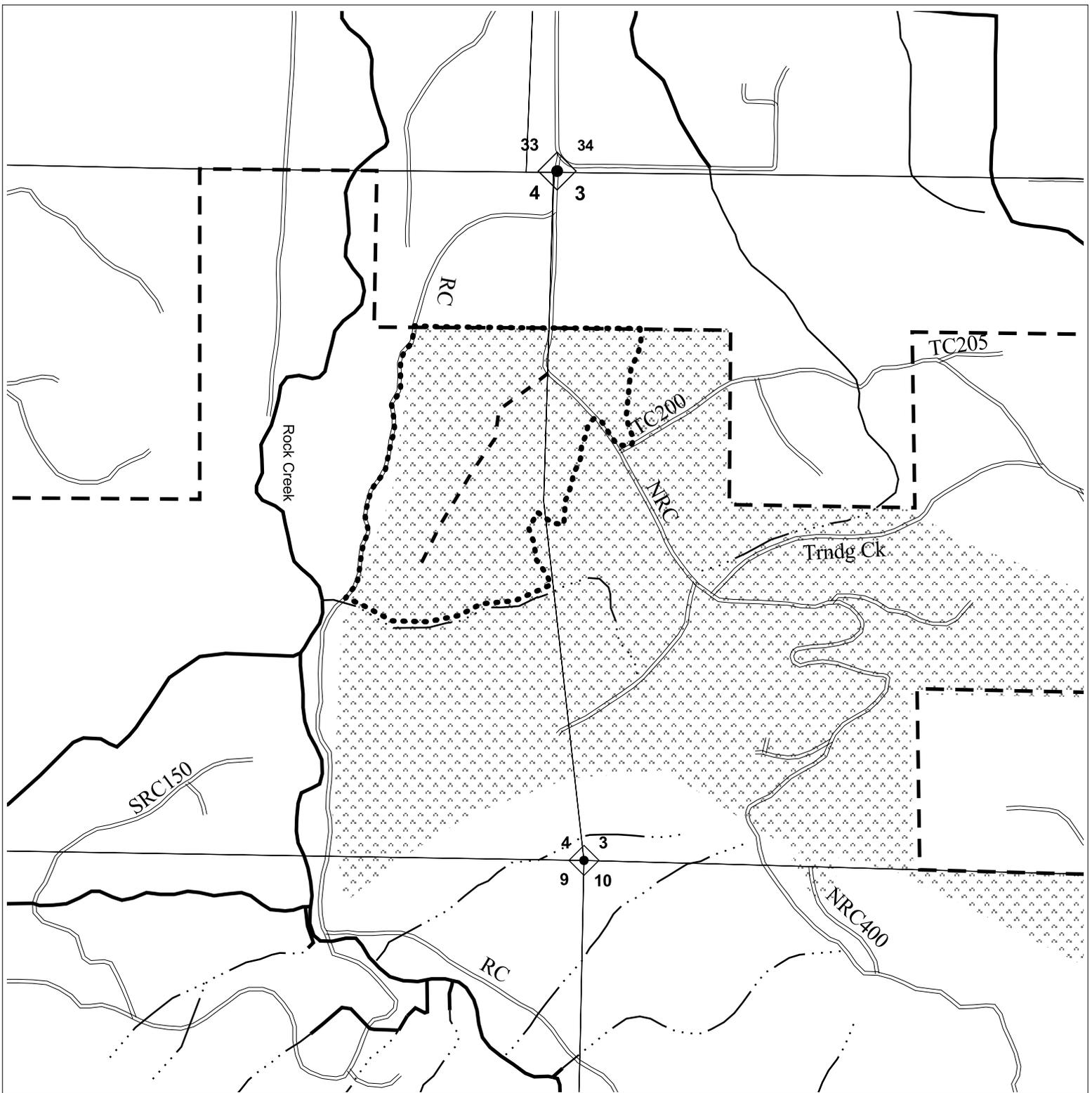
Portions of Sections 3 and 4
 T10S, R3E W. M. and
 Linn County, OR

Approximate Net Acreage:
 RC 71

- New Road Construction
- Santiam State Forest
- Rock Creek
- Streams
- FISH
- NONFISH
- UNKNOWN
- Roads
- Desired Future Condition
- LYR
- OFS



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**ROCK CREEK
--KEY RESOURCES--
FY '08 SALE PLAN
NORTH CASCADE DISTRICT**

Portions of Sections 3 and 4
T10S, R3E W. M. and
Linn County, OR

Approximate Net Acreage:
RC 71

- New Road Construction
- Santiam State Forest
- Rock Creek
- Streams
- FISH
- NONFISH
- UNKNOWN
- Roads
- Focused Visual



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