APPENDIX B. BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are measures certified by the State Water Quality Board and approved by the Environmental Protection Agency as the most effective way of protecting water quality from impacts stemming from non-point sources of pollution. These practices have been applied in timber sales and road construction projects in this and other watersheds over the last 20 years and have been found to be effective in protecting water quality within the Klamath National Forest. Specifically, effective application of the Region 5 Forest Service BMPs has been found to maintain water quality that is in conformance with the Water Quality Objectives in the North Coast Regional Water Quality Control Board Basin Plan.

The Region 5 Forest Service BMPs have been monitored and modified since their original implementation in 1979 to make them more effective. Numerous on-site evaluations by the North Coast Regional Water Quality Control Board have found the practices to be effective in maintaining water quality and protecting beneficial uses.

The Forest monitors the implementation and effectiveness of BMPs on randomly selected projects each year. BMP effectiveness requirements were met on 96% of the sites sampled in 2002. The success rate for effectiveness has been in the high 80s and 90s each year since 1993. The results of this monitoring can be found on the Forest Web page using the link:

http://www.fs.fed.us/r5/klamath/projects/forestmanagement/

The following list of BMPs would be implemented in the Orr Lake Campground Project if the action alternative is selected for implementation. A description of the objective of each BMP is included, as well as how this practice would be specifically implemented in the proposed project. In addition, Chapter 2 of the EA contains a detailed description of specific Resource Protection Measures – that would be implemented to prevent resource damage.

2-1 – General Guidelines for the Location and Design of Roads

Objective: To locate and design roads with minimal resource damage.

The road is being relocated further back upslope from the lakeshore to protect the lakeshore and riparian habitat and reduce sediment input into the lake. Sensitive areas such as wetlands, and unstable ground will be avoided. Forest engineers will be responsible for developing and meeting design specifications.

2-2 – Erosion Control Plan

Objective: To limit and mitigate erosion and sedimentation through effective planning prior to initiation of construction activities and through effective contract administration during construction.

The road is being relocated further back upslope from the lakeshore to protect the lakeshore and riparian habitat and reduce sediment input into the lake. The existing road will be closed to vehicle access and converted into a hiking and bicycling trail.

2-3 – Timing of Construction Activities

Objective: To minimize erosion by conducting operations during minimal runoff periods.

The Aquatic Period of Operation (APOO or LOP) for the road building portion of the project is April 1 though November 15, a period of minimal runoff. The APOO can be extended beyond November 15 if weather conditions permit with the fisheries biologist and/or hydrologist approval.

All Project activities will be conducted during appropriate periods of weather and soil moisture to insure BMP attainment and the avoidance of adverse impacts. Forecast periods will also be of a suitable length to allow completion or winterization of the task undertaken before precipitation events occur.

2-4 – Stabilization of Road Slope Surfaces and Spoil Disposal Areas

Objective: To minimize erosion from exposed cut slopes, fill slopes, and spoil disposal areas.

Ground disturbed by road construction, toilet site installation, and campsite construction will be seeded and mulched.

2-5 – Road Slope Stabilization Construction Practices

Objective: To reduce sedimenation by minimizing erosion from road slopes and slope failure along roads.

Ground disturbed by road construction will be seeded and mulched.

2-6 – Dispersion of Subsurface Drainage From Cut and Fill Slopes

Objective: To minimize the possibilities of cut or fill slope failure and the subsequent production of sediment.

The new road to be constructed will be outsloped if needed, and have rolling dips.

2-7 – Control of Road Drainage

Objective: To minimize the erosive effects of water concentrated by road drainage features; to disperse runoff from disturbances within the road clearing limits; to lesson the sediment yield from roaded areas.

The new road to be constructed will be outsloped if needed, and have rolling dips.

2.9 - Timely Erosion Control Measures on Incomplete Roads and Stream Crossing Projects.

Objective: To minimize erosion of and sedimentation from disturbed ground on incomplete projects.

APOO of April 1 – November 15. Erosion measures will be implemented on or before November 15. If there is approval by a fisheries or earth scientist to work beyond November 15, erosion measures will be in place at the end of each workday.

2-11 Control of Sidecast Material During Construction and Maintenance

Objective: To minimize sediment originating from sidecast material during road construction or maintenance.

There will be no sidecasting. All material will be either hauled off site or placed on roadways.

2-12 Surfacing and Refueling of Equipment

Objective: To prevent pollutants such as fuels, lubricants, bitumens and other harmful materials from being discharged into or near rivers, streams and impoundments.

Servicing and refueling of equipment will not occur where spilled material can flow downslope into a waterway/drainage feature. Hazmat spill material will be within close proximity to the proposed work sites.

2-23 Road Surface Treatment to Prevent Loss of Materials

Objective: To minimize the erosion of road surface materials and consequently reduce the likelihood of sediment production from those areas.

The new road surface will be covered with a native aggregate surface (gravel).

The existing road will be closed to motor vehicle traffic and the surface graveled and converted to a hiking and bicycling trail.

2-26 Obliteration or Decommissioning of Roads

Objective: To reduce sediment generated from temporary roads, unneeded system (classified) and non-system (unclassified) roads by obliterating or decommissioning them at the completion of the intended use.

Parking barriers (boulder berms) will be placed at the entrance of non-system roads and camping spurs to prevent vehicle traffic onto these roads.

APOO of April 1 – November 15.

Erosion measures will be implemented on or before November 15. If there is approval by a fisheries or earth scientist to work beyond November 15, erosion measures will be in place at the end of each workday.

2-28 Surface Erosion Control at Facility Sites

Objective: Reduce the amount of surface erosion taking place on developed sites and the amount of soil entering streams.

See BMPS 2-3 – 2-5