City and Borough of Sitka
Environmental Department

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April 15, 2010

2009 WATERSHED CONTROL REPORT

This Watershed Control Report (WCR) addresses the requirements as follows:

A) IDENTIFY ANY SPECIAL CONCERNS ABOUT THE WATERSHED AND HOW THEY ARE BEING HANDLED

B) DESCRIBE ACTIVITIES IN THE WATERSHED THAT EFFECT WATER QUALITY

C) PROJECT WHAT ADVERSE ACTIVITIES ARE EXPECTED TO OCCUR IN THE FUTURE AND DESCRIBE HOW THE PUBLIC WATER SYSTEM EXPECTS TO ADDRESS THEM.

D) REPORT CERTIFICATION STATEMENT AND SIGNATURES

A) IDENTIFY ANY SPECIAL CONCERNS ABOUT THE WATERSHED AND HOW THEY ARE BEING HANDLED

RECREATION: The primary human activity in the watershed is sightseeing from the vista point overlooking Blue Lake. The view of the lake and surrounding mountains is popular with both locals and visitors alike. Many people do not even leave their cars for this activity and even fewer walk down the steep switchback to the water's edge some 350 feet below. Fishing, hunting, hiking and guided bike tours to the vista point are other activities for the more hearty. Access, even for small boats, is difficult and therefore only the very serious venture onto the lake. **These recreational activities have not resulted in past or present "special Concerns" for Blue Lake Water Quality.**

The watershed inspection log indicates normal or less than normal human activity in the watershed. Increased public awareness is having a positive effect on reducing the amount of littering near the vista point and shore line. The City and Borough of Sitka (CBS) Water Department encourages public involvement in keeping the watershed clean and in the past has worked with various community groups for large scale litter clean up. This has not been necessary since 1999. There is no indication that fishing,

hunting, hiking, or camping has increased. CBS will continue to monitor the use of the area by camping permit and inspection visits. **There are no indications that past, present or expected future levels of human activities in Blue Lake watershed are having or will have any adverse effects on source water quality and only a minimal threat of contamination exists.**

VANDALISM: There have been very few acts of vandalism in the past several years. New signs were installed in September, 2002 and were determined to be clean and readable by a state certified inspector during the annual inspections. Through the year 2009 there have been no deliberate or accidental activities that have impacted the water intake or water quality. CBS plans to maintain lake access at its present condition. **Water quality monitoring continues to verify that we do not have any realistic "special concerns" with the Blue Lake Watershed or its water quality.**

DIOXIN: In 1996, the community of Sitka requested the Agency for Toxic Substances and Disease Registry (ATSDR) to determine if the Blue Lake water supply is safe for consumption. **The ATSDR concluded: "… the potential exposure to dioxin in the water is not of public concern".** The report can be found at http://www.atsdr.cdc.gov/HAC/PHA/alaskap/apc_p1.html.

CRYPTOSPORIDIUM: Is a no regulated microscopic parasite that will be regulated in the near future. CBS has voluntarily tested for this waterborne pathogen in our raw water source in 1998 and 1999. The results (zero and 1.6 oocysts/100L, respectively) were published in the annual Consumer Confidence Reports (CCR) for those years. These results are significantly lower than the average of 43 oocysts/100L reported in a national study (EPA Dec., 1993). CBS must comply with EPA's Cryptosporidium inactivation requirements no later than October 1, 2014. It is expected this will be accomplished by adding ultraviolet light disinfection to our treatment processes.

B) ACTIVITIES IN THE WATERSHED THAT EFFECT WATER QUALITY

LANDSLIDES AND AVALANCHES: both occur and may affect water quality. Slides and avalanches are naturally occurring and not affected by the limited human activity in the watershed. Slide control is considered unfeasible due to the steepness of the terrain and therefore, not recommended. **To date, turbidity induced by slides have been deemed to be unusual and unpredictable rather than recurring events.** At times, Sitka has experiences increases in turbidity. These higher than normal turbidity readings are not specifically related to known slides or avalanches and may be caused by heavy rains on high rocky slopes not covered by snow or ice.

DEBRIS REMOVAL: from the water intake area was conducted at sporadic intervals until 1995 when CBS Electrical Department, in coordination with the Water Department, began an annual debris removal project in the intake area. Clean ups typically occur onshore only and occurring when the lake level has subsided enough to leave the debris high and dry. The trend of decreasing amounts of debris coupled with the structured annual cleanup has resulted in reduced potential water quality impacts from the removal efforts. This routine practice is in fact reducing the effort required to perform the clean up as well as preventing water quality degradation resulting from accumulating debris. These annual preventative maintenance projects have shown only slight effects in some years on turbidity and no noticeable effect on overall water quality.

In the spring of 2000 a three foot high by 32 foot long concrete wall was constructed above the intake structure at approximate elevation of 286 feet, to prevent future debris and erosion sediment from falling into the intake structure which is at 210 foot elevation. The wall has been very effective in keeping rocks and other small debris from reaching the intake.

The 2009 annual debris removal was determined to be unnecessary due to the major clean-up in 2006. The ditches on the access road are inspected by water department personnel to insure washout of the road does not occur as well as preventing surface water from draining into the lake directly above the intake. **All annual debris removal projects since 1995 were completed without any measurable effect on water quality.**

C. PROJECT WHAT ADVERSE ACTIVITIES ARE EXPECTED TO OCCUR IN THE FUTURE AND DESCRIBE HOW THE PUBLIC WATER SYSTEM WILL ADDRESS THEM

HUMAN ACTIVITIES: The Forest Plan for the Tongass National Forest became final in May 1997. This plan changed the federal land use designation of Blue Lake (and Indian River) watersheds to: "MUNICIPAL WATERSHEDS" which emphasizes protection of municipal water supplies and flows by assuring that watershed planning, maintenance, and activities comply with State of Alaska Drinking Water Regulations and Water Quality Standards for water supply. The Forest Plan was reviewed in 2007; no changes affected the designated watershed areas.

Management prescriptions include the provision for the Forest Service to consult, coordinate, and seek concurrent approval from City and Borough of Sitka on various activities, and directs development of a written agreement consistent with 18 AAC 80.520 (c)(3). The "Municipal Watershed" designation itself provides commitment by the landowner to control human activities that may have an adverse impact on the microbiological quality of the water supply, which 18 AAC 80.520 (c) (3) seeks. No land development has taken place within the watershed since the initial project construction but there are plans to raise the elevation of the dam.

The Blue Lake Expansion Project began with geotechnical and as-built surveys being conducted on the Blue Lake Power Conduit from May 4-7, 2009. These Surveys will be used in the design phase of this project. Actual construction of this project is scheduled to begin in 2012. During and following this construction there will be activities that may affect the drinking water quality. Project development is giving water quality high priority. Of particular concern will be the flooding of 430 additional acres as the lake is filled in 2015. The design development report indicates that an alternate higher elevation intake location will be required to maintain water quality during and after this construction.

There are no projected improvements to enhance recreation inside the Blue Lake Watershed. Overnight camping is by permit only and the CBS Watershed Ordinance (No. 92-1091) prohibits any act that would degrade water quality either directly or indirectly. Overnight camping seldom occurs, as is indicated by inspection log and camping permit data. Permits provide information to the campers about the watershed and the watershed rules. Campers register with the police department (24 hour/day); and a copy of the permit is immediately faxed to the Water Department Office so that timely inspections can be performed. Camping Permits and reports are kept on file at the Corrosion Control Facility. The CBS

Electrical Department also inspects the Blue Lake access road and the penstock closure facility on a regular basis, coordinating with the Water Department as it relates to watershed activities. The Water Department keeps an inspection log of 9 parameters; data continues to indicate the primary use to be "VISTA" related (see Section A). **The CBS Water Dept. does not foresee any present or future human activities within the Blue Lake Watershed that will adversely affect the water quality.**

FUTURE HUMAN ACTIVITIES: Public interest in drinking water continues to increase throughout the country and Sitka is no exception. CBS's water operators continue to conduct facility tours which include watershed protection information. Additionally, CBS continues to mentor college level students enrolled in Environmental Technology programs, providing short term on-the-job training and increased public awareness. The citizens of Sitka have become more aware of the need to protect their drinking water source. Each year requires less effort to clean up after the public.

The Sitka Police Department routinely makes random inspections at the Blue Lake area. Their presence at the vista point is a deterrent to vandalism and improper use of the area. CBS is the owner of the access road from the campground, outside the watershed, to the lake and could, if deemed necessary, close the road to eliminate vehicular traffic into the Blue Lake Watershed. The USFS prohibits access to motorized vehicles from the first significant snow fall to until after all snow has melted off the road the following year. The access gate at to Blue Lake road was opened to the public on June 12, 2009 and closed on December 7, 2009. **Future Human activities are expected to remain similar to the current activity level and are not expected to have any significant adverse impact on Blue Lake water quality.**

D. REPORT CERTIFICATION

The USFS and CBS are the owners of the Watershed. For water system and water quality related activities the operator is CBS.

I hereby certify the contents of this report to be true and correct to the best of my knowledge.

Signature: _____ date: April 15, 2010

Mark Buggins,
CBS Environmental Superintendent