

Jumbo Glacier Resort Master Plan

Appendix 3-L

Letter to the Editor re:
Water Supply and Wastewater Treatment (1995)

Prepared by
KPA Engineering



25 October, 1995

The Valley Echo
530 - 13 Street
Box 70
Invermere, B. C.
VOA 1K0

Attention: I. Cobb, Editor

Dear Sirs:

**Water Supply and Sewage Treatment System
for the Jumbo Creek Alpine Resort**

There is a lot of misunderstanding related to the water supply and wastewater treatment system proposed for the Jumbo Creek Alpine Resort project. At this stage of the project, conceptual designs have been established for both the water supply and the sewage treatment system. Although these concepts have been presented by the proponent at public information meetings, the confusion persists. I would like to reiterate the proponent's plans for water supply and sewage treatment for the Jumbo Creek Alpine Resort project.

Water Supply:

As stated in the Project Report, the water demand for the ultimate development is expected to be in the range of 20 L/s. A preliminary review of groundwater availability indicates that it is feasible to use groundwater for the resort's water supply. This preliminary review indicates that the potential yield from wells in the vicinity of the village site ranges from 7.5 L/s to 22.5 L/s (on a continuous basis). For health purposes, some disinfection (chlorination) of the groundwater will be required prior to consumption. Given the availability of groundwater, there is no intention to draw water directly from Jumbo Creek.

At the public information meetings held by the proponent in Invermere, individuals have expressed concerns about the quantity of the water demand by the Jumbo Glacier Alpine Project. It must be emphasized that no water will be taken out of the Jumbo Valley. Domestic water, pumped from wells, will be stored in water reservoirs, consumed by residents and visitors of the resort, and discarded as wastewater to the resort's wastewater treatment plant. Once treated, the wastewater will be returned to the Jumbo Creek drainage basin via ground infiltration or ground irrigation. There are NO plans to remove water from the Jumbo Creek drainage area. Therefore, why should the volume of domestic water required be a concern?

Wastewater Treatment and Disposal:

The Jumbo Glacier Alpine Resort will be equipped with the best available wastewater treatment technology for the treatment of the sewage generated by the resort. In the Project Report, and throughout the public information meetings, the proponent has clearly stated his intention to provide a high level of wastewater treatment. On numerous occasions, the proponent has stated his intention to recycle as much of the treated effluent as possible for ground irrigation, toilets/urinals flush water, and other possible uses. The use of treated effluent for flush water will result in a significant reduction in domestic water demand (as much as 25% reduction).

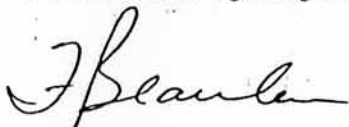
All domestic wastewater produced will be collected and treated by a tertiary treatment plant. Only tertiary treatment systems with proven track records of performance are being considered for this development. In order to make the reuse of wastewater possible for toilet/urinal flush water and obtain the necessary permits from the regulatory agencies, a high level of treatment and disinfection is required. For the Jumbo Glacier Alpine Resort, the treatment objectives as set by the proponent are for the BOD₅ and suspended solids levels to be less than 10 mg/L, removal of nutrients (total nitrogen less than 5 mg/L and phosphorus less than 1 mg/L) and disinfection (coliform count of less than 5 MPN/100 mL). This level of treatment largely exceeds the pollution control objectives for municipal treatment plant effluent discharges to receiving waters established by the B. C. Ministry of Environment, Lands and Parks. In fact, for the Jumbo Creek Resort, the treated effluent will be comparable in quality to the waters of Jumbo Creek.

Given the effluent quality after the tertiary treatment process, a conventional disposal field will not achieve further treatment of the effluent. It is thus proposed to dispose of the non-recycled effluent through ground infiltration trenches or ground irrigation. Although the proponent believes that a conventional disposal field would not be required, a suitable site has been identified for the construction of a conventional tile field. This site is located approximately 1 km west of the village site.

To conclude, from a design perspective, this project is a model for sustainable development in terms of its use of water resources. Given the proponent's commitment to tertiary treatment of wastewater and wastewater reuse, it is difficult to understand that strong opposition to this project persists on the basis of potential deterioration of water quality in Jumbo Creek!

Yours truly,

KPA ENGINEERING
A Division of UMA Engineering Ltd.



F. P. Beaulac, P. Eng.

FPB/at

Too many misunderstandings of Jumbo water/sewage handling

There is a lot of misunderstanding related to the water supply and waste water treatment system proposed for the Jumbo Creek Alpine Resort project.

At this stage of the project, conceptual designs have been established for both the water supply and the sewage treatment system.

Although these concepts have been presented by the proponent at public information meetings, the confusion persists. I would like to reiterate the proponent's plans for water supply and sewage treatment for the Jumbo Creek Alpine Resort project.

As stated in the project report, the water demand for the ultimate development is expected to be in the range of 20 L/s. A preliminary review of ground water availability indicates that it is feasible to use ground water for the resort's water supply. This preliminary review indicates that the potential yield from wells in the vicinity of the village site ranges from 7.5 L/s to 22.5 L/s (on a continuous basis). For health purposes, some disinfection (chlorination) of the ground water will be required prior to consumption. Given the availability of ground water, there is no intention to draw water directly from Jumbo Creek.

At the public information meeting held by the proponent in Invermere, individuals have expressed concerns about the quantity of the water demand by the Jumbo project. It must be emphasized that no water will be taken out of the Jumbo Valley.

Domestic water, pumped from wells, will be stored in water reservoirs, consumed by residents and visitors of the resort, and discarded as waste water to the resort's waste water treatment plant. Once treated, the waste water will be returned to the Jumbo Creek drainage basin via ground infiltration or ground irrigation.

There are NO plans to remove water from the Jumbo Creek drainage area. Therefore, why should the volume of domestic water required be a concern?

The Jumbo Resort will be equipped with the best available waste water treatment technology for the treatment of the sewage generated by the resort. In the project report, and throughout the public information meetings, the proponent has clearly stated his intention to provide a high level of waste water treatment.

On numerous occasions, the proponent has

stated his intention to recycle as much of the treated effluent as possible for ground irrigation, toilets/urinals flush water, and other possible uses.

The use of treated effluent for flush water will result in a significant reduction in domestic water demand (as much as 25 per cent reduction).

All domestic waste water produced will be collected and treated by a tertiary treatment plant. Only tertiary treatment systems with proven track records of performance are being considered for this development. In order to make the reuse of waste water possible for toilet/urinal flush water and

obtain the necessary permits from the regulatory agencies, a high level of treatment and disinfection is required.

For the resort, the treatment objectives as set by the proponent are for the BOD, and suspended solids levels to be less than one mg/L and disinfection (coliform count of less than five mpn/100 mL). This level of treatment largely exceeds the pollution control objectives for municipal treatment plant effluent discharges to receiving waters established by the B.C. Ministry of Environment, Lands and Parks. In fact, for the resort, the treated effluent will be comparable in quality to the waters of the Jumbo Creek.

Given the effluent quality after the tertiary treatment process, a conventional disposal field will not achieve further treatment of the effluent. It is thus proposed to dispose of the non-recycled effluent through ground infiltration trenches or ground irrigation. Although the proponent believes that a conventional disposal field would not be required, a suitable site has been identified for the construction of a conventional tile field. This site is located approximately one km west of the village site.

To conclude, from a design perspective, this project is a model for sustainable development in terms of its use of water resources. Given the proponent's commitment to tertiary treatment of waste water and waste water reuse, it is difficult to understand that strong opposition to this project persists on the basis of potential deterioration of water quality in Jumbo Creek.

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LETTERS TO THE EDITOR
