ASP CREEK WATERSHED

Reconnaissance Channel Assessment and Summary Overview Assessment

Prepared for:
Weyerhaeuser Company Limited
Princeton, BC

Submitted by:
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1.0 INTRODUCTION

Integrated ProAction Corp. was commissioned by Weyerhaeuser Company Limited to complete a channel assessment on the Asp Creek watershed. The watershed is located east of Manning Park, south of Princeton. The intent of the assessment is to review the current channel conditions and compare them to previous assessments, including The Overview Hydrologic Assessment for the Asp Creek Watershed (ID # 164), prepared for Weyerhaeuser Canada Limited by Henderson Environmental Consulting Ltd., March 1999.

Table 1: Assessed Sub-basins in Asp Creek Watershed

<table>
<thead>
<tr>
<th>Sub-Basin</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asp Creek</td>
<td>6,662.39</td>
</tr>
</tbody>
</table>

The objectives of the Reconnaissance Channel Assessment were to:
1) Field assess the current stream channel conditions,
2) Assess the sensitivity of the stream channels to impacts from land-use activities,
3) Identify sediment sources within the sub-basins coupled to the streams,
4) Expand on previous assessments,
5) Determine the effects of the current harvesting.

2.0 METHODOLOGY

2.1 OFFICE COMPONENT

A review of existing information included the following report:
• Overview Hydrologic Assessment for the Asp Creek Watershed (ID # 164) (Henderson Environmental Consulting Ltd., 1999)

2.1.1 ECA Calculations

The Equivalent Clearcut Area (ECA) is the area that has been harvested, cleared, or burned with consideration given to the silviculture system, regeneration, growth, and location within the watershed. The Peak Flow Index (PFI) is often referred to as the weighted ECA as it multiplies the harvesting in the upper elevations by a factor.

The PFI is a useful hydrologic analysis tool to establish the balance of harvesting between the upper and lower elevations. The index also accounts for the cumulative impact that results when harvesting occurs in higher elevations where increased snow accumulations are expected in BC’s interior (BC Government, 1995). In a typical spring snowmelt governed watershed, low areas are usually snow-free while snow is actively melting at middle and higher elevations at the time that peak flows occur. Utilizing the PFI enables a measure of the harvested area that is contributing to snowmelt when the creeks are at their peak runoff. The PFI accounts for this by weighting disturbed openings above the $H_{60}$ line\(^1\) by a factor of 1.5 (BC Government 1995).

\(^1\)The “$H_{60}$” line is defined as that elevation above which 60% of the watershed lies
Weyerhaeuser Company Limited completed the calculations in November 2006. The ECA and PFI calculations include all existing cut blocks identified in Weyerhaeuser’s Forest Development Plan (FDP). The results of these calculations were utilized to assist in developing the probability of a peak flow increase in each sub-basin.

2.2 FIELD COMPONENT

The channel assessment was completed utilizing methodologies that satisfy the requirements of the Channel Assessment Procedure Guidebook (Government of British Columbia, 1996). Field assessments were conducted exclusively on the ground. The channel assessments occurred in September and October 2006, and the locations are identified on the map in the Appendix. The stream reaches assessed in the field were determined by channel characteristics, riparian condition, proximity to known or suspected sediment sources and/or accessibility. The Channel Assessment Procedure (Government of BC, 1996) and the Rosgen (1996) Classification System were utilized to classify stream channel morphology and to evaluate channel sensitivity, while the Channel Assessment Procedure (CAP) was used to classify the stream channel disturbance levels. The longitudinal profiles, watershed report cards and channel assessment maps are presented in the Appendices.

3.0 WATERSHED CHARACTERISTICS

3.1 WATER LICENCES

There are 12 licenses and/or applications in the Asp Creek watershed. Most licenses are for domestic or irrigation uses. Domestic is defined as water used in a household either on a garden, for stock or poultry raised as pets or a number to only sustain the family with food; or to maintain a system for fire protection. In these situations the use of water usually does not exceed 100 gallons a day unless otherwise stated. These licenses are summarized in the Appendix.

3.2 SURFACE EROSION (from Henderson Report, 1999)

Road density within the Asp Creek basin is considered moderate. Fill slope erosion, erosion at a culvert due to cattle trampling, and erosion due to vehicular traffic and cattle trampling were identified as low hazard sediment sources within the basin. One site within the basin, where ditch and road erosion was occurring, was considered a moderate hazard sediment source within the tributary.

The field assessments completed in this 2006 assessment indicated there are areas of natural surface erosion from hillslopes that are coupled to the channel in reach 2. Please refer to the photographs in the appendix.
3.3 RIPARIAN ASSESSMENT (from Henderson Report, 1999)

Despite the logging related disturbance in the area the overall concern for riparian impact was low. Logging is located primarily along small intermittent streams which do not present a serious concern. Only approximately 0.5%, or 175m, the mainstem has been logged to the streambank.

A significant portion of the lower portion of Asp Creek is located on private property while further up the creek the majority of the land is Crown. There is some cattle activity present in several areas along the channel.

The field assessment completed in this 2006 assessment indicated the cattle activity in reach 2 is significant and resulting in sections of disturbance.

3.4 MASS WASTING (from Henderson Report, 1999)

An unstable slope is located in the Asp Creek gorge (approximately 2.5 km upstream of the confluence of Asp Creek with the Similkameen River) below a private property hay field. The steep banks have slumped at the site of two springs, approximately 100m from the Asp Creek channel. The landslide surfaces are actively eroding, however, the heavy vegetation cover below the springs traps much of the sediment before it reaches the channel. The mass wasting is considered to be normal and will likely continue on an on-going basis in the area surrounding the springs. The site is currently presenting a low risk to stream sedimentation.

There were no other mass wasting events identified in the remainder of the watershed.

4.0 CHANNEL ASSESSMENT

4.1 GOVERNING CONDITIONS FOR STREAM CHANNELS

There are five primary conditions governing stream channel morphology. These conditions, identified by Church and Ryder (2001), are:

1) the amount and timing of water delivered to the channel,
2) the amount and calibre of sediment delivered to the channel,
3) the supply of wood to the channel (in forested ecosystems),
4) the condition of stream banks (including riparian vegetation), and
5) the gradient over which the stream flows.

Also, streambed materials, local climate, watershed geomorphology and land-use activities make up the secondary factors that govern stream channel morphology. The morphology of stream channels change over time in response to natural or human-influences variations in bank conditions and supply of water, sediment and/or debris.
4.2 ASP CREEK MAINSTEM

Asp Creek was divided into four reaches based on gradient, channel morphology and tributary influence. The reach breaks are identified on the longitudinal profile and map within this report. Following is a brief description of each reach.

Asp Creek Reach 1

Reach 1, from the confluence of Asp Creek and the Similkameen River to approximately 1.05 km up the channel was assessed in two sections. The channel morphology was cascade pool cobble with functioning large woody debris. No sediment bar is present at the confluence of Asp Creek and the Similkameen River and the confluence is not noticeable looking upstream from 30 metres away. These characteristics indicate that Asp Creek is not noticeably influencing channel conditions in the Similkameen River. Asp Creek enters the Similkameen River on a step.

The channel is comprised of large woody debris (both functioning and not functioning), cobbles, and boulders. There is moss present on the boulders indicating they have not been moved recently.

The banks have a heterogeneous composition (silt, sand, gravel, cobbles and boulder) and were no signs of disturbance, except in sections where there is access to the channel. Overall, the riparian in reach one was intact however there are sections near the road where there was no riparian vegetation intact.

Asp Creek Reach 2

Reach 2 of Asp Creek was surveyed in five sections. The channel morphology was generally cascade pool and the bed material was mainly cobble. The stream sections ranged from moderately degraded, partially aggraded and some sections that were stable. The channel composition ranged from sand (in the stable sections), cobble, gravel and boulders. Some of the bed material had algae and moss present indicating that despite the sections with disturbances overall the stream was stable to partially aggraded. Reach 2 had sections with functioning LWD, some of which was deciduous. The banks had sections within the reach that had been impacted by animals (cattle). Areas where there was animal access to the channel showed signs of disturbance, whereas areas of the stream that had no animal access were less disturbed or not disturbed (stable). There were sections within reach 2 that had areas of natural slope instability.

Asp Creek Reach 3

Reach 3 was surveyed at one section which showed signs of partial disturbance. The channel morphology was cascade pool and the bed material was mainly cobble. The banks were comprised of silt, sand, and gravel.
Asp Creek Reach 4

Reach 4 of the mainstem was assessed in one section and the tributary coming into reach 4 was also assessed at one section. The channel morphology was cascade pool and the bed material was composed mainly of gravel and there was LWD present in the channel. The mainstem of Asp Creek at the time of the assessment was at low water levels, with non-flowing pooled water. There were fine materials present in the creek bed with some gravel deposits. The channel material was clean. The banks were composed of silt and clay.

The tributary into reach 4 was also assessed when the water level was low; and there was minimal flow within the channel. The channel composition was heterogeneous. The larger materials in the channel were covered in moss indicating the channel is not disturbed. The banks were composed of sand, clay and gravel and overall had no signs of disturbance. However, there was evidence of minor cattle encroachment along the bank in sections.

Table 2: Asp Creek Watershed Channel Data

<table>
<thead>
<tr>
<th>Site</th>
<th>Slope</th>
<th>Depth</th>
<th>Diameter</th>
<th>Wb</th>
<th>Morphology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH 9 (u/s to pedestrian bridge)</td>
<td>5%</td>
<td>50 cm</td>
<td>25 cm</td>
<td>4.0 m</td>
<td>CPc-w S-D1</td>
</tr>
<tr>
<td>CH 10 (u/s to highway bridge)</td>
<td>6%</td>
<td>70 cm</td>
<td>20 cm</td>
<td>3.8 m</td>
<td>CPc-w S</td>
</tr>
<tr>
<td>Reach 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH 2</td>
<td>4%</td>
<td>17 cm</td>
<td>23 cm</td>
<td>2.1 m</td>
<td>-</td>
</tr>
<tr>
<td>CH 11 (below farmland)</td>
<td>3%</td>
<td>38 cm</td>
<td>25 cm</td>
<td>5.3 m</td>
<td>CPc-w D2</td>
</tr>
<tr>
<td>CH 12 (coupled slide)</td>
<td>4.5%</td>
<td>45 cm</td>
<td>20 cm</td>
<td>6.3 m</td>
<td>CPc-w A1</td>
</tr>
<tr>
<td>CH 6</td>
<td>-</td>
<td>25 cm</td>
<td>10 cm</td>
<td>3.9 m</td>
<td>-</td>
</tr>
<tr>
<td>CH 13</td>
<td>3%</td>
<td>70 cm</td>
<td>15 cm</td>
<td>5.5 m</td>
<td>CPc-w S-A1</td>
</tr>
<tr>
<td>CH 14</td>
<td>4%</td>
<td>70 cm</td>
<td>20 cm</td>
<td>4.5 m</td>
<td>CPc A1</td>
</tr>
<tr>
<td>CH 7</td>
<td>-</td>
<td>19 cm</td>
<td>-</td>
<td>4.1 m</td>
<td>-</td>
</tr>
<tr>
<td>CH 8</td>
<td>4%</td>
<td>22 cm</td>
<td>19 cm</td>
<td>5.3 m</td>
<td>-</td>
</tr>
<tr>
<td>Reach 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH 1</td>
<td>2%</td>
<td>26 cm</td>
<td>14 cm</td>
<td>2.6 m</td>
<td>CPc</td>
</tr>
<tr>
<td>Reach 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH 4</td>
<td>-</td>
<td>33 cm</td>
<td>3 cm</td>
<td>1.95 m</td>
<td>CPg-w</td>
</tr>
<tr>
<td>CH 5 (Tributary 1)</td>
<td>4%</td>
<td>15 cm</td>
<td>7 cm</td>
<td>2.20 m</td>
<td>CPg-w</td>
</tr>
</tbody>
</table>

Morphology:
C – Cascade  P – Pool  R – Riffle  S – Step
c – cobble  g – gravel  b – boulder  w – LWD
D2 – moderately degraded  D1 – partially degraded
A2 – moderately aggraded  A1 – partially aggraded
S – Stable
4.3 ECA TABLES AND MOUNTAIN PINE BEETLE IMPACTS

The following tables indicate the levels of Equivalent Clearcut Area (ECA) that are currently observed in the watershed, and are expected to occur in 2011 if the proposed harvesting in the forestry plans is completed accordingly.

Table 3: ECA Calculations

<table>
<thead>
<tr>
<th>Watershed</th>
<th>Asp Creek Watershed ECA 2006</th>
<th>Asp Creek Watershed ECA 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ECA</td>
<td>Peak Flow Index (pfi)</td>
</tr>
<tr>
<td>Asp Creek</td>
<td>15.3%</td>
<td>0.20</td>
</tr>
</tbody>
</table>

A review of the proposed harvesting and the location of pine leading stands were completed. The review indicates that pine leading stands are being targeted in the proposed harvesting (See Table 4). The harvesting of a pine leading stand that is expected to have a high mortality rate caused by the mountain pine beetle, should have less hydrologic impact relative to harvesting a healthy Douglas fir or spruce leading stand.

Research on hydrologic effects of mountain pine beetle in the interior pine forests of British Columbia has resulted in many recent publications. In general they all indicate that peak and annual flows will increase, and the timing of peak flows may move forward a couple weeks (Unila, Guy and Pike, 2006). The results of the research also indicate there are some concerns that have answers, while others remain unknown and have only been addressed by theory:

“Changes in forest structure resulting from beetle-kill could modify key hydrologic process (MacDonald and Stednick, 2003). In the interior pine forest of BC, the annual accumulations and melt of the snowpack principally drive the hydrologic regime. This accumulation and melt are modified by hydrologic processes such as interception, evaporation, transpiration, snowpack redistribution (i.e. wind patterns) and melt (i.e. energy absorption), and groundwater storage. The effects of beetle-kill on these processes, with or without salvage harvesting, is unknown (Maloney, 2005) and may mimic that of conventional timber harvesting of similar size and extent. While transpiration is expected to be similar between beetle-killed stands and recent harvested areas (since trees do not transpire), the effects of beetle-kill on hydrologic processes may be different than the effects of timber harvesting. Beetle-killed trees retain their needles and branches, stay standing, and potentially affect forest regeneration after they have been killed. Furthermore, beetle-killed stands may retain live understory vegetation and are not necessarily impacted by road development, unlike conventional harvested stands” (Unila, Guy and Pike, 2006).

“The presence of a multi-storied stand may mitigate the hydrologic effects of beetle-kill (Schmid, Matam Martinez, and Troendle, 1991) supports the recent recommendation of BC’s chief forester to increase retention levels when salvaging beetle-killed stands (Snetsinger, 2005). Retaining structure such as live trees (including understory) and standing and fallen dead trees may reduce the risks of large-scale salvage, particularly until watersheds have reached hydrologic recovery (Snetsinger, 2005; Unila et al., 2006).
A research project on harvesting in drier climates similar to some parts of the assessed watershed indicates the following:

“A review of paired watersheds by Bosch and Hewlett (1982) noted that annual precipitation must exceed 450 mm in order to detect an increase in runoff as a result of removing a larger fraction of the vegetation cover in a watershed” (Helie; Peters, Tattrie and Gibson, 2005).

This supports the theory that harvesting drier parts of the watershed will contribute less to hydrologic changes than wetter parts.

### Table 4: Asp Creek Watershed Pine Levels.

<table>
<thead>
<tr>
<th>Area (ha)</th>
<th>Area of proposed harvesting (ha)</th>
<th>Area less proposed harvesting (ha)</th>
<th>Total area PI leading (ha)</th>
<th>% PI (total area)</th>
<th>% PI (net area)</th>
<th>Area of PI stands within proposed harvesting (ha)</th>
<th>Area of PI leading stands age class 2 or greater after proposed harvesting (ha)</th>
<th>% PI leading stands after all proposed harvesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,662.39</td>
<td>953.1</td>
<td>5,709.29</td>
<td>3026.5</td>
<td>45.4</td>
<td>53.0</td>
<td>896.3</td>
<td>2,130.3</td>
<td>32.0</td>
</tr>
</tbody>
</table>

### 5.0 CONCLUSIONS FROM CHANNEL ASSESSMENT

The Reconnaissance Channel Assessment of the Asp Creek Watershed included 11 channel sections distributed through the watershed. Water quality and quantity, and the fisheries resources within the watershed were considered the primary resource values.

The reconnaissance channel assessment has identified the channel has no to partial disturbance levels in the upper and lower watershed, and partial disturbance levels in the mid-watershed (reach 2). The disturbance in reach 2 was associated with historic logging near the channel, cattle that are trampling the banks and causing channel disturbance, and natural sediment sources.

The mainstem channel is dependent on a large woody debris supply to reduce disturbance. The conditions of reach 1 were evaluated using Rosgens (1996) method and were considered to have a low to moderate sensitivity to disturbance and if channel disturbance does occur there is an excellent potential for recovery.

The ECA levels are currently a low hazard at 15%. The proposed harvesting could increase the ECA to 27% which will be a low-to-moderate hazard.

The mainstem is greater than 1.5m wide in almost all sections, but the tributaries may be smaller where harvesting is proposed. Under the Forest Practices Code of British Columbia Act, that is being replaced, the mainstem is considered an S3. This classification results in a 20m riparian reserve, and a 20 metre riparian management zone. This degree of riparian management should be adequate to maintain channel conditions relative to the influence of...
riparian vegetation. Channel sections dependent on large woody debris for stability, will need some future potential recruits to be maintained along their edge.

The reaches are similar to other watersheds in the area which are generally considered to have the following sensitivities:

- **Moderately sensitivity** to increased peak flows,
- **Moderate to high sensitivity** to increased sediment supply, and
- **Moderate to high sensitivity** to decreased LWD Supply.

The road conditions and existing harvesting were not observed to have a significant impact on the channel conditions in the Asp Creek Watershed. Future management needs to ensure the roads continue to be a minimal source of sediment.

The ECA will be increasing to 27% if the proposed harvesting is completed. However, the watershed has Lodgepole Pine as a leading species in 32% of the residual stands in the watershed following the proposed harvesting. If the mountain pine beetle were to result in 80% mortality of the susceptible pine stands, the ECA could increase from the 27% to near 53%. The potential for the ECA to increase to 53% as a result of mountain pine beetle is a concern that could result in increased disturbance in the channel if peak flows were to increase. An increase in LWD is not a concern, as it is identified as generally assisting in channel stability.

In summary, the sensitivity of the channels to existing and proposed levels of development is considered to be low if existing management strategies continue. However, if the mountain pine beetle infestation results in 80% mortality of the pine stands (age class 2 or greater) there would be an expected increase in peak flows and channel disturbance.
6.0 RECOMMENDATIONS

When planning future forestry related activities the following recommendations should be considered:

1) Any new in-block roads should be a focus for deactivation where future use is unlikely or not required. Stream crossings should be deactivated and minimized where possible to reduce the potential for sediment delivery.

2) Trees in riparian areas are a source of functioning large woody debris and will assist in minimizing future channel disturbance in the watershed. Any new harvesting on streams greater than 1.5 m in width need a 20 meter riparian management zone and a 20 meter riparian reserve (this is typical S3 management as per the existing Forest Practices Code). Leaving future LWD recruits should be included in the management strategy for smaller streams where a channel depends on LWD to maintain its integrity. Weyerhaeuser's current riparian strategies for smaller streams (1.5m - 3m) are appropriate. They are the following:

   “Weyerhaeuser generally consider reserves of variable widths on the larger confirmed S4's as well as larger S6 streams (1.5m - 3m). They allow variance due to harvest method i.e. cable, but consider this acceptable as the majority of the ground adjacent to streams is conventional ground where reserves can be left. Variable width reserves are preferred as it provides more flexibility during layout in reacting to what the ground dictates. If the slope break into the riparian draw occurs at 15 m then place the reserve there and if the ground allows harvesting within 5m then take the boundary to that location. Also, increase retention of reserve trees through the RMZ.”

3) Do not remove post-harvesting large woody debris in stream channels without completing a professional assessment.

4) Channel conditions should continue to be monitored if future harvesting levels are proposed to increase. A subsequent reconnaissance channel assessment should be completed in 2011.

5) Future harvesting plans should target pine leading species and focus on controlling the expected mountain pine beetle infestation. Where feasible in Total Chance Planning, non-pine tree species should be reserved from harvest.

6) The mountain pine beetle infestation may result in more wood available for salvage harvest then can be accommodated. If this occurs there will be some non recoverable losses that could result in cutblock abandonment. The selection of cutblocks for abandonment needs to consider watershed values. This would include abandoning cutblocks that are: in close proximity to creeks or riparian areas, in areas with sensitive terrain, and/or areas with advanced regeneration or an established secondary structure. Current research has shown that targeting such areas can mitigate the effects of a
mountain pine beetle infestation on water resources and watersheds (Winkler, Maloney, Teti & Rex, 2007).

7) Off-channel animal watering strategies in reach 2 should be considered. This should reduce their activity along the stream and will benefit the quality of water for downstream domestic water-users, and also reduce channel disturbance.

Yours truly,
Integrated ProAction Corp.

Stephen Henderson, FMIBC, RPF
Forester and Hydrologist
### 7.0 OVERVIEW ASSESSMENT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Watershed:</strong></td>
<td>Asp Creek</td>
</tr>
<tr>
<td><strong>Sub basin:</strong></td>
<td>Asp Residual</td>
</tr>
<tr>
<td><strong>Area (ha):</strong></td>
<td>6,662.39</td>
</tr>
<tr>
<td><strong>Tenure:</strong></td>
<td>Private and Crown land</td>
</tr>
<tr>
<td><strong>Equivalent Clearcut Area (ECA) %</strong></td>
<td>15.3%</td>
</tr>
<tr>
<td><strong>Channel Type (CAP):</strong></td>
<td>CPg-w to CPc-w</td>
</tr>
<tr>
<td><strong>Width (m):</strong></td>
<td>1.95 m to 6.3 m</td>
</tr>
<tr>
<td><strong>Gradient (%):</strong></td>
<td>2% to 6%</td>
</tr>
<tr>
<td><strong>Watershed Type:</strong></td>
<td>Coupled to decoupled</td>
</tr>
<tr>
<td><strong>Channel Conditions:</strong></td>
<td>Mostly not disturbed with isolated sections where a disturbed channel was observed.</td>
</tr>
<tr>
<td><strong>Riparian Condition:</strong></td>
<td>Good, generally not disturbed with some clearing of riparian vegetation up to the banks on private land in reach 2.</td>
</tr>
<tr>
<td><strong>Road Condition:</strong></td>
<td>Good condition, not affecting downstream reaches.</td>
</tr>
<tr>
<td><strong>Hillslope Conditions:</strong></td>
<td>Good condition, a few instabilities were identified. Natural instabilities were identified in reach 2 and some are coupled.</td>
</tr>
<tr>
<td><strong>Fish Target:</strong></td>
<td>Asp Creek is Fish Bearing</td>
</tr>
<tr>
<td><strong>Habitat Conditions:</strong></td>
<td>Not Available</td>
</tr>
</tbody>
</table>
8.0 LITERATURE CITED


Appendix A. Longitudinal Profile of Asp Creek
Appendix B: Asp Creek Watershed
Photos

Photo AA - Asp Crossing 1 - Inlet

Photo AB - Asp Crossing 1 - Outlet

Photo AC - Asp Crossing 1 - Outlet

Photo AD - Asp Crossing 2 - Inlet

Photo AE - Asp Crossing 2 - Outlet

Photo AF - Asp Crossing 2 - Outlet
### Appendix C: Asp Creek Water Licensees

<table>
<thead>
<tr>
<th>Licence No</th>
<th>WR Map/Point Code</th>
<th>Stream Name</th>
<th>Purpose</th>
<th>Quantity</th>
<th>Units</th>
<th>Qty Flag</th>
<th>Rediv Flag</th>
<th>Licensee</th>
<th>Water District/Precinct</th>
<th>Licence Status</th>
<th>Process Status</th>
<th>Priority Date</th>
<th>Issue Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>C018922</td>
<td>6964A G4 (PD56521)</td>
<td>Asp Creek</td>
<td>Irrigation Local Auth</td>
<td>27.2</td>
<td>AF</td>
<td>T</td>
<td>N</td>
<td>Princeton Town of Box 670 Princeton BC V0X1W0</td>
<td>PRN - PRINCETON</td>
<td>Current</td>
<td>N/A</td>
<td>18941119</td>
<td>0</td>
</tr>
<tr>
<td>C028718</td>
<td>6967 E (PD56541)</td>
<td>Asp Creek</td>
<td>Irrigation</td>
<td>150</td>
<td>AF</td>
<td>T</td>
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Appendix D: Asp Creek Watershed Map