July 3, 2015

Project No.: 14265-322

Prince George Logistic Park Inc
c/o L&M Engineering
1210 4 Ave, Prince George
BC V2L 3J4

Attention: Jason Boyes

RE: Riparian Assessment along Boundary Road

In June of 2015, DWB Consulting Services completed riparian assessments on select features located within District Lot 748 and Lot 746 along the Boundary Road Development in Prince George, BC. The parcel is partially developed with intent of further development.

The features were initially reviewed against the City of Prince George Official Community Plan (OCP) Bylaw No. 8383 which has established Designated Riparian Protection Areas in Schedule D-2 that states any development in the Designated Riparian Protection Areas requires a development permit, which includes leave strip requirements for watercourses.

The features were also field verified to determine accuracy of the maps and if the features are watercourses or streams as per Section 8.9 of the City of PG Zoning Bylaws[1] and the BC Water Act. In addition, the sites were assessed for their potential to contain other environmentally sensitive features protected by statue (i.e. species at risk).

Where a riparian feature was confirmed an assessment of stream biophysical attributes and fish habitat as per the Fish-stream Identification Guidebook[2], and the Fish-stream Crossing Guidebook[3] was completed. All measurements were taken in such a fashion as to comply with Resource Inventory Standards Committee (RISC)[4].

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[1] City of Prince George. 2007. Zoning Bylaw No. 7850.Section 8.9. Riparian Protection. Retrieved from the City of Prince George website

[2] Province of British Columbia. 1998. Fish-stream identification guidebook. British Columbia Ministry of Forests and British Columbia Ministry of Environment, Lands and Parks, Victoria, BC.

[3] Province of British Columbia. 2012. Fish-stream crossing guidebook. British Columbia Ministry of Forests and British Columbia Ministry of Environment, Lands and Parks, Victoria, BC.

[4] Resource Inventory Standards Committee. 2001. Reconnaissance (1:20 000) fish and fish habitat inventory: standards and procedures. Version 2.0

Summary of Results

A review against the OCP (Schedule D-2) showed that none of the features we assessed fell within a Designated Riparian Protection Area. No other sensitive features or sites were identified during field assessment or desktop review.

District Lot 748

Site 1-1-NCD

The drainage feature, refer to Map 1, lies to the west of the Boundary Road development with the origin of the feature located at 10U 519039 5968532 and drains into Zogas Creek to the west. The feature is roughly 238 m long with a change in elevation of approximately 11 m.

The feature was walked in entirety by qualified personnel accompanied by L&M engineering representative, Jason Boyes. The feature is located in a well-defined vegetated draw. No continuous scour or alluvium deposition was noted along the length of the feature nor was there any evidence of standing or flowing water. Evidence of sediment from spring melt was present along its length; however, all deposited materials were on top of a deep organic layer. The small drainage was covered by moss and terrestrial vegetation suggesting that no more than seasonal runoff passes along the feature. As there was no discernable channel, this site is considered a non-classifiable drainage (NCD) and likely only sees water during spring melt or severe and frequent rains.

District Lot 746

Site 2-1-S6

The site is characterized as a deciduous draw containing trembling aspen (*Populus tremuloides*), pink spirea (*Spirea douglasii ssp menziesii*), prickly rose (*Rosa acicularis*) and black twinberry (*Lonicera involucrata*). Continuous channel definition was observed for approximately 220 m before a reach break was encountered at 10 U 518900 5969357. At the time of assessment the stream had an average channel width of 0.94 m and an average gradient of 2.33 %. The stream was dry with minimal standing water and no flow suggesting the feature is likely ephemeral in nature. Channel alluvium was dominated by fine substrates and organic matter. Refer to Map 2.

Site 2-1 is identified as a tributary of Zogas Creek, a previously classified non-fish bearing system (PG MAP, 2013)[5]. Given the stream characteristics identified during the site visit and the non-fish bearing status of Zogas Creek, this reach is classified as an S6 based on criteria set out by the Fish-stream Identification Guidebook[3].

Site 2-2-NCD

Site 2-2 originates to the north of the reach break located at 10 U 518900 5969357 before connecting with Site 2-1 (S6) below (refer to Map 2). The feature was dominated by sections of non-continuous

[5] PG MAP. 2013. City of Prince George. Accessed on June 19, 2015. http://princegeorge.ca/cityservices/online/pgmap/Pages/Default.aspx

channel definition, instream vegetation (primarily pink spirea) and bridges of terrestrial vegetation. System did not exhibit visible scour or channel alluvium was mostly organic matter.

This features has been identified as a non-classifiable drainage (NCD) based on the criteria set out by the Fish-stream Identification Guidebook[2].

Site 3-1-NCD

This site is located upstream, immediately northeast, of Site 2-1 (see Map 2). The feature was dominated by instream vegetation (primarily pink spirea) and lacked channel definition. The feature is located in a subtle swale with evidence of standing water as feature fanned out. No scour or alluvium was noted; the substrate was composed of organic matter.

As a result Site 3-1 has been identified as an NCD based on criteria set out by the Fish-stream Identification Guidebook[1].

Site 4-1-S6

Site 4-1 is found in an area vegetated primarily by trembling aspen, pink spirea, prickly rose and black twinberry. Continuous channel definition was observed throughout the lower extent of the feature until a reach break was encountered at 10 U 518935 5970242. At the time of assessment the stream had an average channel width of 0.45 m and an average gradient of 2.5 %. The stream was dry with a few pools of standing water and no flow suggesting the feature is likely ephemeral in nature. Channel alluvium was dominated by fine substrates and organic matter.

Site 4-1 is a tributary of Zogas Creek, which was previously classified non-fish bearing system (PG MAP, 2013). Given the stream characteristics identified during the site visit and the non-fish bearing status of Zogas Creek, this reach is classified as an S6 based on criteria set out by the Fish-stream Identification Guidebook[4].

Site 4-2-NCD

Site 4-2 begins immediately above the reach break encountered at 10 U 518935 5970242. The feature was dominated by sections of non-continuous channel definition, instream vegetation, sub-surface flow, and organic substrate. Area is generally located within a small gully surrounded by a mature spruce (*Picea glauca x engalmannii.*) stand with various shrubs in the understory.

Site 4-2 has been identified as an NCD based on the definitions found in the Fish-stream Identification Guidebook[1]. Please refer to Map 3 for more information.

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[5] PG MAP. 2013. City of Prince George. Accessed on June 19, 2015. http://princegeorge.ca/cityservices/online/pgmap/Pages/Default.aspx

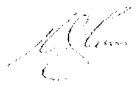
Setback Designations

None of the surveyed features lie within Designated Riparian Protection Areas of the OCP and therefore are not considered watercourses according to the City of PG Zoning Bylaw due to the lack of fish habitat or contributions to fish habitat. As a result there is no requirement to establish higher-level habitat protection through bylaw leave strip protocols for any of the sites. Although identified streams Site-2-1 (S6) and Site 4-1(S6) do not contribute to fish habitat, site scouring does indicate a greater hydrological function and the provisions of the BC Water Act would still apply. This implies that the drainage feature and its hydrological flow potential should be maintained which is best achieved through a recommended minimum setback of 5m. Alternatively, drainage maintenance can be achieved through considerations for ditching or storm water management with any changes requiring referral to the Water Stewardship division of the Ministry of Environment.

During the field work, the design engineer requested DWB to identify a 15 m setback with flagging tape from all recognized streams. This reserve is above the legal requirement and will greatly assist with erosion/sediment concerns in the future.

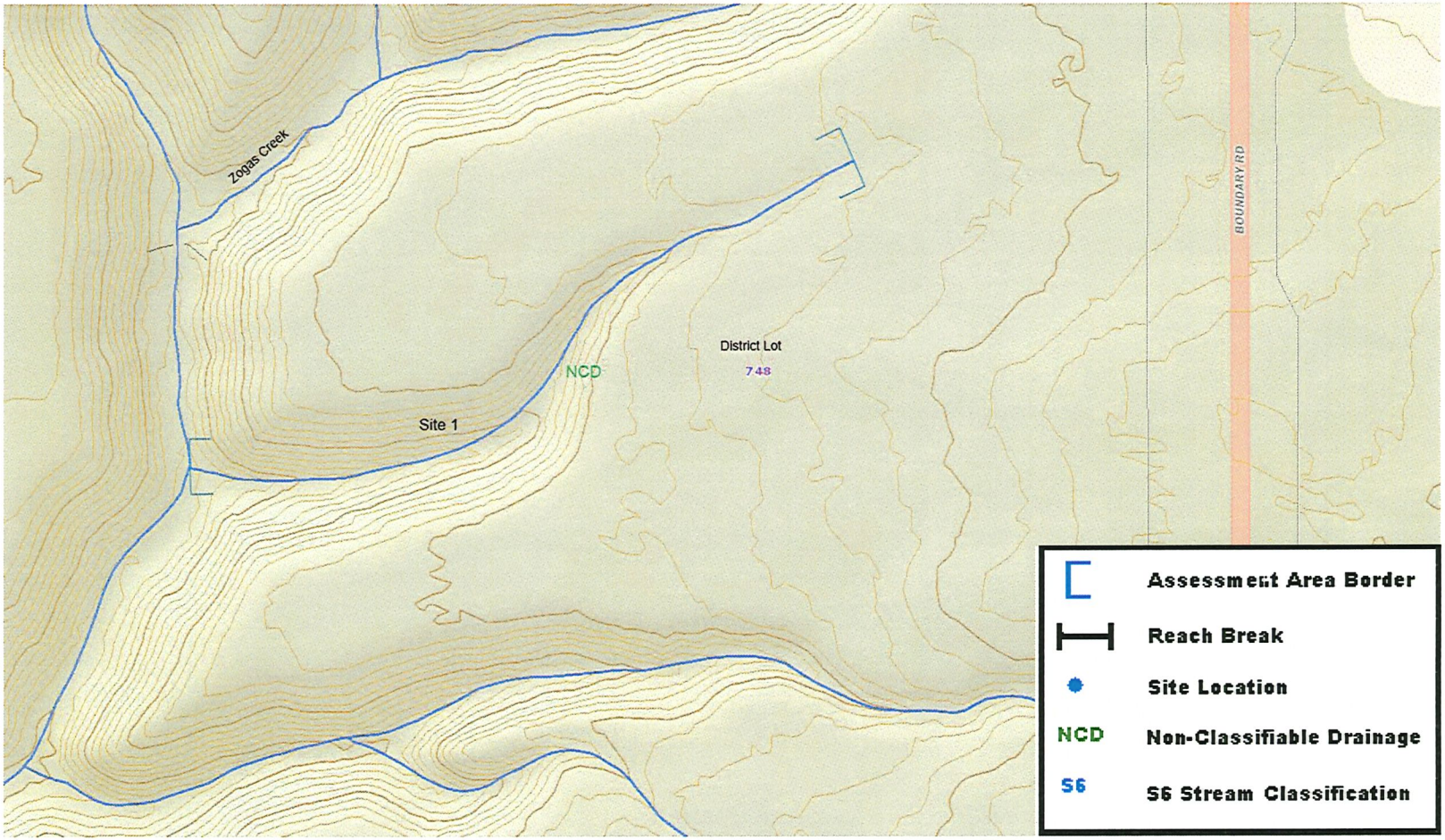
See Photos and Maps below:

Regards,

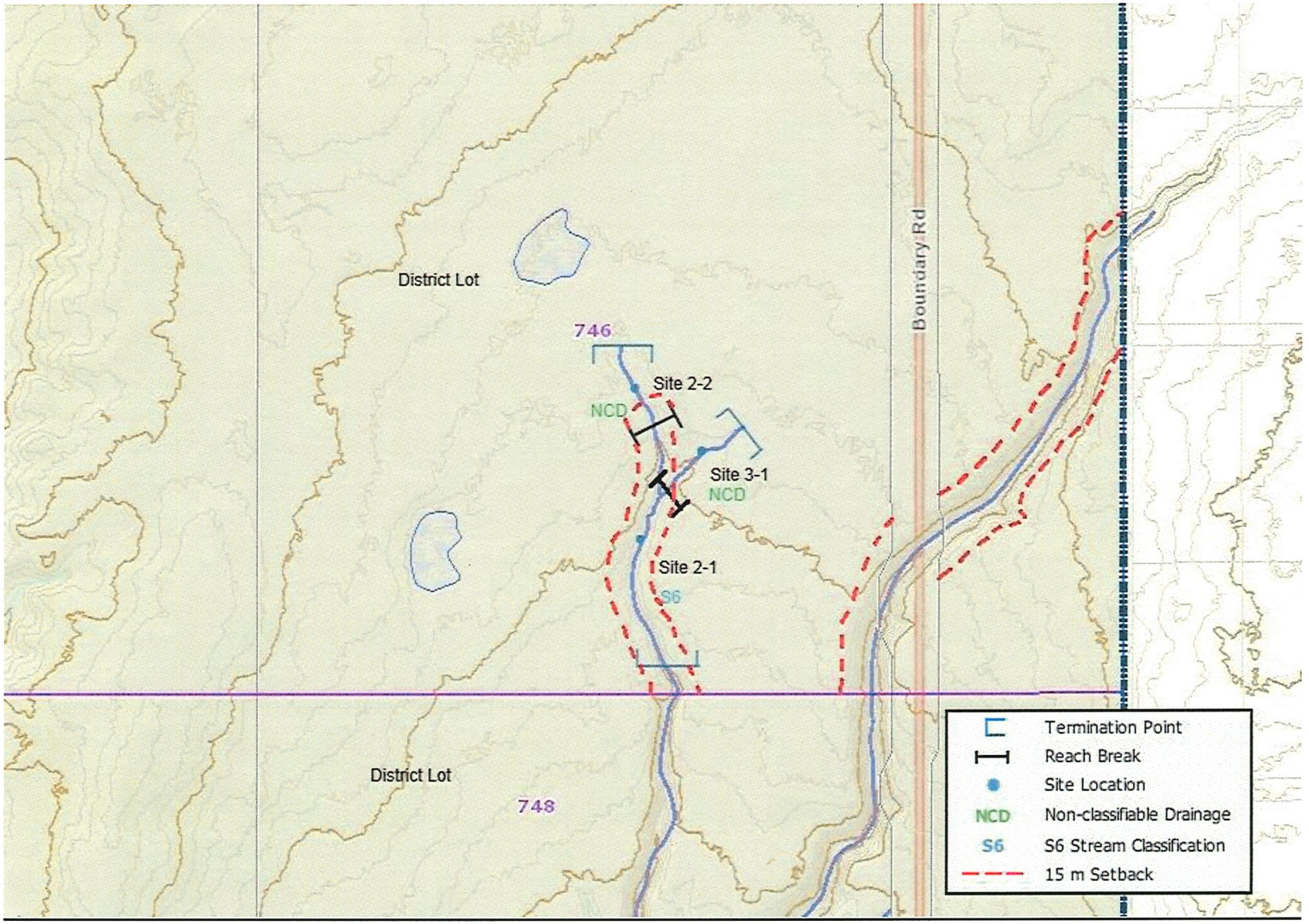


Nathan Shaw, P.Biol
Biologist
DWB Consulting Services Ltd.

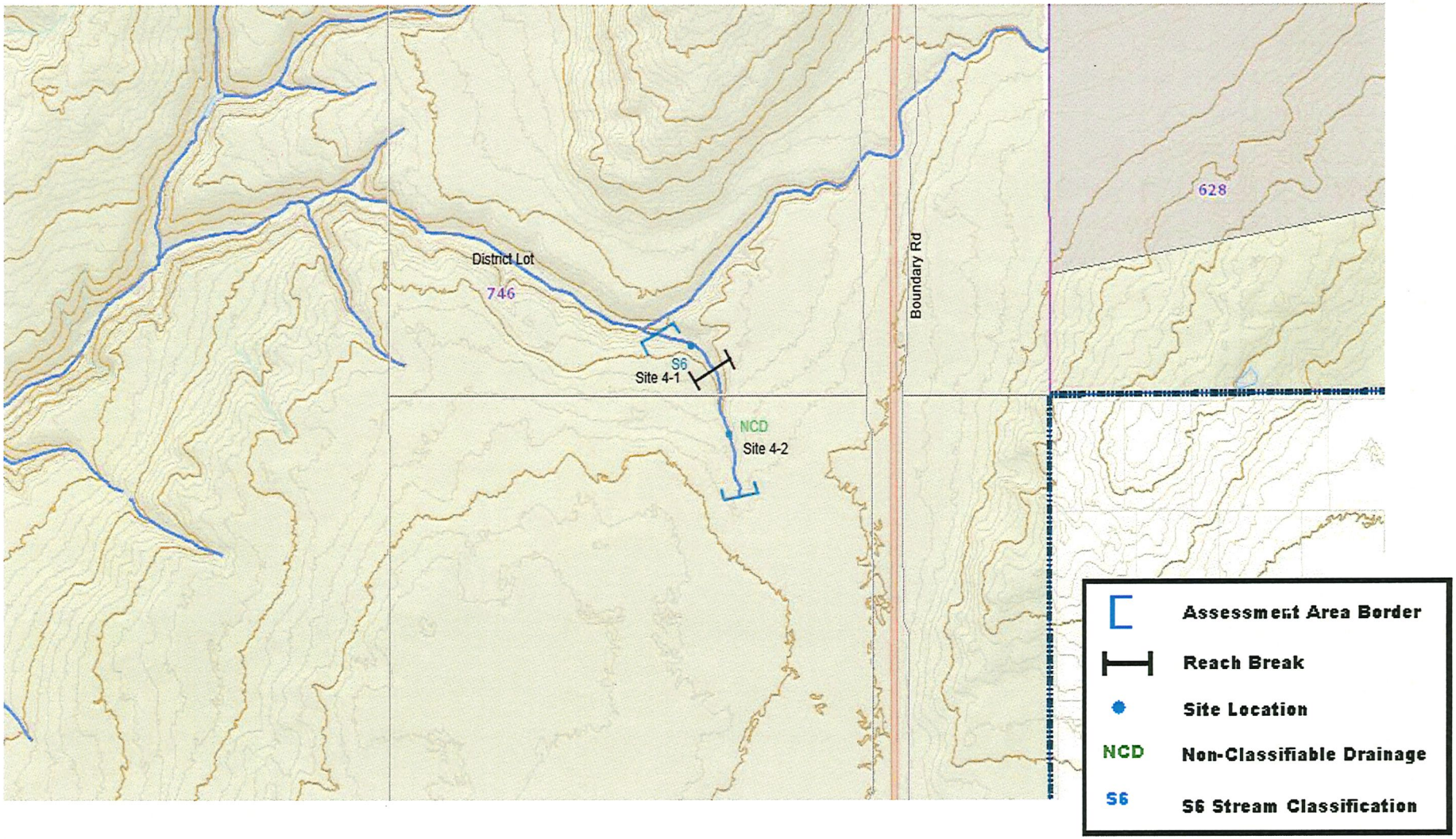
Map 1 in District Lot 748 (adapted from PG Map)



Map 2 in District Lot 746 (adapted from PG Map)



Map 3 in District Lot 746 (adapted from PG Map)



Photos

Photo 1: Site 2-1-S6 upstream view.

Photo 2: Site 2-1-S6 downstream view with visible organic and fine substrates.

Photo 3: Site 2-1-S6 Reach break located at 10 U 0518900 5969357.

Photo 4: Site 2-2-NCD upstream view of in-stream vegetation and lack of channel definition.

Photo 5: Site 3-1-NCD Typical view instream vegetation dominating site.

Photo 6: Site 3-1-NCD dominated by organic matter.

Photo 7: Site 4-1-S6 Upstream view.

Photo 8: Site 4-1-S6 Substrate comprised of fines and organic materials at.

Photo 9: Site 4-1-S6 Reach break located at 10 U 0518935 5970242

Photo 10: Site 4-2-NCD Instream vegetation.

June 29, 2022
Project: 22636-178

Peter Helm
Director of Development
MCC Legacy Trust
110-33973 Gladys Ave
Abbotsford, BC | V2S 2E8

Re: Riparian Assessment on District Lot 746

Dear Peter:

In June 2015, DWB Consulting Services Ltd (DWB) conducted a riparian assessment on District Lot (DL) 746 along Boundary Road in Prince George, BC[1]. DL 746, owned by Prince George Global Logistics Park Inc. is still in the process of being re-zoned, and as a result, L&M Engineering requested DWB conduct a follow up assessment of the riparian features on the parcel to support the Rezoning Application submitted by L&M Engineering, with the City of Prince George.

In 2015, the features were reviewed against the City of Prince George Official Community Plan (OCP) Bylaw No. 8383 which has legally established Designated Riparian Protection Areas in Schedule D-12 that states, any development in the Designated Riparian Protection Areas requires a development permit, which includes leave strip requirements for watercourses. During the 2015 assessment, none of the features were found to lie within Designated Riparian Protection Areas of the OCP and were not considered watercourses according to the City of PG Zoning Bylaw due to the lack of fish habitat or contributions to fish habitat. However, during this assessment, DWB was requested to identify a 15m setback from all designated streams. This request was rescinded for NCD features in 2022.

To determine if there have been any changes since the 2015 assessment, features were field verified to determine accuracy of the maps and if the features are watercourses or streams as per Section 8.9 of the City of PG Zoning Bylaws[2] and the Water Sustainability Act[3].

On June 1, 2022 a DWB field crew conducted a riparian assessment on DL 746. The mapped location of each of the features identified in the 2015 assessment was confirmed using a handheld GPS, and the classification of each stream was confirmed against the 2015 results as per the criteria in the Fish-stream Identification Guidebook[4].

[1] DWB Consulting Services Ltd. 2015. Riparian Assessment along Boundary Road.
[2] City of Prince George. 2007. Zoning Bylaw No. 7850. Section 8.9. Riparian Protection. Retrieved from the City of Prince George website.
[3] Province of British Columbia. Water Sustainability Act. SBC 2014, Chapter 15. Retrieved online from bclaws.gov.bc.ca
[4] Province of British Columbia. 1998. Fish-stream identification guidebook. British Columbia Ministry of Forests and British Columbia Ministry of Environment, Lands and Parks. Victoria, BC.

Following the assessment, the location and classification of each of the features listed below were confirmed to be consistent with the assessment completed in 2015:

- **1-1-S6 (Zogas Creek)**
- **2-1-S6**
- **2-2-NCD**
- **3-1-NCD**
- **4-2-NCD**

The set-back delineation is only recommended on 1-1-S6 and 2-1-S6; the previously identified setback distances for these features are adequate to meet the guidance under the Water Sustainability Act. The setbacks were removed from the NCD features as they are not required.

The following additional features have been identified as a result of the follow up assessment:

Two additional areas were delineated to be assessed in the map provided by L&M on April 19, 2022. These two features were not included in the assessment in 2015. These areas are absent of overstorey vegetation, and were field assessed for wetland characteristics using the criteria outlined in Wetlands of British Columbia – A Guide to Identification[5].

Site 7-1: This site is located in the southern portion of DL 746, east of 5-1-NCD. 5-1-NCD did not have a direct connection to this feature. During the assessment, the area was found to be dominated by *Spirea douglassii* (pink spirea) and *Alnus spp* (alder). Scattered *Populus tremuloides* (trembling aspen) was present across the site. Micro-sites of exposed organic soil were present; however, this site did not meet the definition of a wetland due to the absence of obligate hydrophytes. As a result, this feature does not require a leave-strip.

Site 8-1: This site is located northeast of Site 7-1. The site was found to be dominated by upland vegetation, including trembling aspen, pink spirea, alder, *Gymnocarpium Dryopteris* (oak fern) and *Ribes lacustre* (black goose berry). While organic substrate was present at the site, this area was not considered to be a wetland due to the absence of obligate hydrophytes. As a result, this feature does not meet the definition of a wetland and does not require a leave strip.

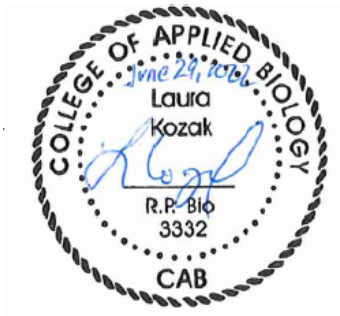
5-1-NCD: This feature feeds into site 2-1-S6 and was classified as a non-classifiable drainage (NCD) based on the criteria set out in the Fish-stream Identification Guidebook. The NCD's substrate was dominated by organic material. The feature had a discontinuous channel and intermittent sections of alluvium. A leave strip is not required for this feature.

Please see the map enclosed with this memo for watercourse locations, required setbacks, and the locations of the 2022 site assessments. All previously identified watercourses were found to have locations consistent with previous data; minor discrepancies were identified but are considered to be a result of GPS data accuracy.

[5] Mackenzie, William H. and J. Moran. 2004. Wetlands of British Columbia: a guide to identification. Research Branch of the BC Ministry of Forests. Victoria, B.C. Land Management Handbook No. 52.

City of PG Maps data was utilized to produce the final map for previously identified watercourses, and field collected data was utilized for new features.

Sincerely,



Laura Kozak, RPBio
Project Manager
DWB Consulting Services Ltd.

CC: Erin Minor, Project Manager

SITE PHOTOS

Photo 1. 1-1-S6 (Zogas Creek)

Photo 2. 2-1-S6

Photo 3. 2-2-NCD

Photo 4. 3-1-NCD

Photo 5. 4-1-NCD

Photo 6. 5-1-NCD

Photo 7. 7-1

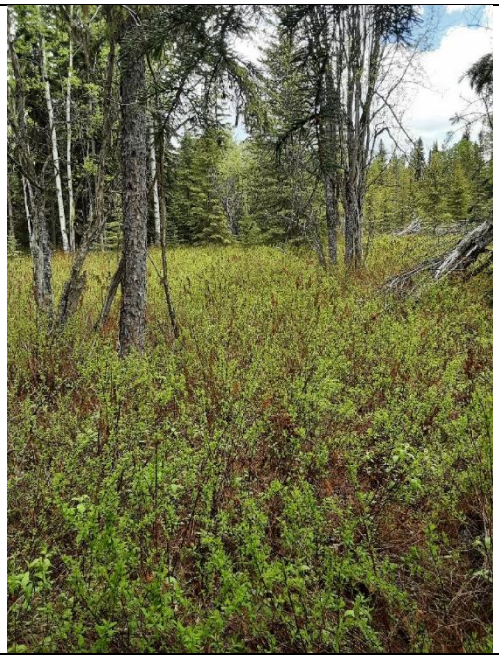


Photo 8. 8-1

SITE MAP

MCC Legacy Trust - District Lot Map