Appendix 1 Riparian Assessment Report

Riparian Assessment Report

TSL	TA1918	Block ID	CAR-155, CAR-160, & CAR-162	Report Date	2021-10-27

Methodology:

1. Pre-field

a. Review relevant biophysical information: LiDAR, Ortho, TRIM, known fish observation points etc.
b. Use GIS, ortho, and LiDAR (hillshade, wetness index) to interpret, identify and map potential riparian features within 100m of any harvest area or access road.
c. Use the LiDAR slope model and hillshade to predict potential fish barriers (gradient barriers or falls) in downstream reaches. Follow downstream reaches down to known fish observations or valley bottom waterways
d. Update BCTS stream layer and create a Riparian Assessment Field Map. Measure the areas of lake and wetland features.
e. Prework field crews about the results of the pre-field riparian feature and provide them with the riparian assessment field map.

2. Field

a. Field crews will utilize the riparian assessment field map to verify and evaluate riparian/water features in the field.
b. Verify and evaluate potential riparian feature locations and identify reach breaks (previously identified or discovered in the field).
c. Verify and evaluate potential fish barrier locations (previously identified or discovered in the field).
d. Verify and evaluate AFU's (previously identified or discovered in the field).
e. Map any deviations or newly discovered features (including NCD, NCW, AFU, etc).
f. Document relevant field observations (including fish presence observed, active channel morphology, existing or potential major crossing structures needed for access).
g. Take representative photos of all features/barriers/reaches (take as many as needed to confirm physical condition and communicate anomalies or issues).
h. Complete field measurements as needed to confirm riparian class consistent with the Riparian Management Area Guidebook procedures.
I. Complete field measurements as needed to describe potential fish barriers.

3. Office & Reporting

a. Update BCTS stream layer with field confirmed/mapped riparian feature locations, reach breaks, and fish barriers.
b. Complete the Field Observation Summary Table.
c. Complete an EcoCat report catalogue search and list the relevant reports in the Bibliography Table.
d. Import photos into the Riparian Assessment Photos table (import as many as needed to confirm physical condition and communicate anomalies or issues). Compile any additional photos into folders organized by Feature ID and include to include with submission.
e. Create an overview map to attach to this report that includes BCTS stream layer, target block and access roads, DataBC fish observation points, DataBC historical fish distribution that shows how the project streams connect to downstream reaches that contain known fish observations or valley bottom waterways.
f. Create a block level map to attach to this report that includes LiDAR hillshade, LiDAR slope model, BCTS stream layer, target block and access roads, DataBC fish observation points, DataBC historical fish distribution.
g. Both maps must include permanent reserve areas (OGMA, WTRA, parks, rec sites, etc) and landmarking layers (highways, municipalities, etc) as needed to clearly locate the assessed features.
h. This report and all attachments must be submitted in PDF format and combined into one document.

Reference:

Riparian Management Area Guidebook: Online	EcoCat Ecological Reports Catalogue:	Fish Stream Crossing Guidebook: Online

Field Observation Summary

Feature ID	Reach #	Riparian Class	Feature Dimensions							Stream Bottom Material (%)					
			Stream Width (m)						Lake/ Wetland Area (ha)						
			W1	W2	W3	W4	W5	Average Channel Width		Organics	Fines ≤2 (mm)	Gravel 2-64 (mm)	Cobble 64-256 (mm)	Boulder >256 (mm)	Bedrock
Site 918A	1	S6	1.17	1.07	1.65	1.66	1.08	1.11	-	0	10	65	25	0	0
Site 918B	1	S6	0.63	0.40	0.64	0.41	0.79	0.48	-	0	10	70	20	0	0
Site 918C	2	S6	1.22	1.34	1.93	1.32	1.51	1.22	-	0	10	60	30	0	0
Site 918D	1	S6	0.43	0.46	0.34	0.40	0.56	0.37	-	0	10	65	25	0	0
Site 918E	1	S6	0.53	0.56	0.58	0.41	0.24	0.39	-	0	40	40	10	0	0
Site 918F	1	S6	1.62	0.73	0.52	0.87	0.84	0.76	-	0	10	50	40	0	0
Site 918G	1	S6	0.58	0.81	0.78	0.64	0.56	0.56	-	0	10	65	25	0	0

Field Observations - Barriers/Impediments

Feature ID	Reach #	Description:
N/A		

Field Observations – Fish Presence Observed

Feature ID	Reach #	Description:
N/A		

Field Observations – Channel Morphology (e.g. aggradation, incision, bank erosion, recent streambed movement/deposition)

Feature ID	Reach #	Description:
Site 918G	1	10U 607280E, 5833995N; No connection between 918C and 918G

Field Observations – AFU (Active Fluvial Units – fans or floodplains including indicators during low flows)

Feature ID	Reach #	Description:
N/A		

Field Observations - Major Structures (existing, proposed, status)

Feature ID	Reach #	Description:
Site 918C	1	10U 605951E, 5835255N; Road Crossing. Nearest access point.

Additional comments from field observations:

Feature ID	Reach #	Description:
Site 918A	1	10U 605818E, 5836267N; Reach 1 (S6). The stream had a cascade-pool morphology and a gradient of >30% (occasionally >50%) throughout the surveyed reach.

Site 918B	1	10U 606759E, 5833972N; Reach 1 (S6). The stream had a cascade-pool morphology and an average gradient of 22%. However, gradients as high as 35% were measured throughout the reach.
Site 918C	2	10U 607280E, 5833995N; Reach 2 (S6). This reach was the mainstem (Collins Creek) downstream of Sites 918B - 918G. The reach acted as a fish barrier due to the cascade-pool channel morphology and the sustained gradient of >20%. No fish were observed throughout the survey. As the gradient was determined to be a fish barrier, no fish sampling was undertaken in Collins Creek, or any of the reaches upstream (Sites 918 B - 918G). Reach 1 was downstream of the closest road access point and ~250m downstream from the nearest block. Therefore, as this was more than 100m away from the block, surveying Reach 1 of stream was determined to be not required.
Site 918D	1	10U 607449E, 5834128N; Reach 1 (S6). The stream was well-defined and had an average gradient of 17%. Downstream fish barriers (the gradient in in Reach 2 of Site 918C) precluded fish access into this reach.
Site 918E	1	10U 607397E, 5834155N; Reach 1 (S6). The stream was not previously mapped and discovered to be present on the east side of Site 918C (Collins Creek), not the west side. The block and overview maps have been updated to reflect this change.
Site 918F	1	10U 607247E, 5833963N; Reach 1 (S6). The stream was primarily dry at the time of survey.
Site 918G	1	10U 607293E, 5833964N; Reach 1 (S6). The majority of site 918G was beyond the block boundary.

Bibliography – EcoCat Catalogue Search Results, Other

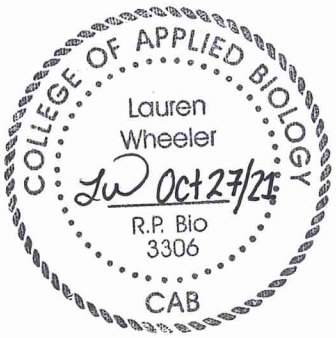
Collins Creek - Stream Survey Form
https://a100.gov.bc.ca/pub/acat/public/viewReport.do;window=true?reportId=13270

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
Lauren Wheeler	Lauren Wheeler

DATE SIGNED (DD/MM/YYYY)

27 / 10 / 2021

☐ I certify that the work described herein fulfils standards expected of a member of the Association of British Columbia Forest Professionals, and that I did personally supervise the work.
☐ I certify that the work described herein fulfills the standards expected of a member of the Association of British Columbia Forest Professionals and that I did personally supervise the work
☐ I certify that I have reviewed this document and, while I did not personally supervise the work described, I have determined that this work has been done to standards acceptable of a Registered Professional Forester



APPENDIX 2 – ATTACHMENTS (MAPS, OTHER)

Riparian Assessment Field Map(s) – Pre-field	☒	Yes	☐	No
Riparian Assessment Overview Map(s) – Office & Reporting	☒	Yes	☐	No
Riparian Assessment Block Map(s) – Office & Reporting	☒	Yes	☐	No
Other (Describe):	☒	Yes	☐	No

APPENDIX 1 - PHOTOS

Riparian Assessment Photos: Provide photos for each reach, feature, and field observation.



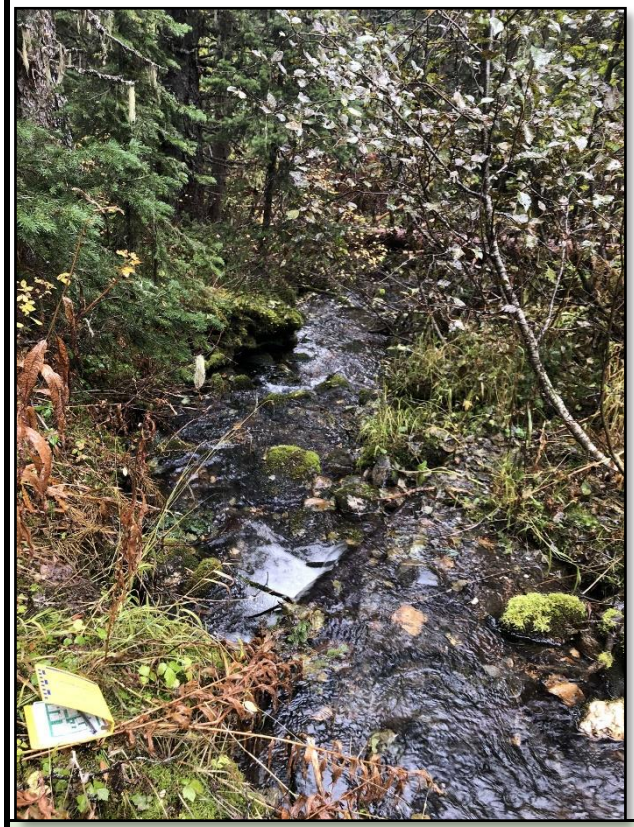
Description: Site 918A, Reach 2. The reach had a cascade-pool morphology and had a continuous gradient of >30%.



Description: Site 918A, Reach 1. The channel had an average channel width of 1.11m. The reach had sloped banks and was vegetated by a mature mixed forest.

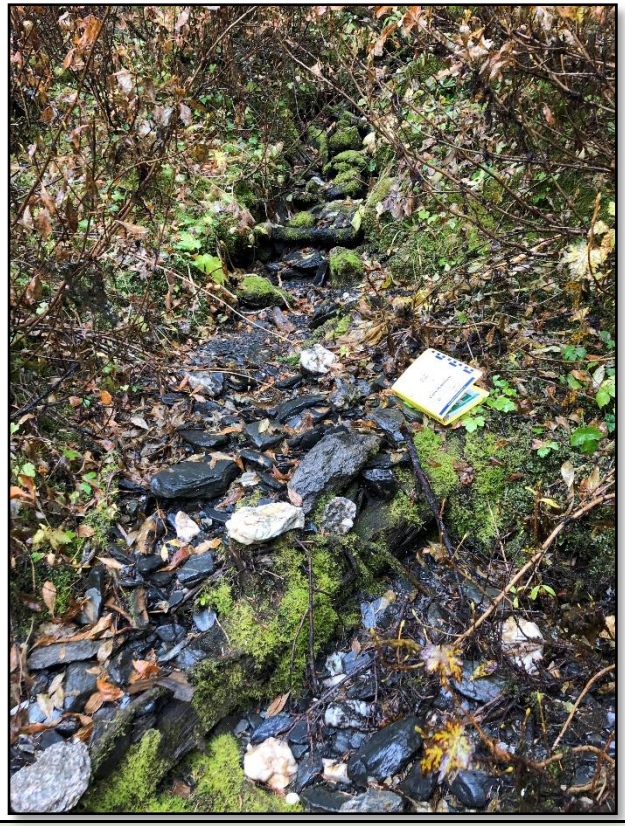


Description: Site 918B, Reach 1. The reach had an average gradient of 27% and a cascade-pool morphology.

		
Description: Site 918C, Reach 2. Reach 1 was not surveyed. Reach 2 had an average channel width of 1.22m.	**Description:** Site 918C, Reach 2. Reach 2 had a cascade-pool morphology and a consistent gradient of >20% which acted as a fish barrier.	**Description**: Site 918D, Reach 1. Reach 1 had an average channel width of 0.37m and an average gradient of 17%.



Description: Site 918E, Reach 1. The reach had an average channel width of 0.39m and a predominant substrate of gravel with fines.



Description: Site 918F, Reach 1. The reach was primarily dry at the time of survey, however, it was well defined and had an average channel width of 0.76m.



Description: Site 918F, Reach 1. The reach had a predominant substrate of gravels and cobbles and an average gradient of 29.5%.

		
Description: Site 918G, Reach 1. The reach had an average channel width of 0.56m and a gradient of 22%.		

APPENDIX 2:

FIELD MAP(S)

STREAM CLASSIFICATION MAP
TA1918 Block- CAR-155

BCTS BC Timber Sales

September 07, 2021
1:10,000

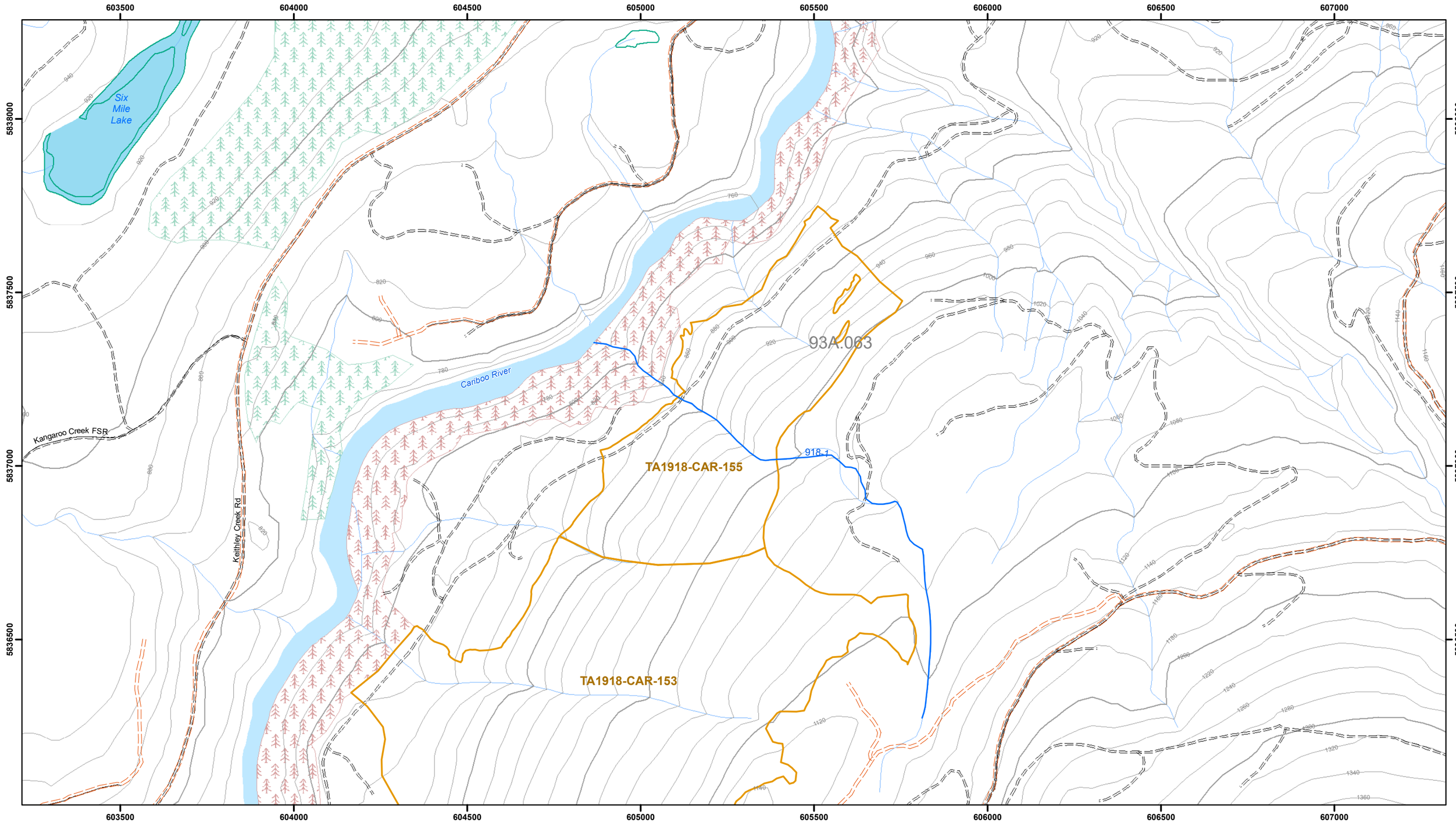
STREAM
BCTS Block
Permanent OGMA
Transisitional OGMA
BCTS Roads
Rotating OGMA
Wetland

N

DWB Consulting Services Ltd.

NAD 83

BCTS-WL_2103-530_PM.mxd



STREAM CLASSIFICATION MAP
TA1918 Block- CAR-162

BCTS BC Timber Sales

September 07, 2021
1:12,500

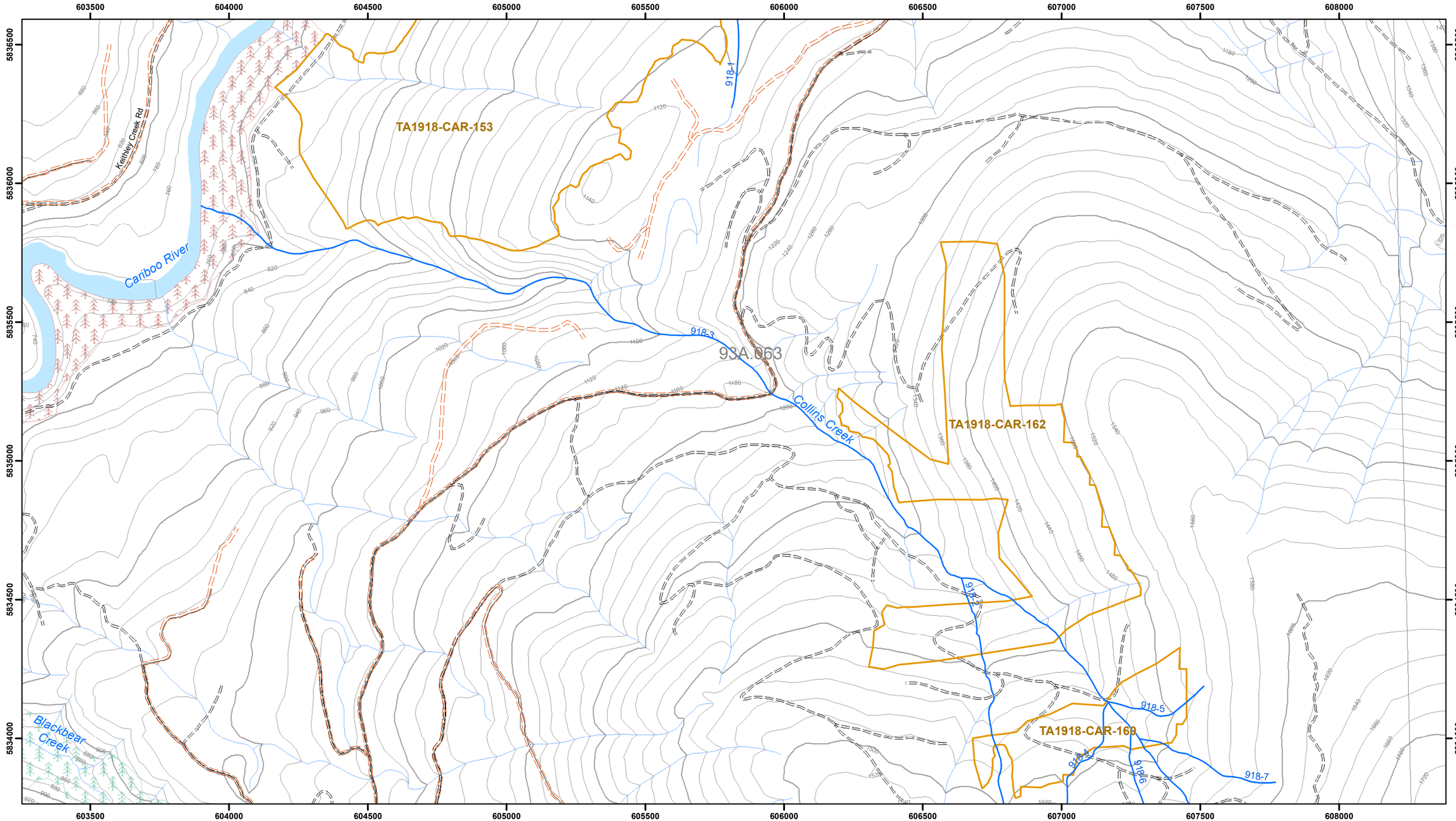
STREAM | BCTS Block | Permanent OGMA | Transistional OGMA
BCTS Roads | Rotating OGMA
Wetland

DWB Consulting Services Ltd.

NAD 83

BCTS-WL_2103-530_PM.mxd

N



STREAM CLASSIFICATION MAP
TA1918 Block- CAR-160

BCTS BC Timber Sales

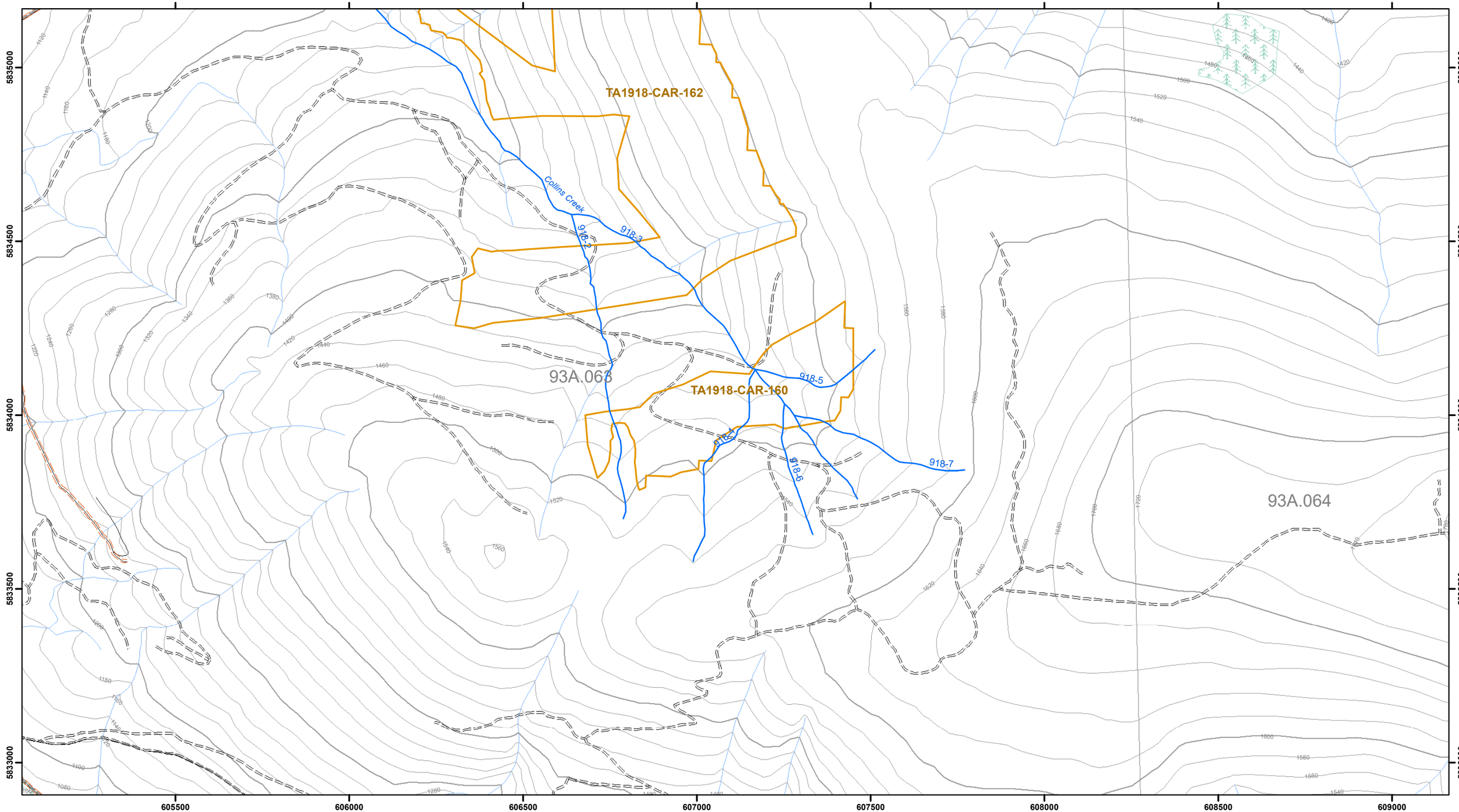
September 07, 2021
1:10,000

STREAM | BCTS Block | Permanent OGMA | Transisitional OGMA
BCTS Roads | Rotating OGMA
Wetland

DWB Consulting Services Ltd.

NAD 83
BCTS-WL_2103-530_PM.mxd

N



APPENDIX 2:

OVERVIEW MAP(S)

BCTS
BC Timber Sales

STREAM CLASSIFICATION - Overview Map
TA1918 Map 1

October 26, 2021
1:20,000

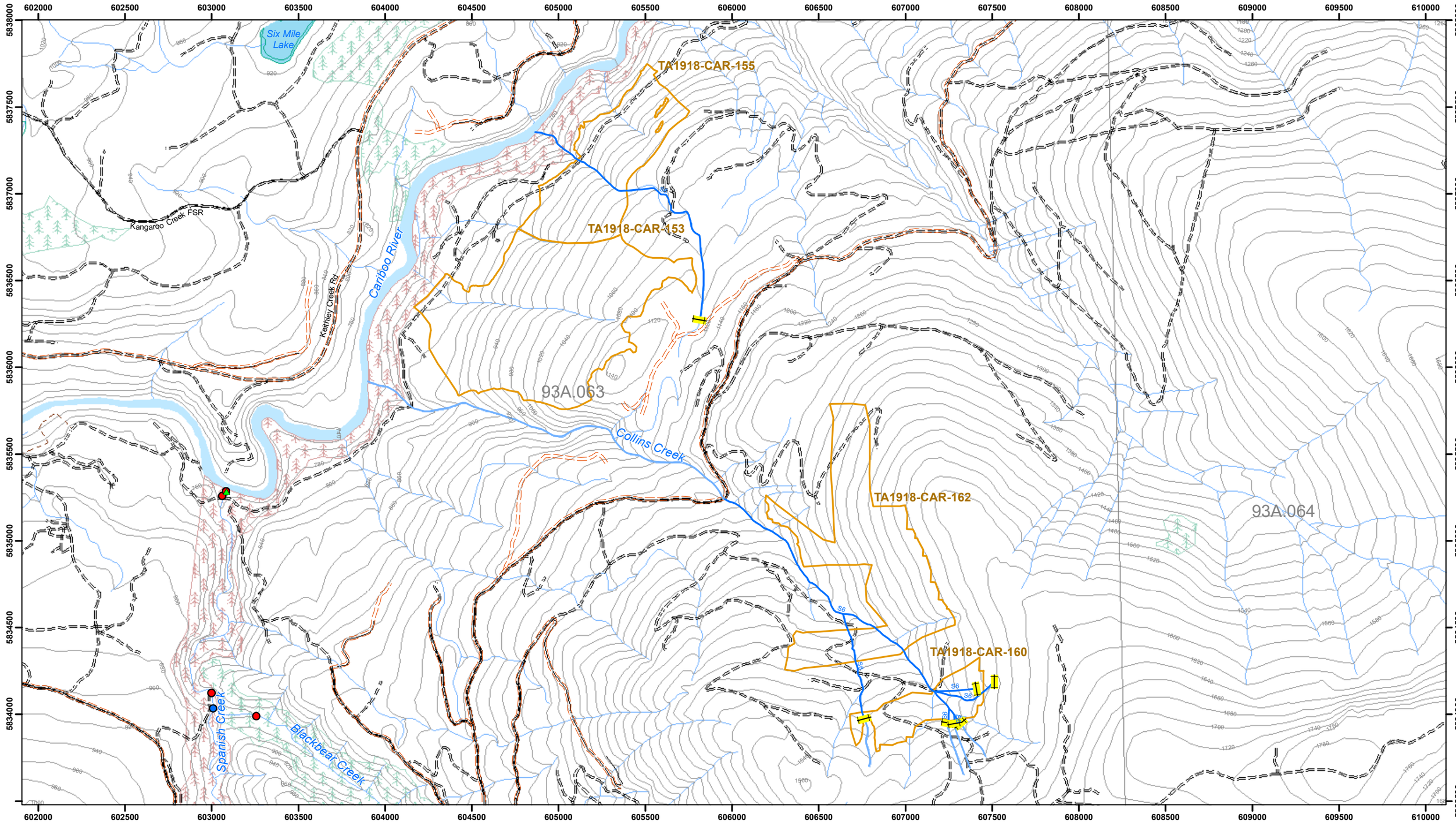
- Fish Observation Point
- Fish Summary Point
- Historical Fish Distribution
- Reach Breaks
- Fish Barriers
- Fish Bearing Stream
- Fish Bearing Stream (D)
- Non-Fish Bearing Stream
- Unsurveyed Stream
- BCTS Block
- BCTS Roads
- Recreation Site
- Marsh; Swamp
- Unsurveyed Trim Stream
- Permanent OGMA
- Rotating OGMA
- Transitional OGMA

DWB Consulting Services Ltd.

N

NAD 83

BCTS-WL_2103-530_OverviewMap.mxd



APPENDIX 2:

BLOCK MAP(S)

BCTS
BC Timber Sales

STREAM CLASSIFICATION - Block Map
TA1918 Block CAR-155

October 22, 2021
1:10,000

- Fish Observation Point
- Fish Summary Point
- Historical Fish Distribution
- Reach Breaks
- Fish Barriers
- Fish Bearing Stream
- Non-Fish Bearing Stream
- Unsurveyed Stream
- BCTS Block
- BCTS Roads
- Recreation Site
- Marsh; Swamp
- Unsurveyed Trim Stream
- Permanent OGMA
- Rotating OGMA
- Transitional OGMA

DWB Consulting Services Ltd.

N

NAD 83

BCTS-WL_2103-530_TSLMap.mxd

603500 604000 604500 605000 605500 606000 606500 607000

5838000 5837500 5837000 5836500 5836000

Six Mile Lake
Keithley Creek Rd
Kangaroo Creek FSR
Kangaroo Creek
Cariboo River
93A.063
TA1918-CAR-155
TA1918-CAR-153
093A-1
S6
Collins Creek
S6

STREAM CLASSIFICATION - Block Map
TA1918 Block CAR-160

BCTS BC Timber Sales

October 26, 2021
1:10,000

- Fish Observation Point
- Fish Summary Point
- Historical Fish Distribution
- Reach Breaks
- Fish Barriers
- Fish Bearing Stream
- Fish Bearing Stream (D)
- Non-Fish Bearing Stream
- Unsurveyed Stream
- BCTS Block
- BCTS Roads
- Recreation Site
- Marsh; Swamp
- Unsurveyed Trim Stream
- Permanent OGMA
- Rotating OGMA
- Transitional OGMA

DWB Consulting Services Ltd.

N

NAD 83

BCTS-WL_2103-530_TSLMap.mxd

605000 605500 606000 606500 607000 607500 608000 608500

5835500 5835000 5834500 5834000 5833500

Collins Creek

TA1918-CAR-162

TA1918-CAR-160

93A.063

93A.064

918G-1 S6

918E-1 S6

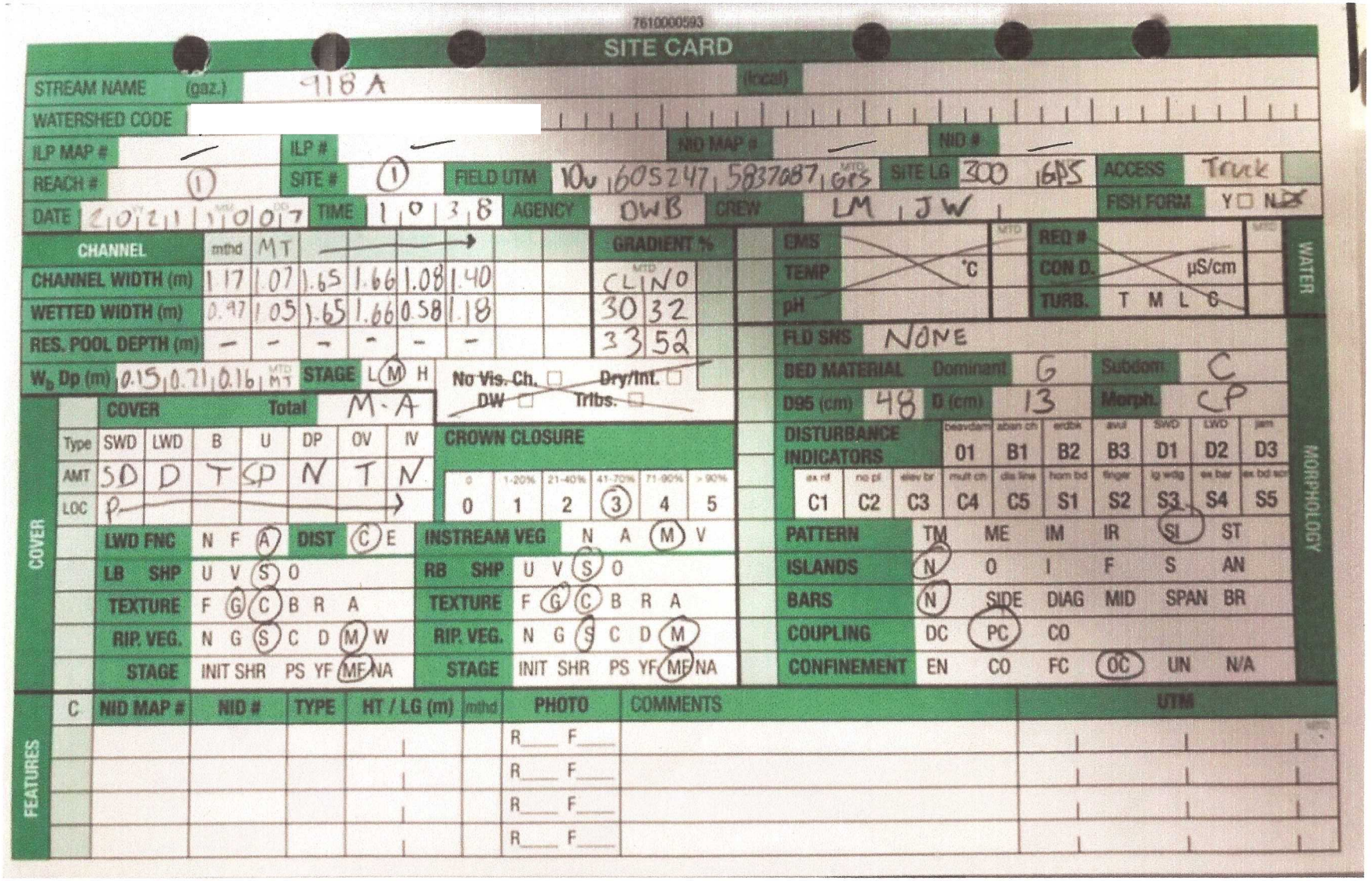
918D-1 S5

918B-1 S5

918G-1 S6

APPENDIX 2:

FIELD DATA FORMS



7610000593

SITE CARD

STREAM NAME (gaz.) 918 A (local)

WATERSHED CODE

ILP MAP # — ILP # — NID MAP # — NID # —

REACH # 1 SITE # 1 FIELD UTM 10U 605247 5837087 MTD GPS SITE LG 300 MTD GPS ACCESS Truck

DATE 2021 MM 10 DD 07 TIME 1038 AGENCY DWB CREW LM JW FISH FORM Y ☐ N ☒

CHANNEL	mthd	MT								GRADIENT %
CHANNEL WIDTH (m)		1.17	1.07	1.65	1.66	1.08	1.40			MTD CLINO
WETTED WIDTH (m)		0.97	1.05	1.65	1.66	0.58	1.18			30 32
RES. POOL DEPTH (m)		-	-	-	-	-	-			33 52
W_b Dp (m)	MTD MT	0.15	0.21	0.16						

STAGE L (M) H No Vis. Ch. ☐ Dry/Int. ☐ DW ☐ Tribs. ☐

WATER: EMS — MTD REQ # — TEMP °C — CON D. µS/cm — pH — TURB. T M L C

FLD SNS NONE

BED MATERIAL Dominant G Subdom C

D95 (cm) 48 D (cm) 13 Morph. CP

DISTURBANCE INDICATORS: beavdam 01 | aban ch B1 | erdbk B2 | avul B3 | SWD D1 | LWD D2 | jam D3 | ex rd C1 | no pl C2 | elev br C3 | mult ch C4 | dis line C5 | hom bd S1 | finger S2 | ig wdg S3 | ex bar S4 | ex bd scr S5

COVER

COVER	Total	M-A
Type	SWD	LWD	B	U	DP	OV	IV
AMT	SD	D	T	SP	N	T	N
LOC	P →						

CROWN CLOSURE: 0 | 1-20% 1 | 21-40% 2 | 41-70% (3) | 71-90% 4 | >90% 5

LWD FNC	N F (A)	DIST (C) E	INSTREAM VEG	N A (M) V
LB SHP	U V (S) O		RB SHP	U V (S) O
TEXTURE	F (G) (C) B R A		TEXTURE	F (G) (C) B R A
RIP. VEG.	N G (S) C D (M) W		RIP. VEG.	N G (S) C D (M)
STAGE	INIT SHR PS YF (ME) NA		STAGE	INIT SHR PS YF (ME) NA

MORPHOLOGY

PATTERN	TM	ME	IM	IR	(SI)	ST
ISLANDS	(N)	O	I	F	S	AN
BARS	(N)	SIDE	DIAG	MID	SPAN	BR
COUPLING	DC	(PC)	CO			
CONFINEMENT	EN	CO	FC	(OC)	UN	N/A

FEATURES

C	NID MAP #	NID #	TYPE	HT / LG (m)	mthd	PHOTO	COMMENTS	UTM
						R___ F___		
						R___ F___		
						R___ F___		
						R___ F___		

HABITAT QUALITY

Spawning: Mod to Good if accessible. Suitable substrate and spawning riffles

Rearing: Nil → too steep

Overwintering: Nil → absence of deep pools

FSZ ☐

PHOTO DOCUMENTATION

ROLL #	#	FOC LG	DIR	COMMENTS
	1			Site Card
	2			US
	3			DS
	4			LB
	5			RB

WILDLIFE

GROUP	WILDLIFE OBSERVATIONS	GROUP	WILDLIFE OBSERVATIONS

COMMENTS

C entire stretch of feature in block is far too steep. >30% grade entire stream with spots of >50% and a 4-5m tall waterfall @ 605141E 5837180N

C

Apr. 1998
000593

7610000593

SITE CARD

STREAM NAME (gaz.) 918B (local)

WATERSHED CODE

GP MAP # / ILP # / NID MAP # / NID #

REACH # 1 SITE # 1 FIELD UTM 10v 1606676 5837489 SP SITE LG ACCESS

DATE 2 0 2 1 | 7 0 | 0 5 TIME 1 0 5 5 AGENCY DNR CREW LM, SW FISH FORM Y N

CHANNEL

	mthd								
CHANNEL WIDTH (m)									
WETTED WIDTH (m)									
RES. POOL DEPTH (m)	–	–	–	–	–	–			
D_b Dp (m)									

STAGE L (M) H

No Vis. Ch. ☐ Dry/Int. ☐ DW ☐ Tribs. ☐

GRADIENT %: CLINO 19 35

WATER

EMS / REQ #

TEMP °C / CON D. µS/cm

pH / TURB. T M L C

MORPHOLOGY

FLD SNS None

BED MATERIAL Dominant G Subdom. C

D95 (cm) 18 D (cm) 10 Morph. CP

DISTURBANCE INDICATORS: 01 B1 B2 B3 D1 D2 D3

C1 C2 C3 C4 C5 S1 S2 S3 S4 S5

PATTERN: TM ME IM IR (SI) ST

ISLANDS: (N) 0 I F S AN

BARS: (N) SIDE DIAG MID SPAN BR

COUPLING: (DC) PC CO

CONFINEMENT: EN CO FC OC (UN) N/A

COVER

	Total	SWD	LWD	B	U	DP	OV	IV
Type		SWD	LWD	B	U	DP	OV	IV
AMT		SD	N	N	SD	N	D	N
LOC								

CROWN CLOSURE: 0 | 1 (1–20%) | (2) (21–40%) | 3 (41–70%) | 4 (71–90%) | 5 (>90%)

LWD FNC (N) F A DIST E

INSTREAM VEG N A (M) V

LB SHP U V (S) O

TEXTURE F (G) C B R A

RIP. VEG. N G (S) C D (M) W

STAGE INIT SHR PS YF (MF) NA

RB SHP U V (S) O

TEXTURE F (G) C B R A

RIP. VEG. N G (S) C D (M)

STAGE INIT SHR PS YF (MF) NA

CHANNEL

C	NID MAP #	NID #	TYPE	HT / LG (m)	mthd	PHOTO	COMMENTS	UTM
						R F		
						R F		
						R F		
						R F		

HABITAT QUALITY

Spawning: Mod. if it was accessible. G/C sub.

Rearing: Poor/N.I. Little cover/depth

Overwintering: Poor/N.I. No DP

FSZ ☐

PHOTO DOCUMENTATION

ROLL #	#	FOC LG	DIR	COMMENTS
	1			US
	2			DS
	3			LB
	4			RB

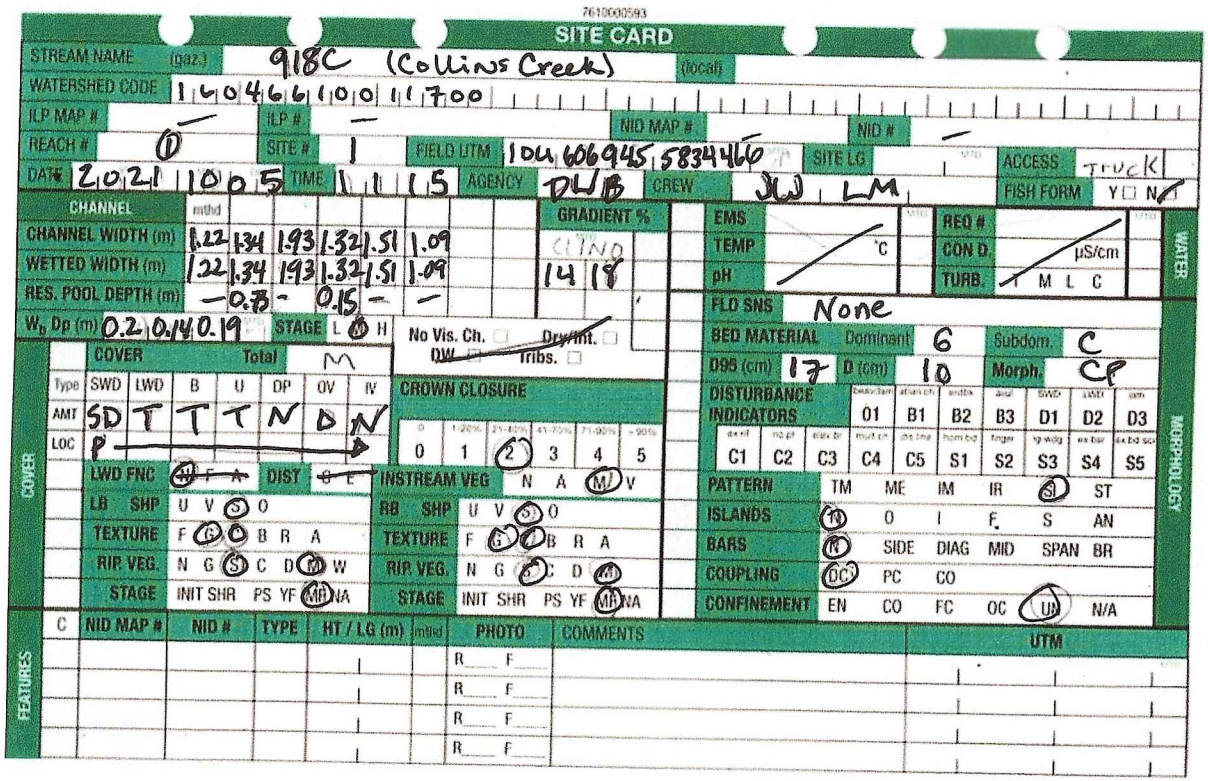
WILDLIFE

GROUP	WILDLIFE OBSERVATIONS	GROUP	WILDLIFE OBSERVATIONS

COMMENTS

C		C1	

Rev. Apr. 1998



7610000593

SITE CARD

STREAM NAME (gaz.) 918C (Collins Creek) (local)

WATERSHED CODE 1 6 0 4 6 1 0 0 1 1 7 0 0

ILP MAP # – ILP # – NID MAP # NID # –

REACH # 0 SITE # 1 FIELD UTM 10U 606945 5834466 SITE LG ACCESS Truck

DATE 2021 10 05 TIME 11 15 AGENCY DLWB CREW JW LM FISH FORM Y N

CHANNEL mthd

CHANNEL WIDTH (m)	1.22	1.34	1.93	1.32	1.51	1.09		
WETTED WIDTH (m)	1.22	1.34	1.93	1.32	1.51	1.09		
RES. POOL DEPTH (m)	–	0.78	–	0.15	–	–		
W_b Dp (m)	0.2	0.14	0.19					

STAGE L (H)

GRADIENT % CLIND 14 18

No Vis. Ch. ☐ Dry/Int. ☐ DW ☐ Tribs. ☐

EMS TEMP °C pH REQ # CON D. µS/cm TURB. T M L C

FLD SNS None

BED MATERIAL Dominant 6 Subdom. C

D95 (cm) 17 D (cm) 10 Morph. CP

DISTURBANCE INDICATORS

	01	B1	B2	B3	D1	D2	D3
	C1	C2	C3	C4	C5	S1	S2	S3	S4	S5

COVER Total M

Type	SWD	LWD	B	U	DP	OV	IV
AMT	SD	T	T	T	N	D	N
LOC	P →						

CROWN CLOSURE

0	1-20%	21-40%	41-70%	71-90%	>90%
0	1	(2)	3	4	5

LWD FNC (M) F A DIST S E

		INSTREAM VEG	N A (M) V
LB SHP	U V (S) O	RB SHP	U V (S) O
TEXTURE	F (G) C B R A	TEXTURE	F (G) C B R A
RIP VEG.	N G (S) C D (M) W	RIP VEG.	N G (S) C D (M)
STAGE	INIT SHR PS YF (MA) NA	STAGE	INIT SHR PS YF (MA) NA

PATTERN TM ME IM IR (SI) ST

ISLANDS (N) 0 I F S AN

BARS (N) SIDE DIAG MID SPAN BR

COUPLING (DC) PC CO

CONFINEMENT EN CO FC OC (UN) N/A

C	NID MAP #	NID #	TYPE	HT / LG (m)	mthd	PHOTO	COMMENTS	UTM
						R F		
						R F		
						R F		
						R F		

HABITAT QUALITY

Spawning - Good → suitable substrates / spawning riffles

Rearing - Moderate → sufficient cover

Overwintering - Poor → few deep pools

FSZ ☐

PHOTO DOCUMENTATION

ROLL #	#	FOC LG	DIR	COMMENTS
	5		Up	
	6		Down	
	7		Left	
	8		Right	

WILDLIFE

GROUP	WILDLIFE OBSERVATIONS	GROUP	WILDLIFE OBSERVATIONS

COMMENTS

C		C	

7610000593

SITE CARD

STREAM NAME (gaz.) 918 D (local)

WATERSHED CODE

ILP MAP # — ILP # — NID MAP # — NID # —

REACH # 1 SITE # 1 FIELD UTM 10U 607198 5834118 SITE LG ACCESS Truck

DATE 20 21 10 05 TIME 12 13 AGENCY DWR CREW LM, JW FISH FORM Y☐ N☐

WATER

CHANNEL mthd MT

CHANNEL WIDTH (m)	0.43	0.46	0.34	0.40	0.50	0.42
WETTED WIDTH (m)	0.43	0.46	0.34	0.40	0.50	0.42
RES. POOL DEPTH (m)	–	–	–	–		
W_b Dp (m)	0.15	0.09	0.07			

STAGE L H

GRADIENT % CLINO 15 17 20

No Vis. Ch. ☐ Dry/Int. ☐ DW ☐ Tribs. ☐

EMS TEMP °C pH FLD SNS

REQ # CON D. µS/cm TURB. T M L C

BED MATERIAL Dominant G Subdom. C

D95 (cm) D (cm) Morph.

COVER

	Total	SWD	LWD	B	U	DP	OV	IV
Type								
AMT	SD T N D N SD T							
LOC	P →							

CROWN CLOSURE

0	1-20%	21-40%	41-70%	71-90%	>90%
0	1	(2)	3	4	5

LWD FNC (N) F A DIST ~~C F~~

LB SHP U V (S) O

TEXTURE F (G) (C) B R A

RIP. VEG. N G (S) (C) D M W

STAGE INIT SHR PS YF (MF) NA

INSTREAM VEG N A (M) V

RB SHP U V (S) O

TEXTURE F (G) (C) B R A

RIP. VEG. N G (S) (C) D M

STAGE INIT SHR PS YF (MF) NA

MORPHOLOGY

DISTURBANCE INDICATORS

01	B1	B2	B3	D1	D2	D3

C1	C2	C3	C4	C5	S1	S2	S3	S4	S5

PATTERN TM ME IM IR (Sh) ST

ISLANDS (N) O I F S AN

BARS (N) SIDE DIAG MID SPAN BR

COUPLING (DC) PC CO

CONFINEMENT EN CO FC OC (UN) N/A

FEATURES

C	NID MAP #	NID #	TYPE	HT / LG (m)	mthd	PHOTO	COMMENTS	UTM
						R F		
						R F		
						R F		

HABITAT QUALITY

Spawning - Moderate ↑ suitable gravel/cobble substrates

Rearing - Nil ↑ No deep pools/no holding areas, overall too shallow

Overwintering - Nil ↑ No deep pools

FSZ ☐

PHOTO DOCUMENTATION

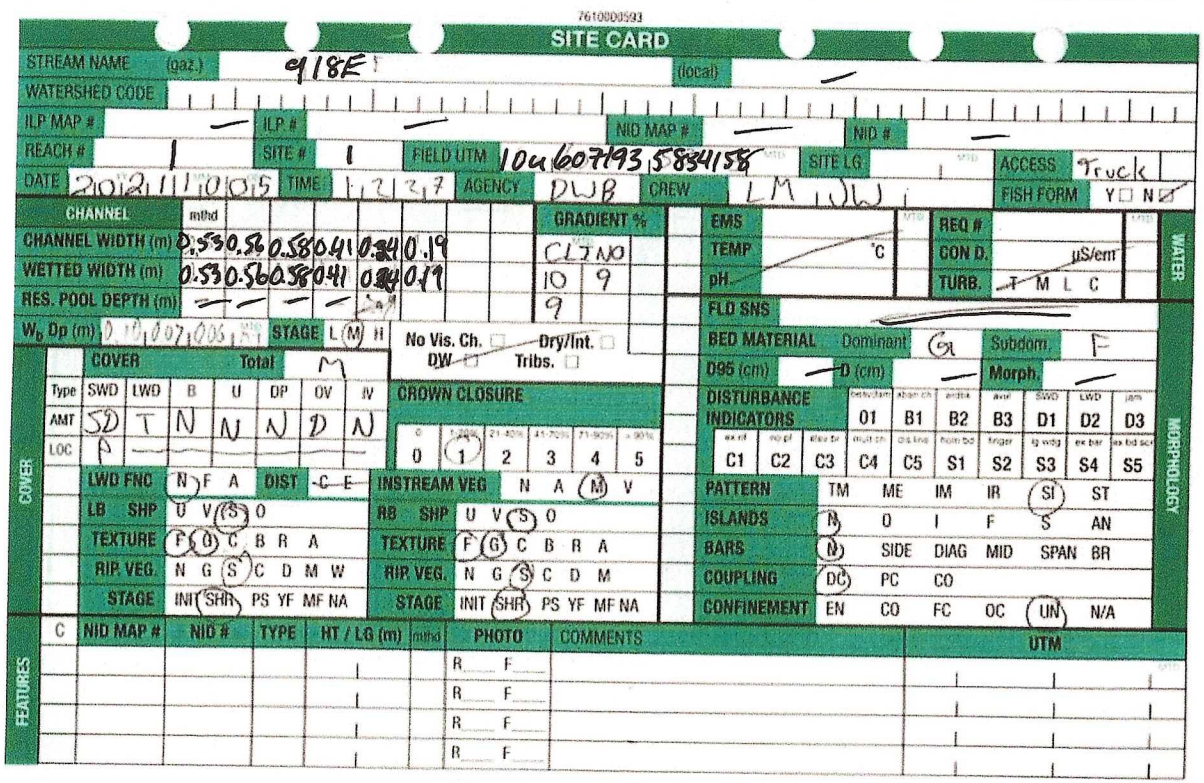
ROLL #	#	FOC LG	DIR	COMMENTS
	9		Up	
	10		Down	
	11		Left	
	12		Right	

WILDLIFE

GROUP	WILDLIFE OBSERVATIONS	GROUP	WILDLIFE OBSERVATIONS

COMMENTS

C Confluence with 918
C and E different than
what is shown on map.
See field map



7610000593

SITE CARD

STREAM NAME (gaz.) 918E (local) —

WATERSHED CODE

ILP MAP # — ILP # — NID MAP # — NID # —

REACH # 1 SITE # 1 FIELD UTM 10u607193 5834158 SITE LG ACCESS Truck

DATE 20121110 05 TIME 1237 AGENCY DWB CREW LM DW FISH FORM Y☐ N☑

CHANNEL

	mthd							
CHANNEL WIDTH (m)	0.53	0.56	0.58	041	0.34	0.19		
WETTED WIDTH (m)	0.53	0.56	0.58	041	0.34	0.19		
RES. POOL DEPTH (m)	—	—	—	—	—	—		
W_b Dp (m)	0.10	0.07	0.06					

GRADIENT % CLINO 10 9 9

STAGE L (M) H No Vis. Ch. ☐ Dry/Int. ☐ DW ☐ Tribs. ☐

WATER

EMS — REQ # —

TEMP — °C CON D. — µS/cm

pH — TURB. T M L C

MORPHOLOGY

FLD SNS —

BED MATERIAL Dominant G Subdom. F

D95 (cm) — D (cm) — Morph. —

DISTURBANCE INDICATORS: 01 B1 B2 B3 D1 D2 D3 | C1 C2 C3 C4 C5 S1 S2 S3 S4 S5

PATTERN TM ME IM IR (SI) ST

ISLANDS (N) O I F S AN

BARS (N) SIDE DIAG MID SPAN BR

COUPLING (DC) PC CO

CONFINEMENT EN CO FC OC (UN) N/A

COVER

COVER Total M

Type	SWD	LWD	B	U	DP	OV	IV
AMT	SD	T	N	N	N	D	N
LOC	P	—	—	—	—	—	—

CROWN CLOSURE: 0 (1) 2 3 4 5

LWD FNC (N) F A DIST C E

LB SHP U V (S) O

TEXTURE (F) G C B R A

RIP VEG. N G (S) C D M W

STAGE INI (SHR) PS YF MF NA

INSTREAM VEG N A (M) V

RB SHP U V (S) O

TEXTURE (F) G C B R A

RIP VEG. N G (S) C D M

STAGE INI (SHR) PS YF MF NA

FEATURES

C	NID MAP #	NID #	TYPE	HT / LG (m)	mthd	PHOTO	COMMENTS	UTM
						R F		
						R F		
						R F		
						R F		

HABITAT QUALITY

Spawning - Poor ✦ not ideal substrates / flow

Rearing - Nil ✦ no areas to hold / too shallow

Overwintering - Nil ✦ no deep pools

FSZ ☐

PHOTO DOCUMENTATION

ROLL #	#	FOC LG	DIR	COMMENTS
	13		Up	
	14		Down	
	15		Left	
	16		Right	

WILDLIFE

GROUP	WILDLIFE OBSERVATIONS	GROUP	WILDLIFE OBSERVATIONS

COMMENTS

C	
	Confluence with 918
	C and D different than
	what is shown on map.
	See Field map

C	

7810000593

SITE CARD

STREAM NAME (gaz.)	918F							(local)			
WATERSHED CODE											
ILP MAP #	—	ILP #	—			NID MAP #	—	NID #	—		
REACH #	1	SITE #	1	FIELD UTM	10U 607256 5833978	SITE LG		ACCESS	Truck		
DATE	2021 10 05	TIME	1244	AGENCY	DWB	CREW	LM, JW	FISH FORM	Y ☐ N ☑		

CHANNEL

CHANNEL	mthd								GRADIENT %	
									CLINO	
CHANNEL WIDTH (m)	162	0.73	0.52	0.87	0.84	0.48				
WETTED WIDTH (m)	—	—	0.22	—	0.41	0.4			28	31
RES. POOL DEPTH (m)	—	—	—	—	—	—				
W_b Dp (m)	0.11	0.12	0.10							

STAGE (L) M H

No Vis. Ch. ☐ Dry/Int. ☐ DW ☐ Tribs. ☐

COVER

COVER Total: M

Type	SWD	LWD	B	U	DP	OV	IV
AMT	SD	T	T	D	N	SD	T
LOC	P						▽

CROWN CLOSURE

0	1-20%	21-40%	41-70%	71-90%	>90%
0	(1)	2	3	4	5

LWD FNC (N) F A — DIST C E

INSTREAM VEG N A (M) V

	LB	RB
SHP	U V (S) O	U V (S) O
TEXTURE	F (G) (C) B R A	F (G) (C) B R A
RIP. VEG.	N G (S) (C) D M W	N G (S) (C) D M
STAGE	INIT SHR PS YF (MF) NA	INIT SHR PS YF (MF) NA

WATER

EMS			REQ #	
TEMP	/ °C		CON D.	/ µS/cm
pH	/		TURB.	T M L C

FLD SNS —

MORPHOLOGY

BED MATERIAL	Dominant	G	Subdom.	C
D95 (cm)		D (cm)		Morph.

DISTURBANCE INDICATORS

beaver dam 01	urban ch B1	erodbk B2	avul B3	SWD D1	LWD D2	jam D3
ex rif C1	no pl C2	elev br C3	mult ch C4	dis line C5	hom bd S1	finger S2	lg wdg S3	ex bar S4	ex bd scr S5

PATTERN	TM	ME	IM	IR	(SI)	ST
ISLANDS	(N)	O	I	F	S	AN
BARS	(N)	SIDE	DIAG	MID	SPAN	BR
COUPLING	(DC)	PC	CO			
CONFINEMENT	EN	CO	FC	(OC)	UN	N/A

FEATURES

C	NID MAP #	NID #	TYPE	HT / LG (m)	mthd	PHOTO	COMMENTS	UTM
						R___ F___		
						R___ F___		
						R___ F___		
						R___ F___		

HABITAT QUALITY

Spawning - Moderate ⇒ suitable substrate but not accessible
Rearing - Nil ⇒ too shallow / no holding areas
Overwintering - Nil ⇒ Absence of deep pools

FSZ ☐

PHOTO DOCUMENTATION

ROLL #	#	FOC LG	DIR	COMMENTS
	17		Up	
	18		Down	
	19		Left	
	20		Right	

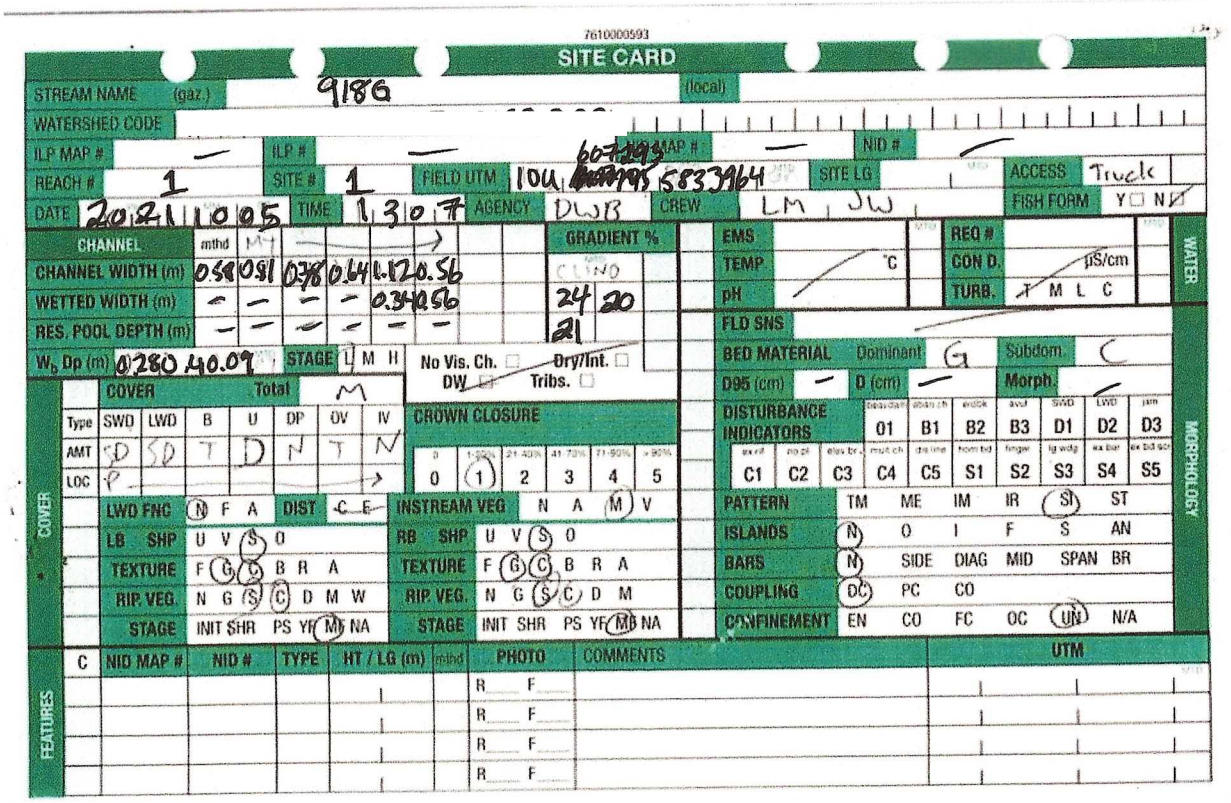
WILDLIFE

GROUP	WILDLIFE OBSERVATIONS	GROUP	WILDLIFE OBSERVATIONS

COMMENTS

C		C	

Rev. Apr. 1998
7610000593



7610000593

SITE CARD

STREAM NAME (gaz.) 9186 (local)

WATERSHED CODE

ILP MAP # — ILP # — MAP # — NID # —

REACH # 1 SITE # 1 FIELD UTM 10U 607295 5833964 SITE LG — ACCESS Truck

DATE 2021 10 05 TIME 1307 AGENCY DWR CREW LM, JW FISH FORM Y☐ N☑

CHANNEL

mthd	M						
CHANNEL WIDTH (m)	0.58	0.81	0.78	0.64	1.12	0.56	
WETTED WIDTH (m)	—	—	—	—	0.34	0.56	
RES. POOL DEPTH (m)	—	—	—	—	—	—	
W_b Dp (m)	0.28	0.40	0.09	STAGE	L M H		

GRADIENT % CLINO 24 20 21

No Vis. Ch. ☐ Dry/Int. ☐ DW ☐ Tribs. ☐

EMS — REQ # —

TEMP — °C CON D. — µS/cm

pH — TURB. T M L C

FLD SNS —

BED MATERIAL Dominant G Subdom. C

D95 (cm) — D (cm) — Morph. —

COVER

COVER Total M

Type	SWD	LWD	B	U	DP	OV	IV
AMT	SD	SD	T	D	N	T	N
LOC	P						

LWD FNC (N) F A DIST C E

LB SHP U V (S) O

TEXTURE F (G) C B R A

RIP. VEG. N G (S) C D M W

STAGE INIT SHR PS YF (M) NA

CROWN CLOSURE

0	1-20%	21-40%	41-70%	71-90%	>90%
0	(1)	2	3	4	5

INSTREAM VEG N A (M) V

RB SHP U V (S) O

TEXTURE F (G) (C) B R A

RIP. VEG. N G (S) (C) D M

STAGE INIT SHR PS YF (M) NA

DISTURBANCE INDICATORS

01	B1	B2	B3	D1	D2	D3	
C1	C2	C3	C4	C5	S1	S2	S3	S4	S5

PATTERN TM ME IM IR (SI) ST

ISLANDS (N) O I F S AN

BARS (N) SIDE DIAG MID SPAN BR

COUPLING (DC) PC CO

CONFINEMENT EN CO FC OC (UN) N/A

FEATURES

C	NID MAP #	NID #	TYPE	HT / LG (m)	mthd	PHOTO	COMMENTS	UTM
						R F		
						R F		
						R F		
						R F		

HABITAT QUALITY

Spawning - Poor & suitable substrates but no spawning riffles or access

Rearing - N:I & too shallow/no holding areas, too steep

Overwintering - N:I & no deep pools

FSZ ☐

PHOTO DOCUMENTATION

ROLL #	#	FOC LG	DIR	COMMENTS
	21		Upstream	
	22		Down	
	23		Left	
	24		Right	

WILDLIFE

GROUP	WILDLIFE OBSERVATIONS	GROUP	WILDLIFE OBSERVATIONS

COMMENTS

C Confluence with mainstem different than what appears on feature map. Joins on west side rather than east, and further downstream than on feature map. See field map

C