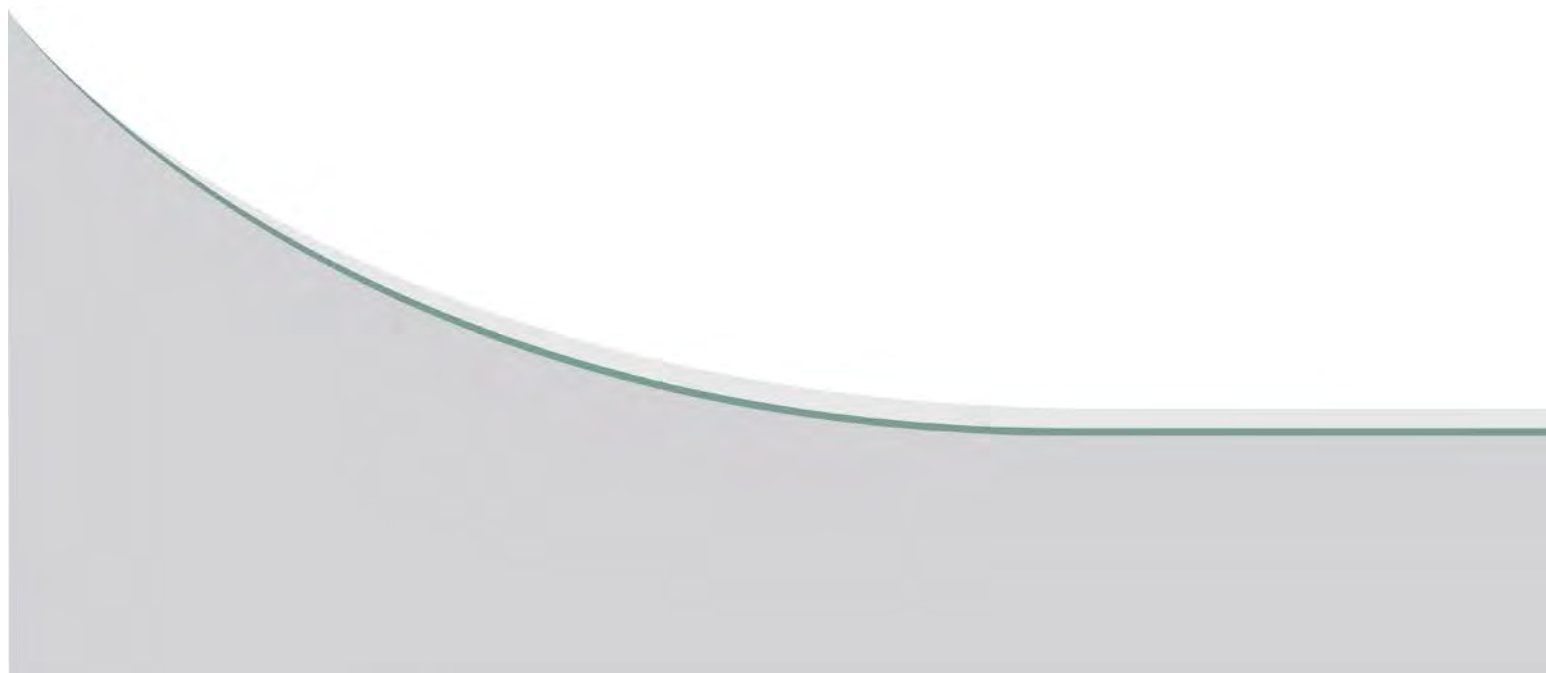


APPENDIX V

CREEK FLOOD HAZARD MAPS





LEGEND:

- Creek Centreline
- Map Extents
- Limit of Mapping
- Water Depth (m)
 - 0.0 – 0.5 m
 - 0.5 – 1.0 m
 - 1.0 – 1.5 m
 - 1.5 – 2.0 m
 - > 2.0 m

NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019, and by ESRI and DigitalGlobe, WV02 dated June 3, 2015.

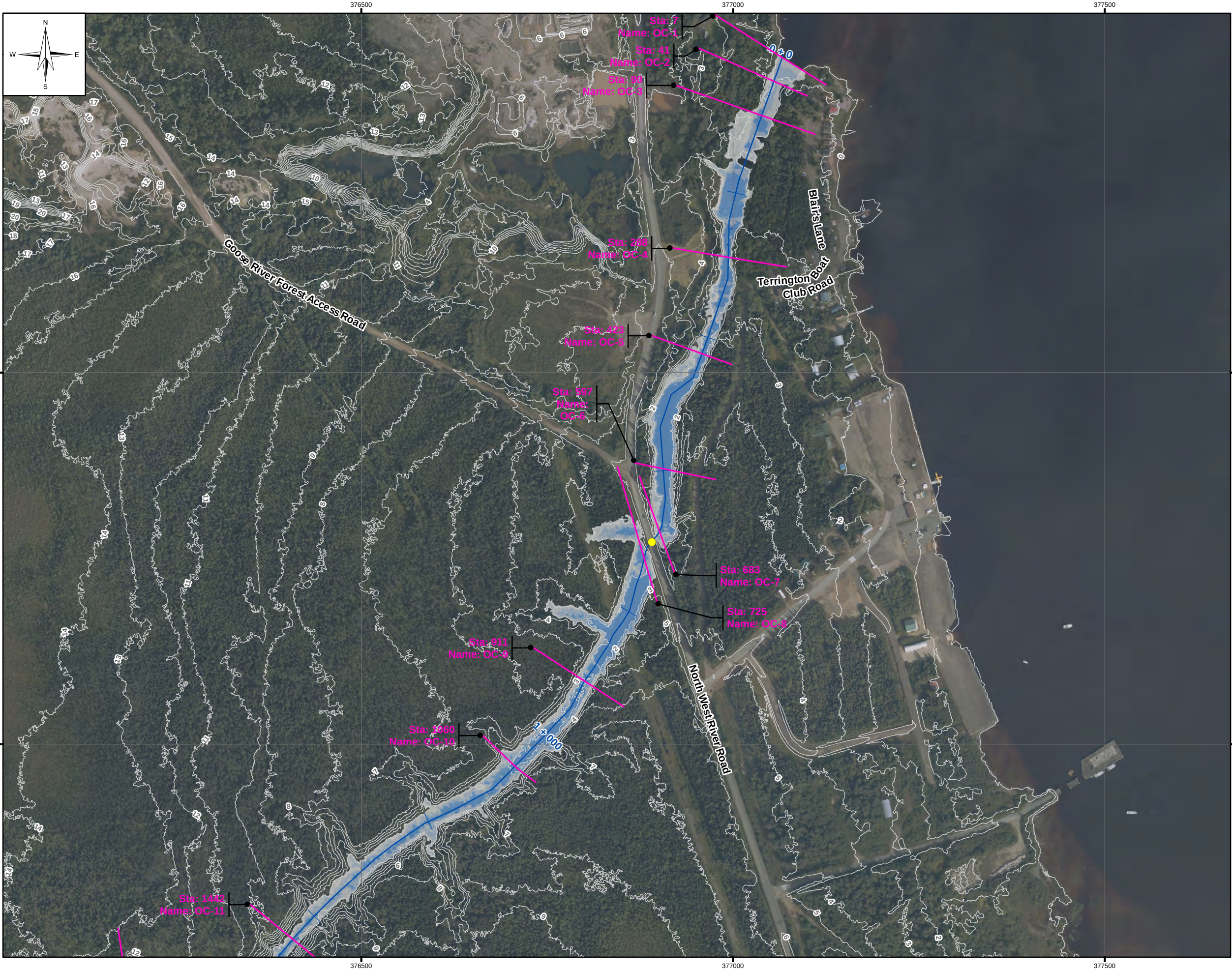


SCALE: 1:75,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM), Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).



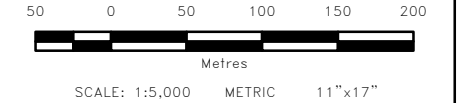
0	20/06/30	ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:20 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) CONDITIONS – CREEK OVERVIEW MAP					
JUNE 2020		FIGURE 3.1		REV:	0



LEGEND:

- Sta: 1252
Name: LCA - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- 1m LiDAR Contour
- Creek Centreline
- Limit of Mapping
- Modelled Culverts
- Water Depth (m)**
 - 0.0 – 0.5 m
 - 0.5 – 1.0 m
 - 1.0 – 1.5 m
 - 1.5 – 2.0 m
 - > 2.0 m color swatch"/> > 2.0 m

- NOTES:**
- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
 - Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.

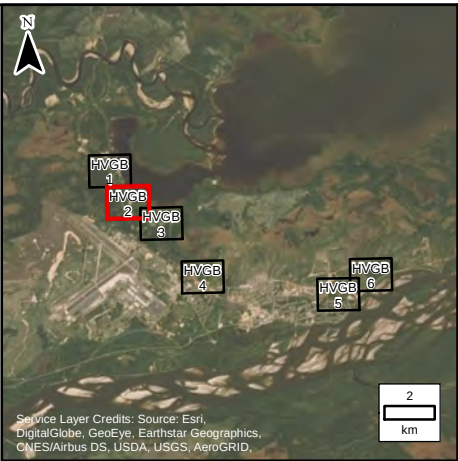
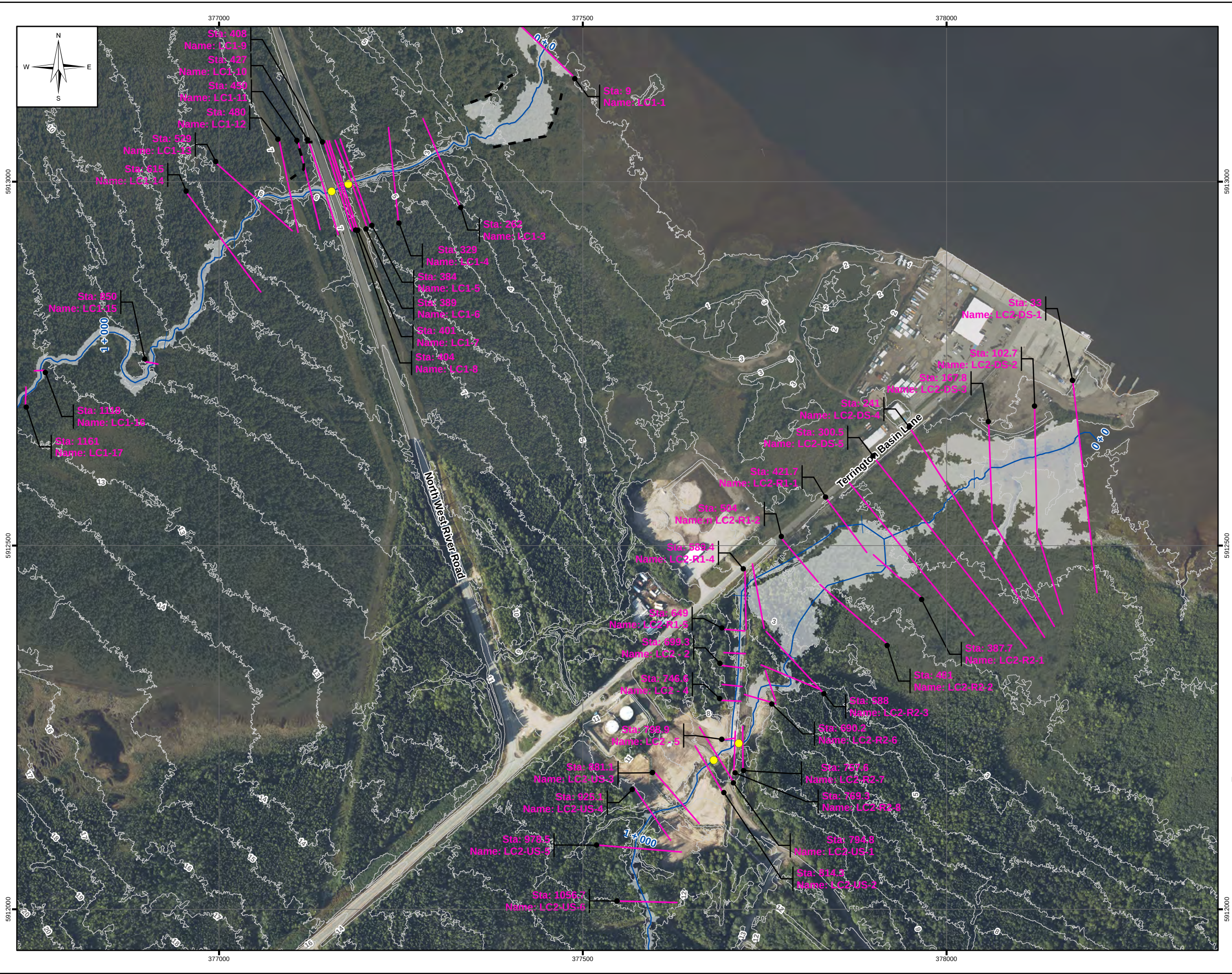


All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:20 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-1				
JUNE 2020		FIGURE 3.2		REV: 0

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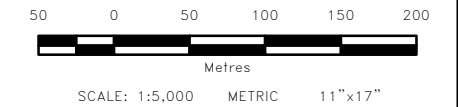
File Name: P:\Projects\2018\18-3217-001\Drawings\GIS\MXD\Flood_Mapping_Creeks\18-3217-001_Fig3.2_11x17.mxd
11"x17" PLOT SCALE 1:1



LEGEND:

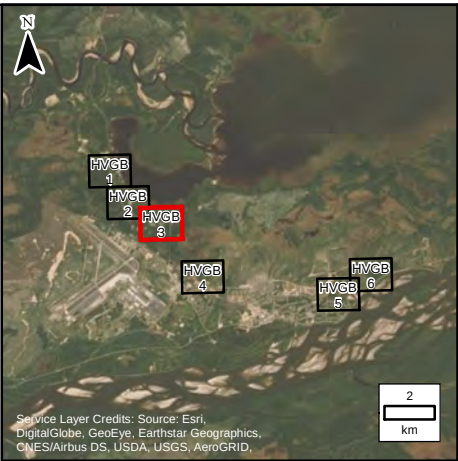
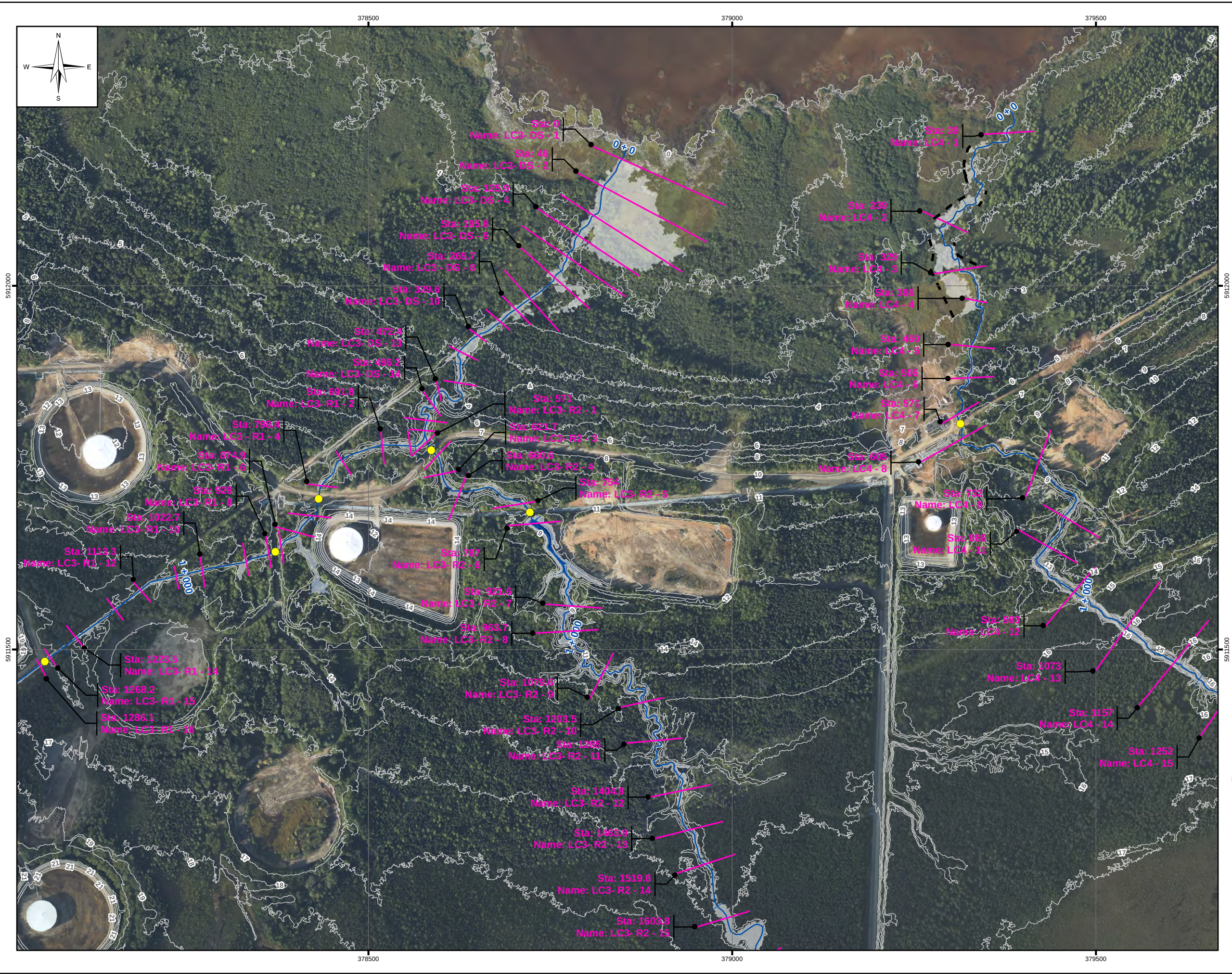
- Sta: 1252 Name: LC4-15 AEP 1:20: 12.0 m AEP 1:100: 12.1 m
- Cross Section
- 1m LiDAR Contour
- Creek Centreline
- Limit of Mapping
- Modelled Culverts
- Water Depth (m)
 - 0.0 - 0.5 m
 - 0.5 - 1.0 m
 - 1.0 - 1.5 m
 - 1.5 - 2.0 m
 - > 2.0 m

- NOTES:
- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
 - Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:20 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-2					
JUNE 2020		FIGURE 3.2		REV:	0

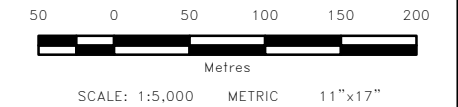


LEGEND:

- Sta: 1252
Name: LC4 - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- 1m LiDAR Contour
- Creek Centreline
- Limit of Mapping
- Modelled Culverts
- Water Depth (m)**
 - 0.0 – 0.5 m
 - 0.5 – 1.0 m
 - 1.0 – 1.5 m
 - 1.5 – 2.0 m
 - > 2.0 m

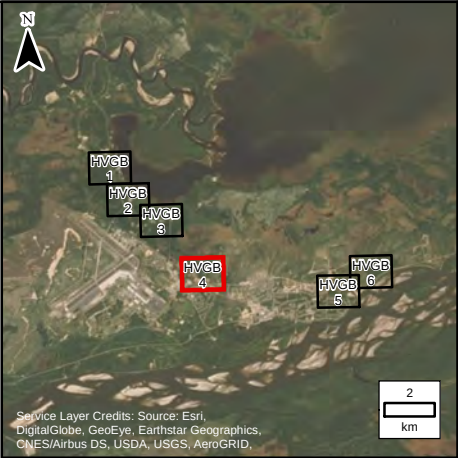
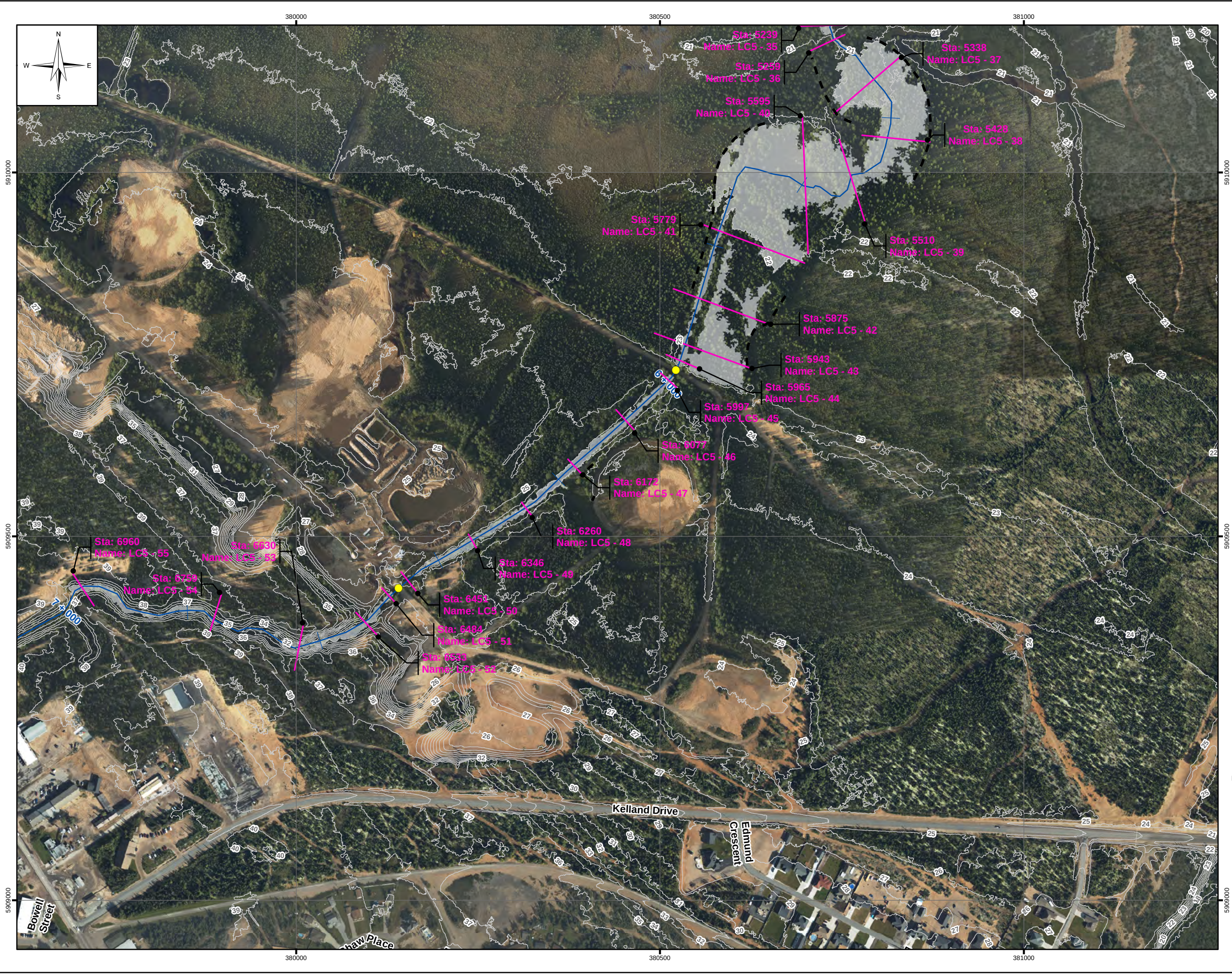
NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
- Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM)
Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:20 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-3					
JUNE 2020		FIGURE 3.2		REV:	0

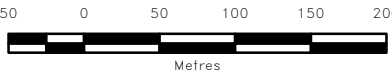


LEGEND:

- Sta: 1252
Name: LC4 - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- 1m LiDAR Contour
- Creek Centreline
- Limit of Mapping
- Modelled Culverts
- Water Depth (m)
 - 0.0 – 0.5 m
 - 0.5 – 1.0 m
 - 1.0 – 1.5 m
 - 1.5 – 2.0 m
 - > 2.0 m

NOTES:

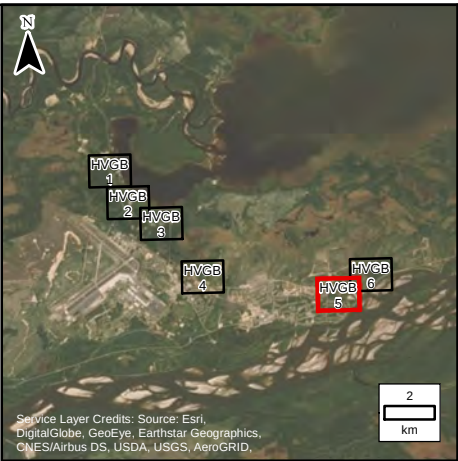
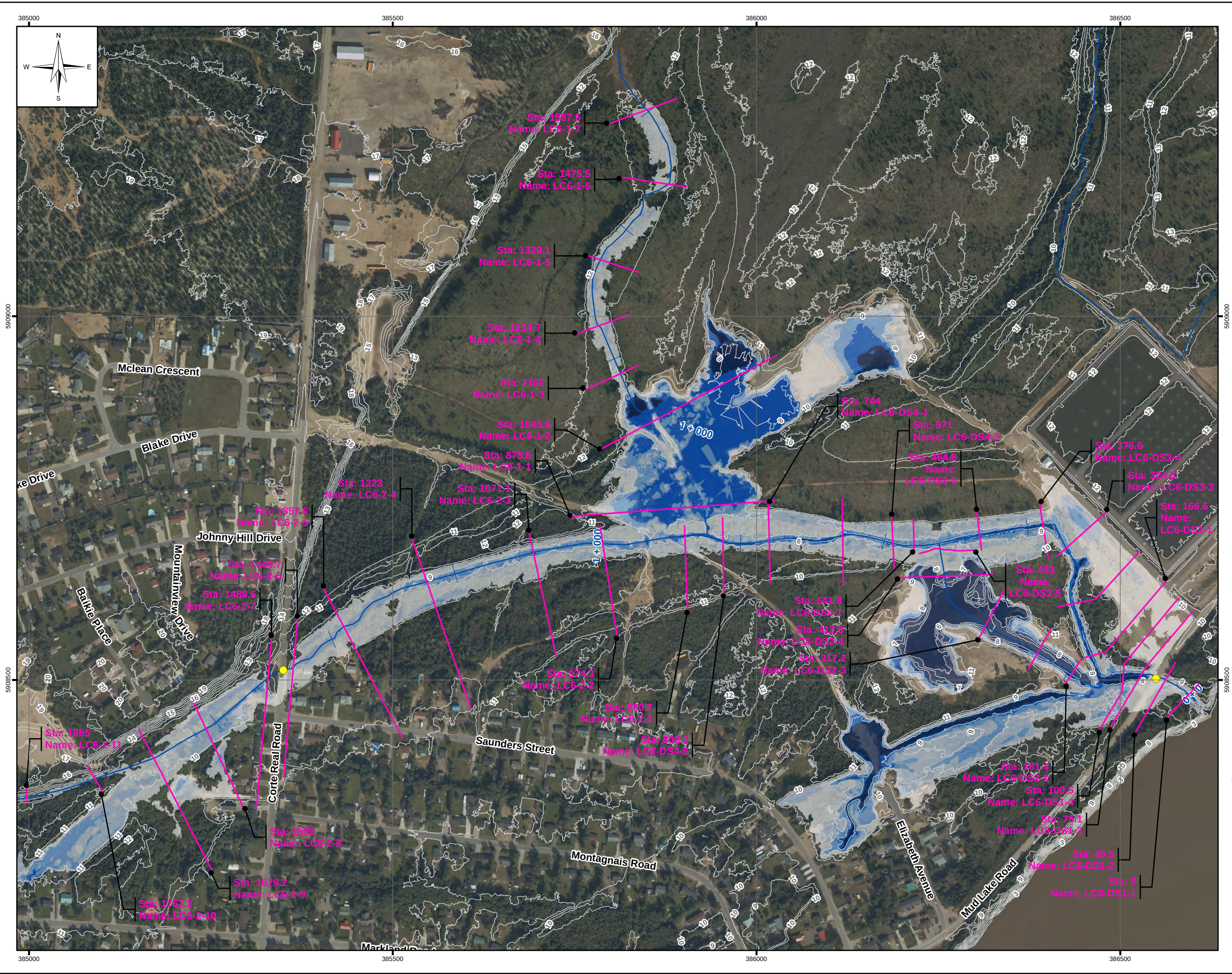
- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
- Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:20 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-4				
JUNE 2020		FIGURE 3.2		REV: 0

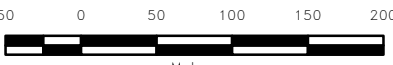


LEGEND:

- Sta: 1252
Name: LC4-15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- 1m LIDAR Contour
- Creek Centreline
- Limit of Mapping
- Modelled Culverts
- Water Depth (m)
 - 0.0 - 0.5 m
 - 0.5 - 1.0 m
 - 1.0 - 1.5 m
 - 1.5 - 2.0 m
 - > 2.0 m

NOTES:

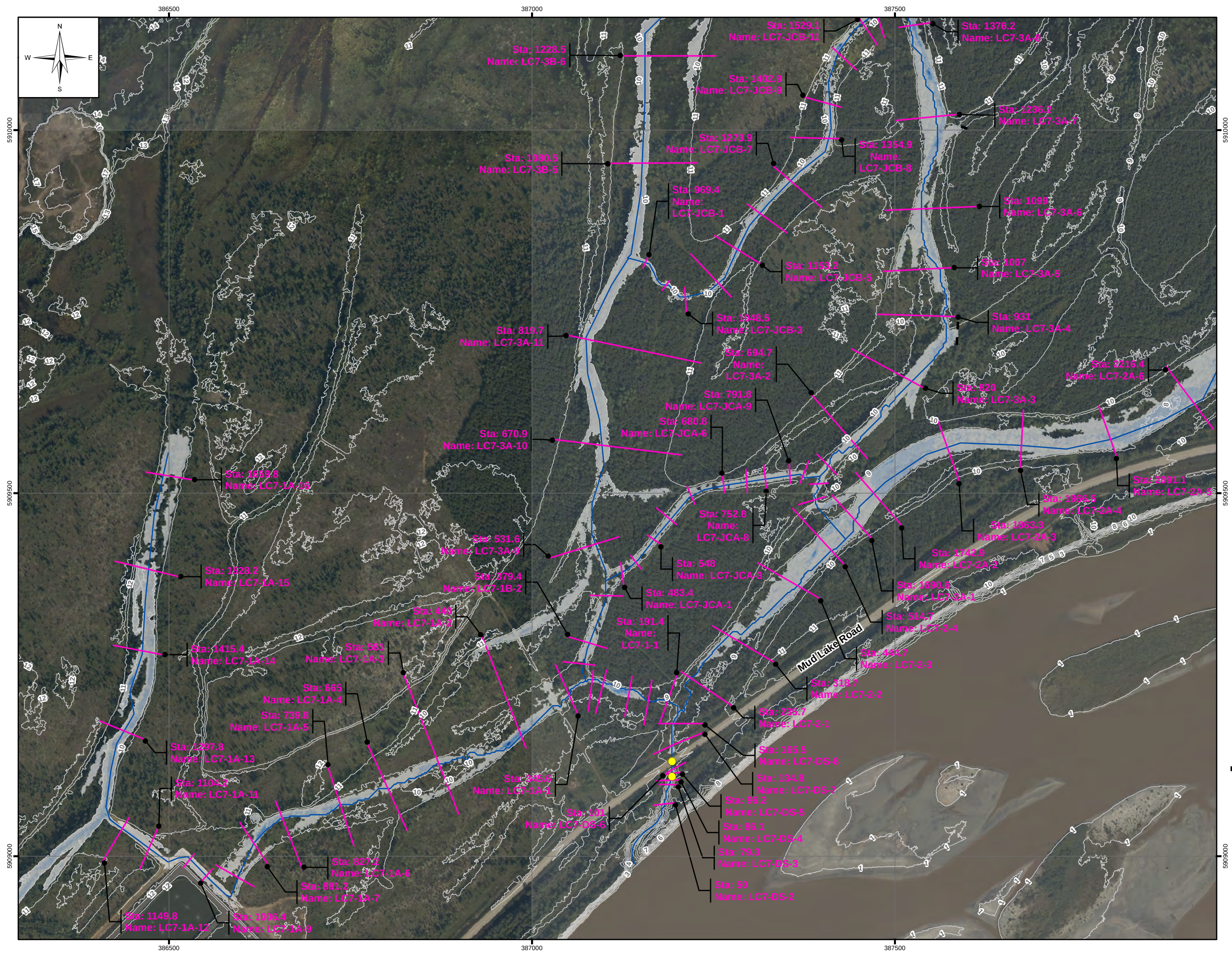
- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
- Topography shown was developed by KGS Group from the LIDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



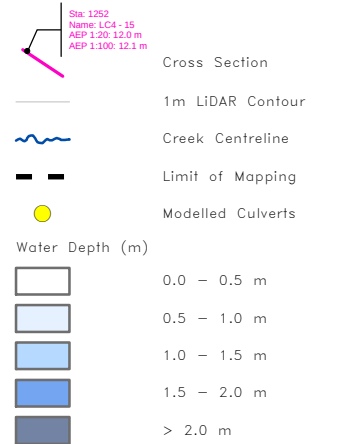
SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:20 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-5					
JUNE 2020		FIGURE 3.2		REV:	0

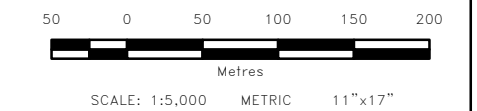


LEGEND:



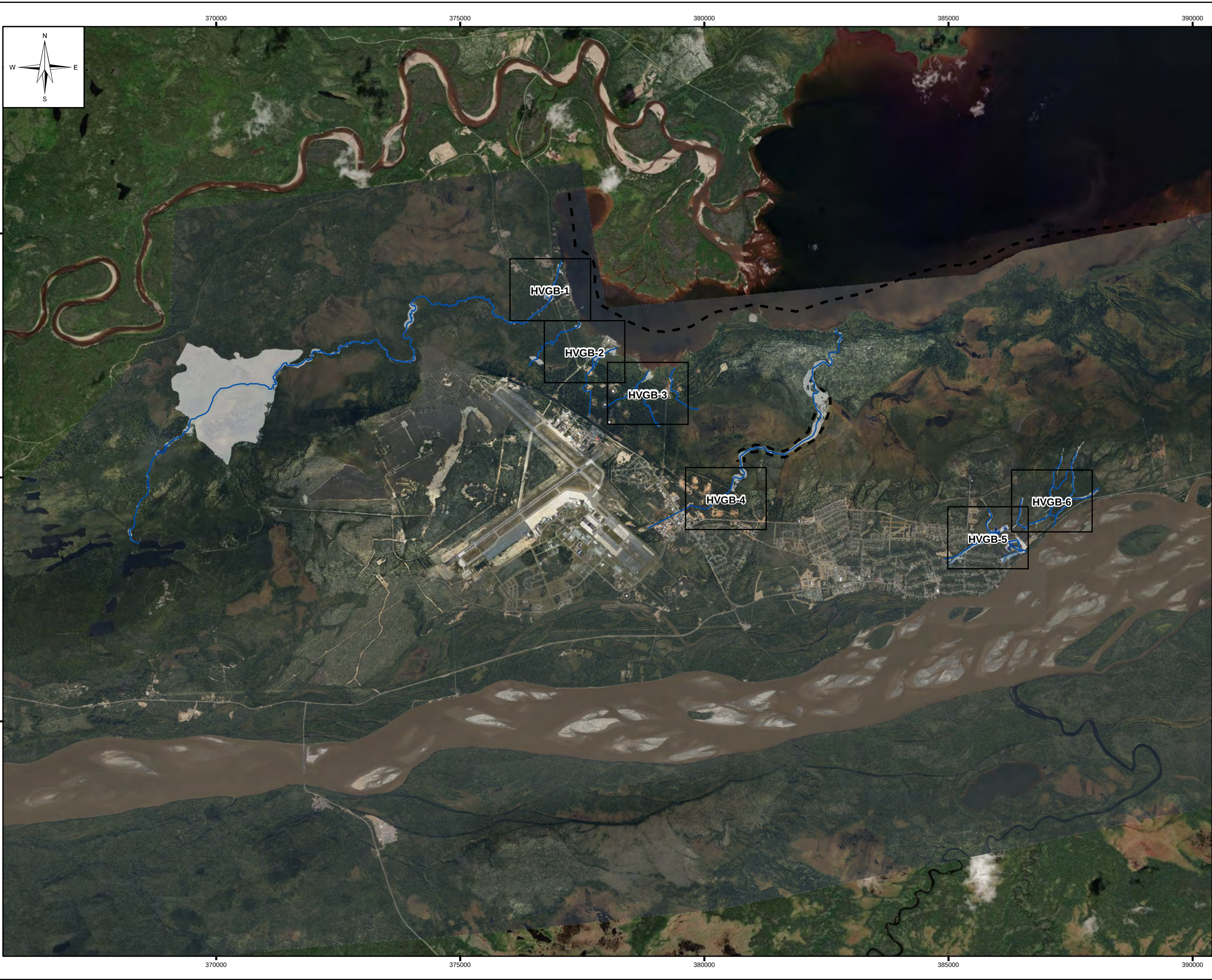
NOTES:

1. Imagery is supplied by ATLIS Geomatics and dated as September 11 – 13, 2019.
2. Topography shown was developed by KGS Group from the LiDAR captured by ATLIS Geomatics on September 11 – 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS
(NAD83), Modified Transverse Mercator Projection (MTM)
Zone 4. Elevations are in metres above sea level (MSL),
Canadian Geodetic Vertical Datum 2013 (CGVD2013).

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	NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
	REVISIONS / ISSUE				
					
	CHURCHILL RIVER FLOOD RISK AND FORECASTING				
	OPEN WATER 1:20 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-6				
	JUNE 2020		FIGURE 3.2		REV: 0

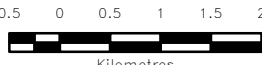


LEGEND:

- Creek Centreline
 - Map Extents
 - Limit of Mapping
- Water Depth (m)
- 0.0 – 0.5 m
 - 0.5 – 1.0 m
 - 1.0 – 1.5 m
 - 1.5 – 2.0 m
 - > 2.0 m

NOTES:

1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019, and by ESRI and DigitalGlobe, WV02 dated June 3, 2015.



SCALE: 1:75,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM), Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

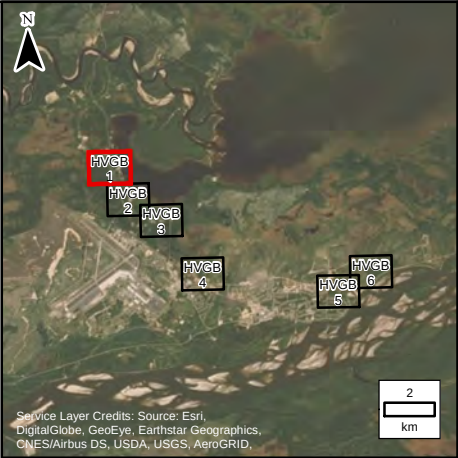
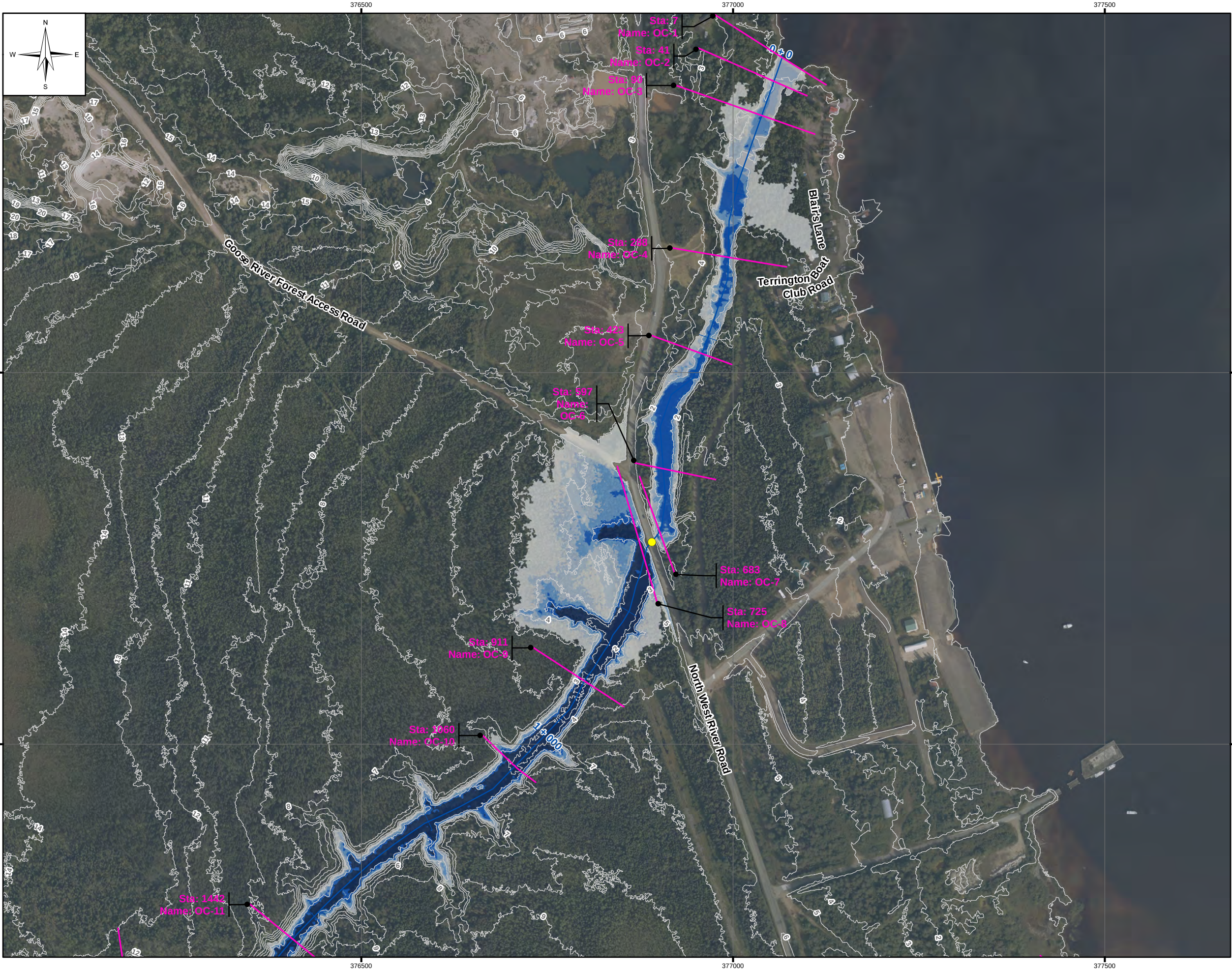
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NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				



CHURCHILL RIVER FLOOD RISK AND FORECASTING

OPEN WATER 1:100 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) CONDITIONS – CREEK OVERVIEW MAP

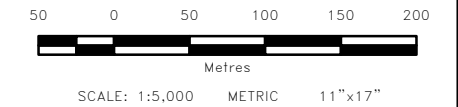
JUNE 2020	FIGURE 3.3	REV: 0
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LEGEND:

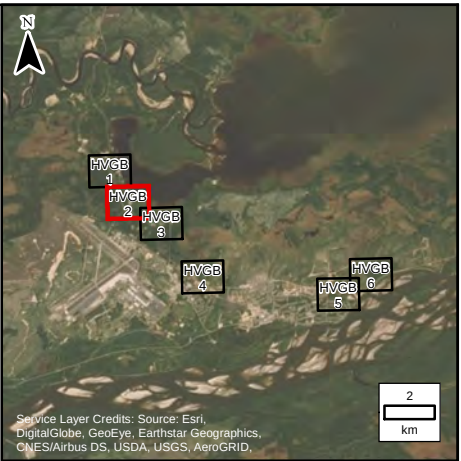
- Sta: 1252
Name: LCA - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.5 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Water Depth (m)**
- 0.0 – 0.5 m
- 0.5 – 1.0 m
- 1.0 – 1.5 m
- 1.5 – 2.0 m
- > 2.0 m

- NOTES:**
1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
 2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:100 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-1					
JUNE 2020		FIGURE 3.4		REV:	0



LEGEND:

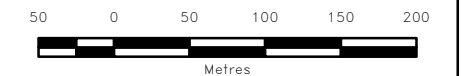
Sta: 1252
Name: LC4 - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m

-  Cross Section
-  Creek Centreline
-  1m LiDAR Contour
-  Limit of Mapping
-  Modelled Culverts

- Water Depth (m)
- | | |
|---|-------------|
|  | 0.0 – 0.5 m |
|  | 0.5 – 1.0 m |
|  | 1.0 – 1.5 m |
|  | 1.5 – 2.0 m |
|  | > 2.0 m |

NOTES:

1. Imagery is supplied by ATLIS Geomatics and dated as September 11 – 13, 2019.
2. Topography shown was developed by KGS Group from the LIDAR captured by ATLIS Geomatics on September 11 – 13, 2019.



SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS
(NAD83), Modified Transverse Mercator Projection (MTM),
Zone 4. Elevations are in metres above sea level (MSL),
Canadian Geodetic Vertical Datum 2013 (CGVD2013).

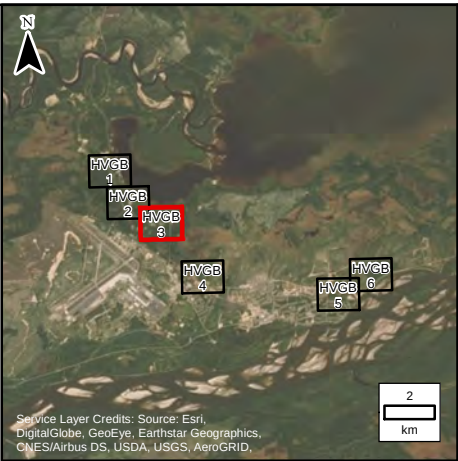
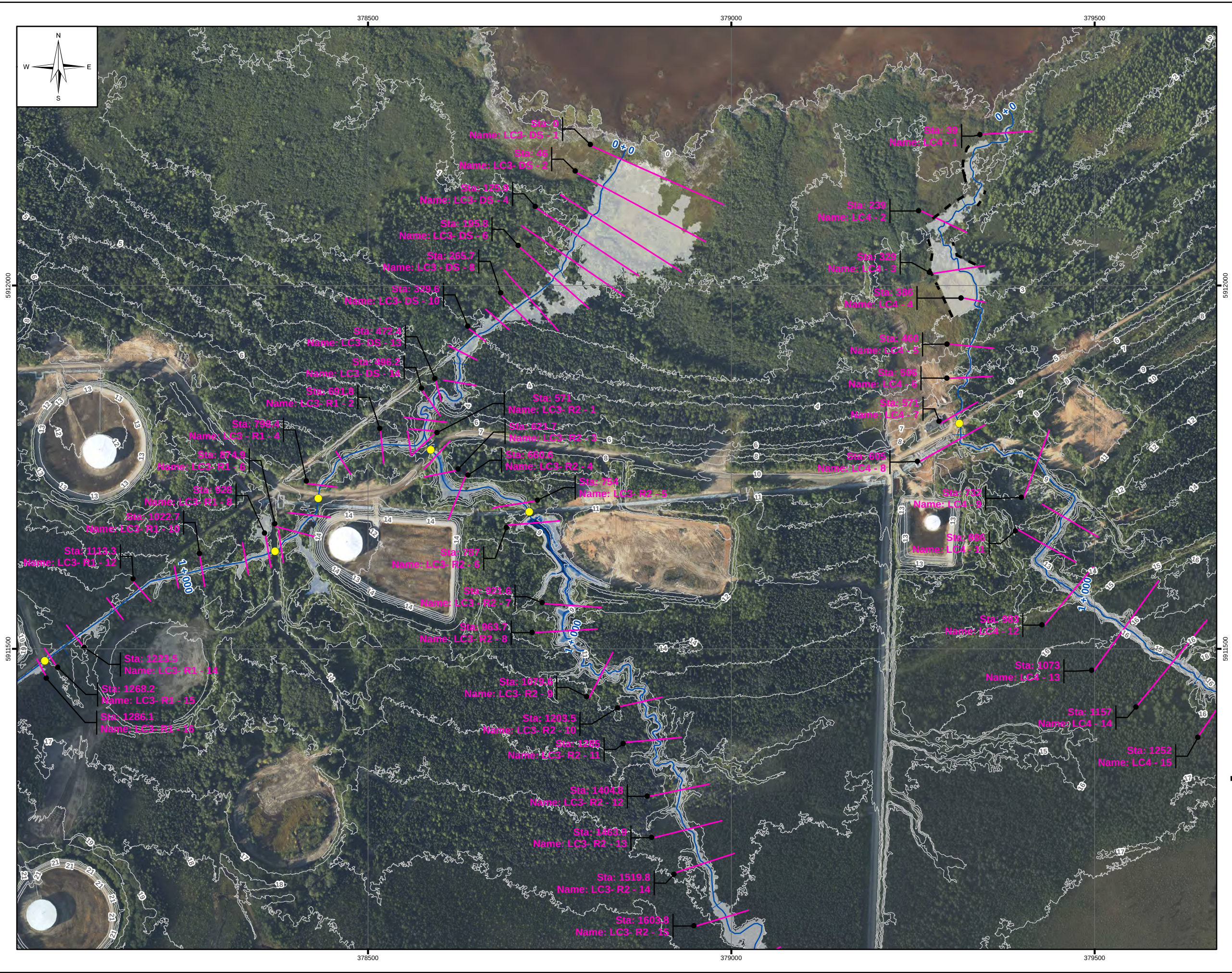
0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				

KGS GROUP CONSULTING ENGINEERS	 Newfoundland Labrador
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CHURCHILL RIVER FLOOD RISK
AND FORECASTING

OPEN WATER 1:100 YEAR INUNDATION DEPTH FOR
CURRENT CLIMATE, CURRENT DEVELOPMENT
(CC-CD) - HVGB-2

JUNE 2020	FIGURE 3.4	REV: 0
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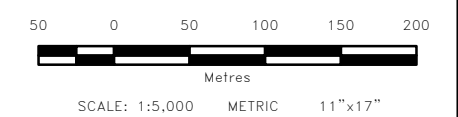
LEGEND:

- Sta: 1252
Name: LC4 - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts

- Water Depth (m)
- 0.0 - 0.5 m
 - 0.5 - 1.0 m
 - 1.0 - 1.5 m
 - 1.5 - 2.0 m
 - > 2.0 m

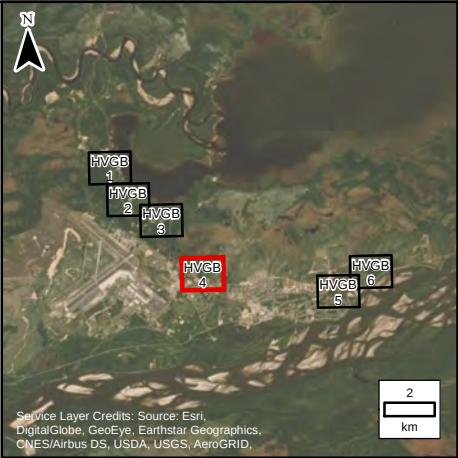
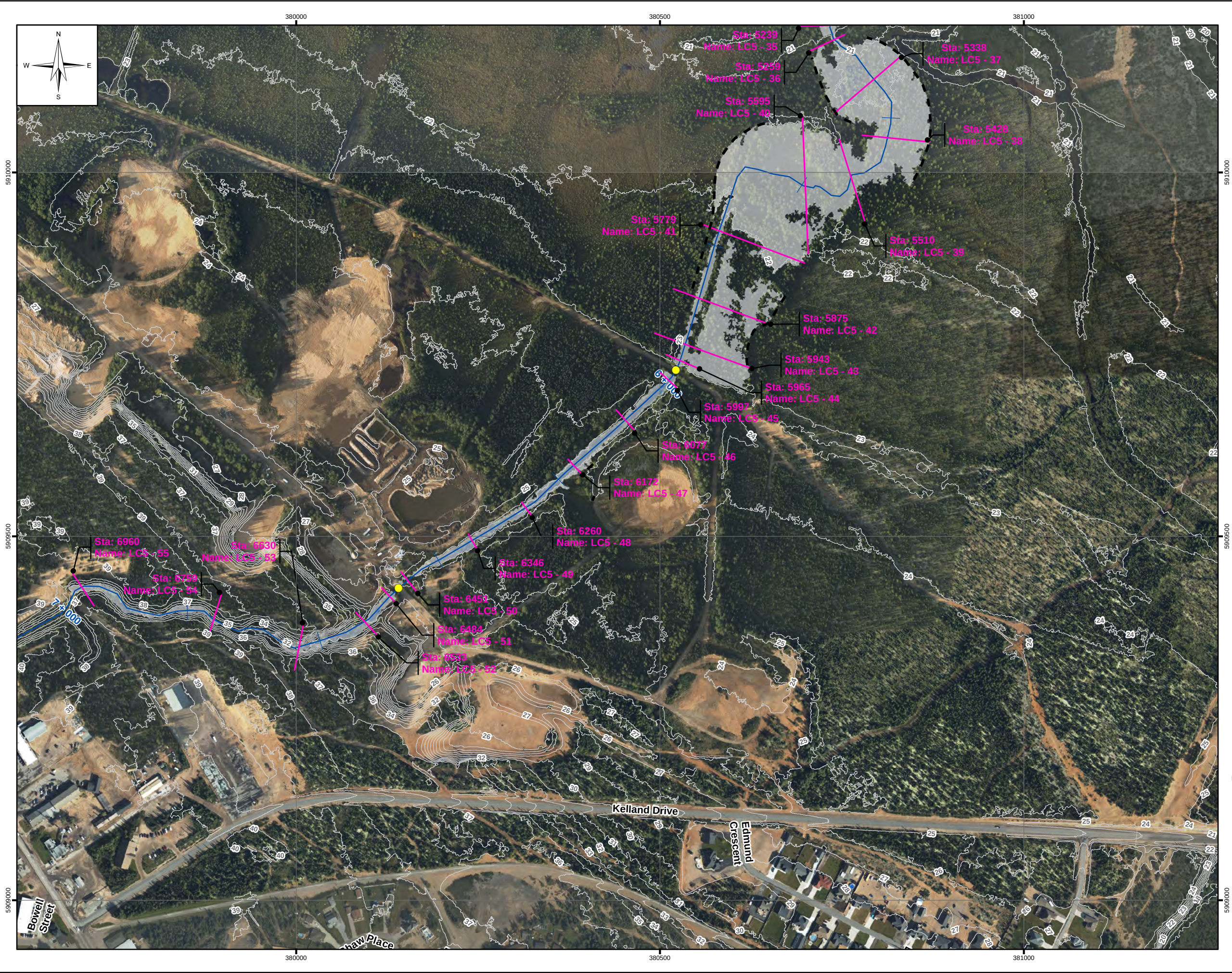
NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
- Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:100 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-3					
JUNE 2020		FIGURE 3.4		REV: 0	

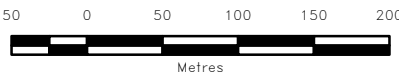


LEGEND:

- Sta: 1252
Name: LC4 - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Water Depth (m)
 - 0.0 – 0.5 m
 - 0.5 – 1.0 m
 - 1.0 – 1.5 m
 - 1.5 – 2.0 m
 - > 2.0 m

NOTES:

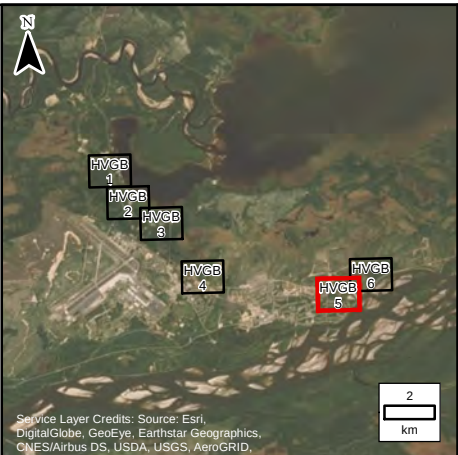
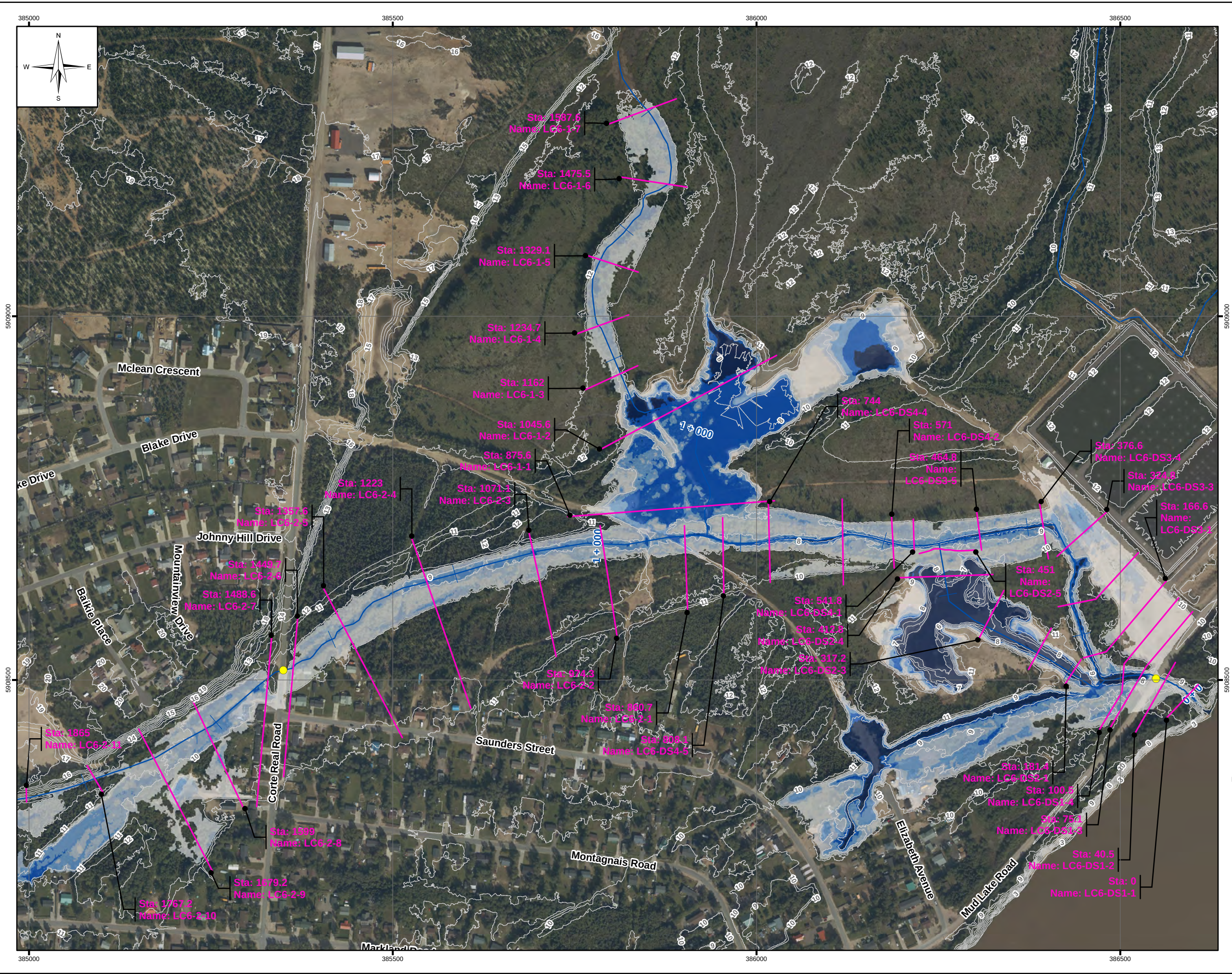
- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
- Topography shown was developed by KGS Group from the LIDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM)
Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:100 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-4				
JUNE 2020		FIGURE 3.4		REV: 0

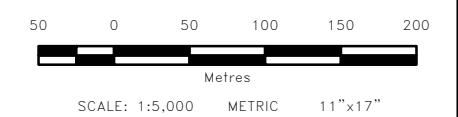


LEGEND:

- Sta: 1252
Name: LC4-15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Water Depth (m)
 - 0.0 - 0.5 m
 - 0.5 - 1.0 m
 - 1.0 - 1.5 m
 - 1.5 - 2.0 m
 - > 2.0 m

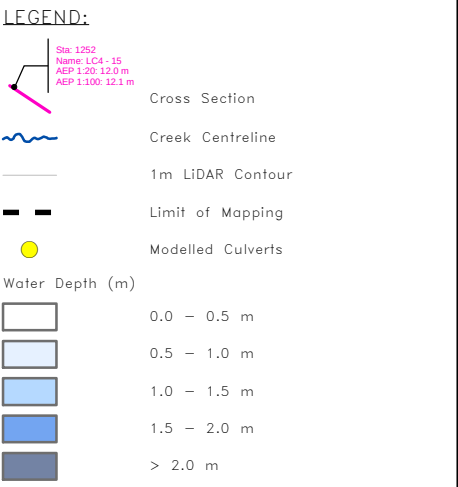
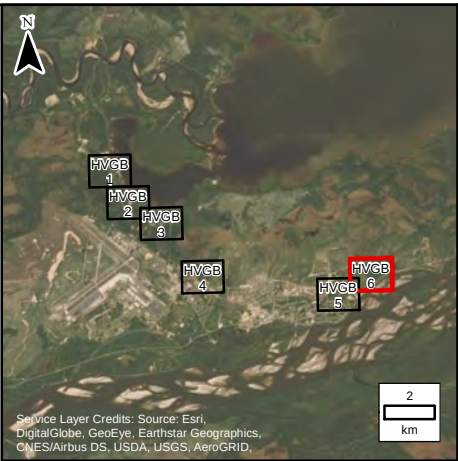
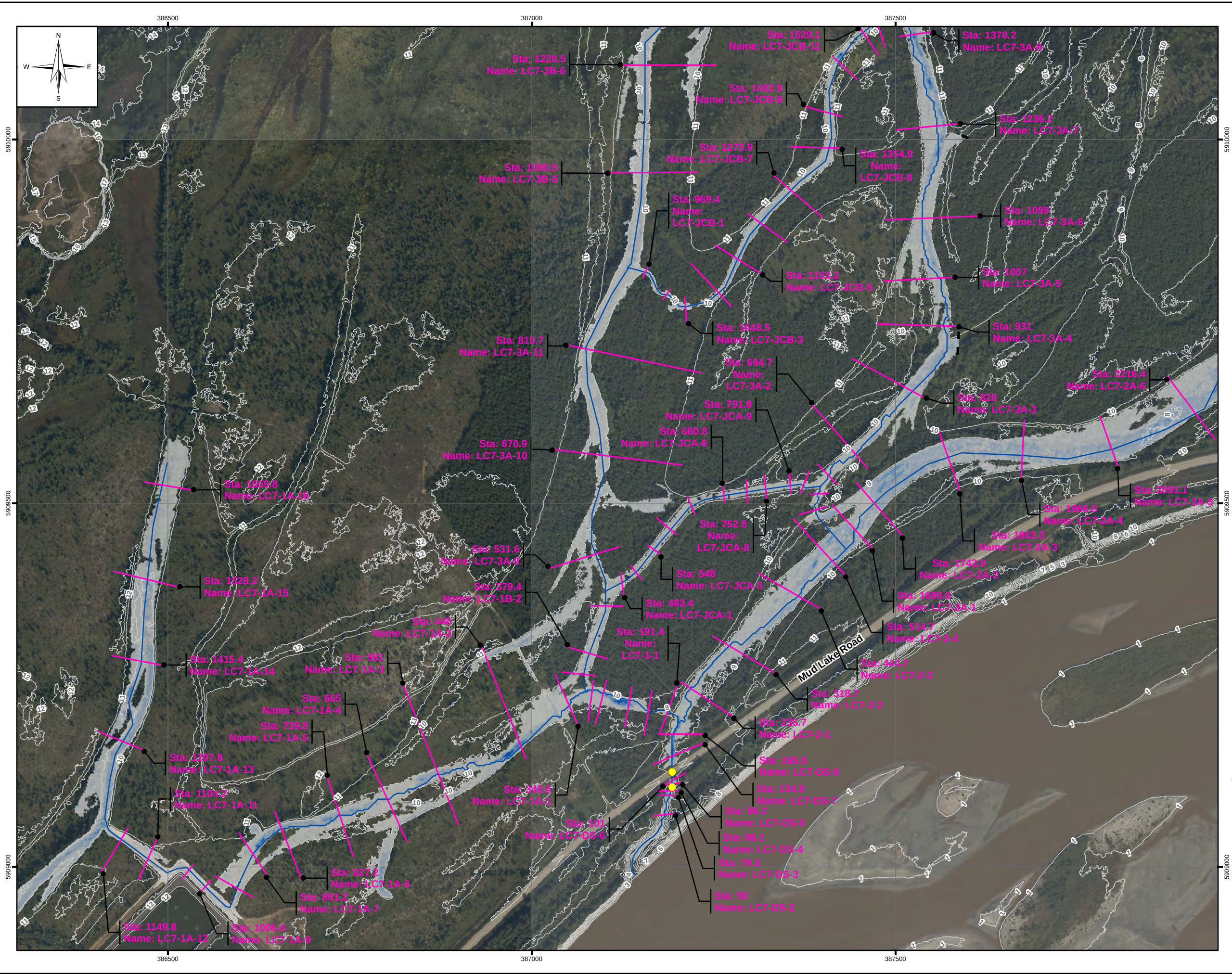
NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
- Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



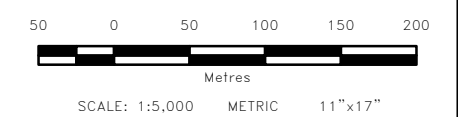
All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

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NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:100 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-5					
JUNE 2020		FIGURE 3.4		REV: 0	



NOTES:

1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:100 YEAR INUNDATION DEPTH FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-6					
JUNE 2020		FIGURE 3.4		REV: 0	

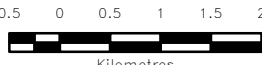


LEGEND:

- Creek Centreline
 - Map Extents
 - Limit of Mapping
- Velocity (m/s)
- 0.0 – 1.0 m/s
 - 1.0 – 2.0 m/s
 - 2.0 – 3.0 m/s
 - 3.0 – 4.0 m/s
 - > 4.00 m/s

NOTES:

1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019, and by ESRI and DigitalGlobe, WV02 dated June 3, 2015.



SCALE: 1:75,000 METRIC 11"x17"

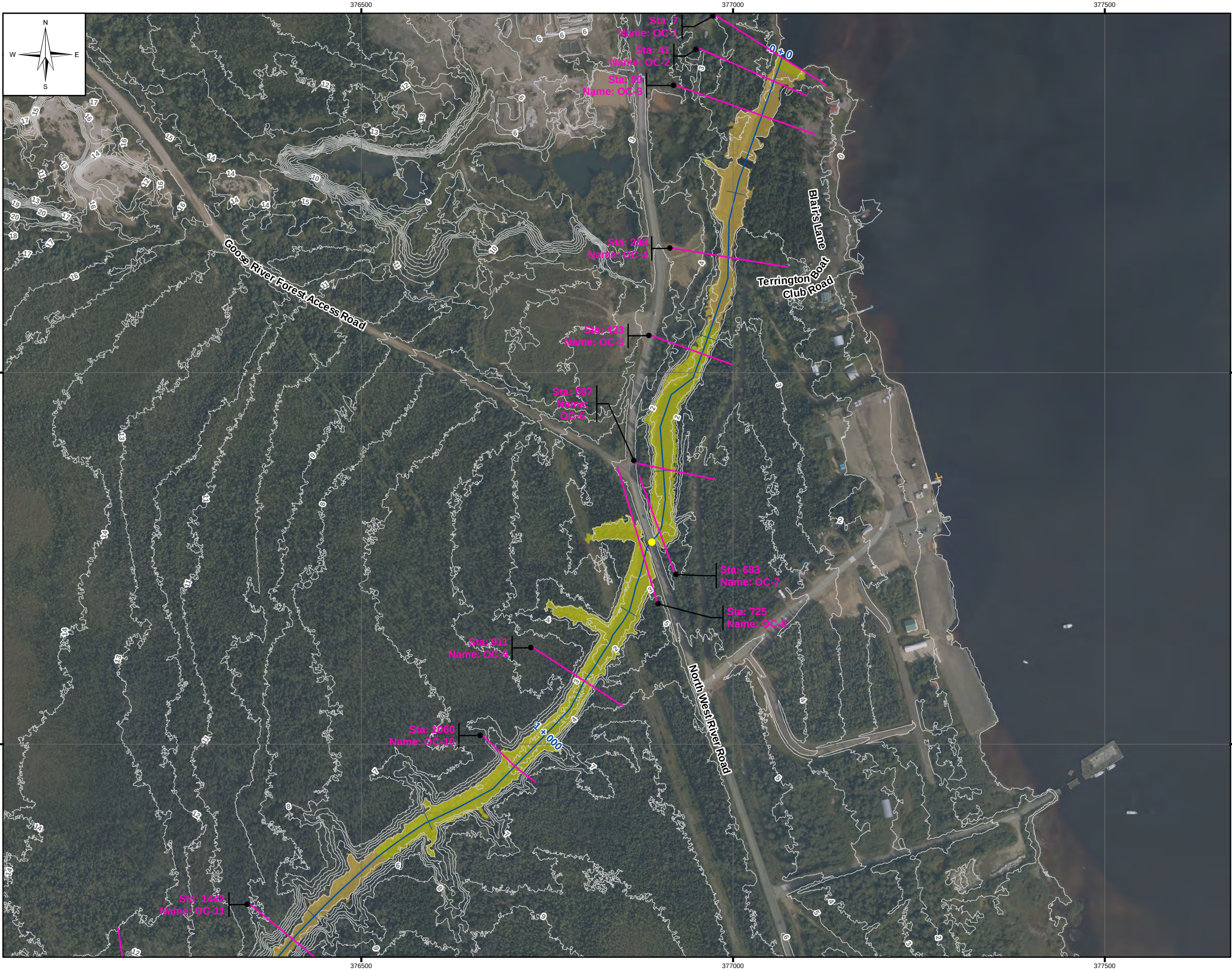
All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM), Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

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NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY

CHURCHILL RIVER FLOOD RISK AND FORECASTING

OPEN WATER 1:20 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) CONDITIONS – CREEK OVERVIEW MAP

JUNE 2020	FIGURE 4.1	REV: 0
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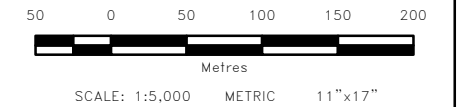


LEGEND:

- Sta: 1252
Name: LCA - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)**
- 0.0 – 1.0 m/s
- 1.0 – 2.0 m/s
- 2.0 – 3.0 m/s
- 3.0 – 4.0 m/s
- > 4.00 m/s

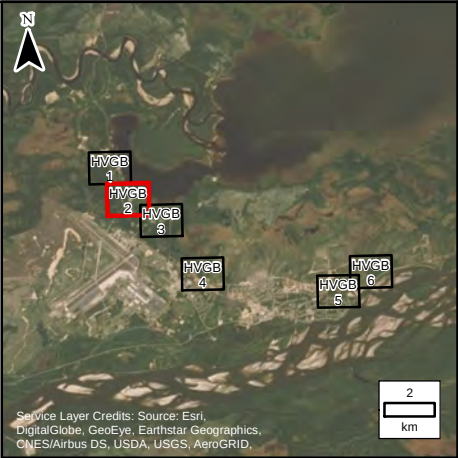
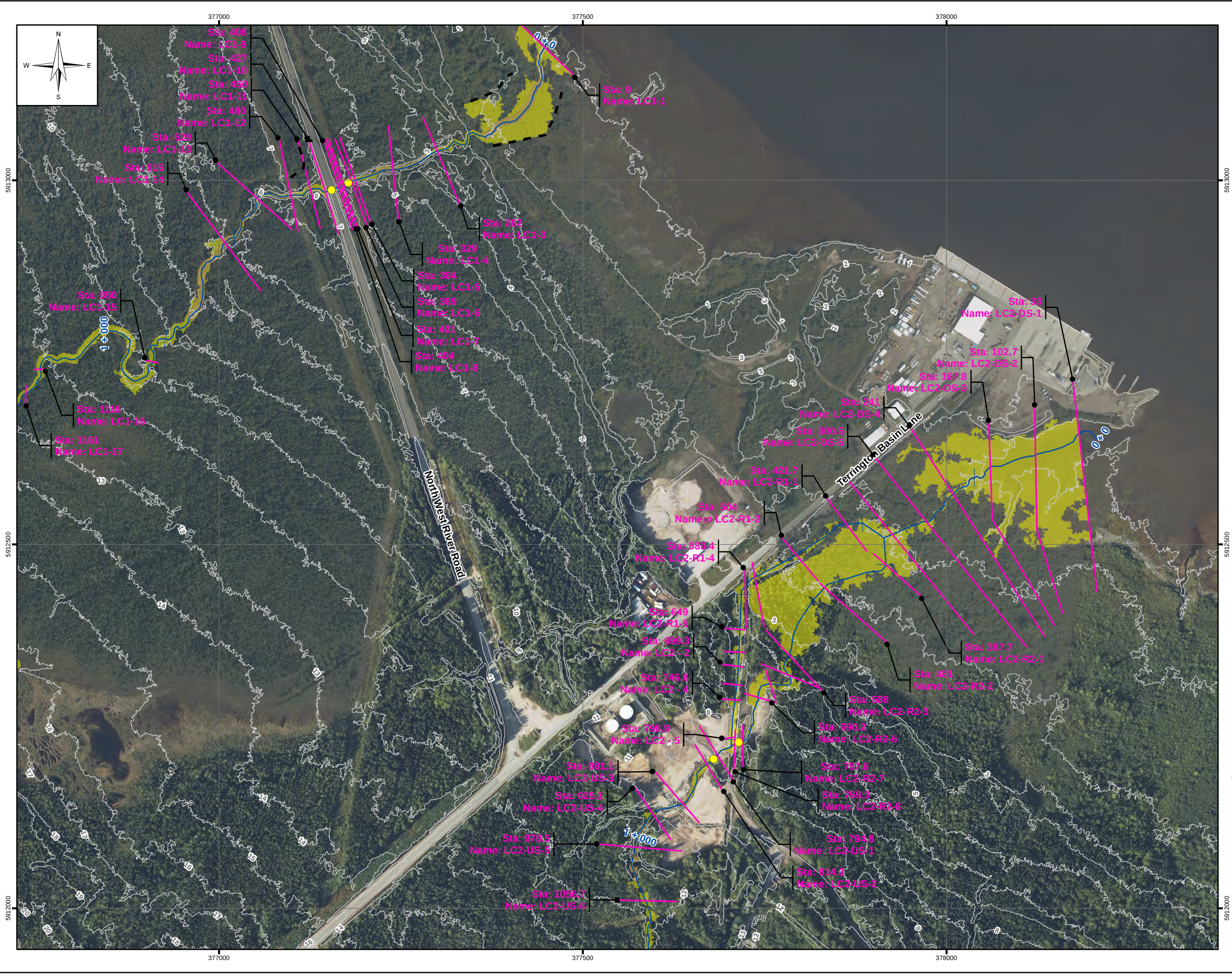
NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
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Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT		DSB	MSW		
NO.		YY/MM/DD		DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE							
							
CHURCHILL RIVER FLOOD RISK AND FORECASTING							
OPEN WATER 1:20 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-1							
JUNE 2020				FIGURE 4.2			REV: 0



LEGEND:

- Sta: 1252
Name: LC1-15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)
 - 0.0 - 1.0 m/s
 - 1.0 - 2.0 m/s
 - 2.0 - 3.0 m/s
 - 3.0 - 4.0 m/s
 - > 4.00 m/s

NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
- Topography shown was developed by KGS Group from the LIDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

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REVISIONS / ISSUE				



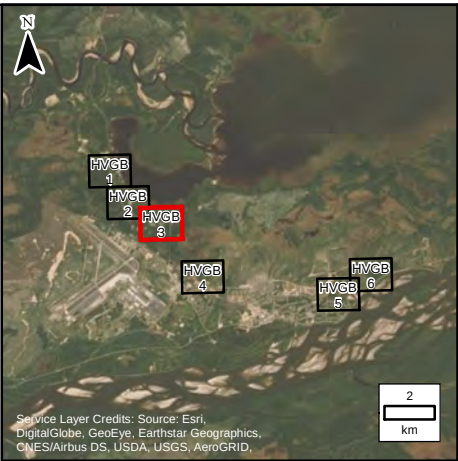
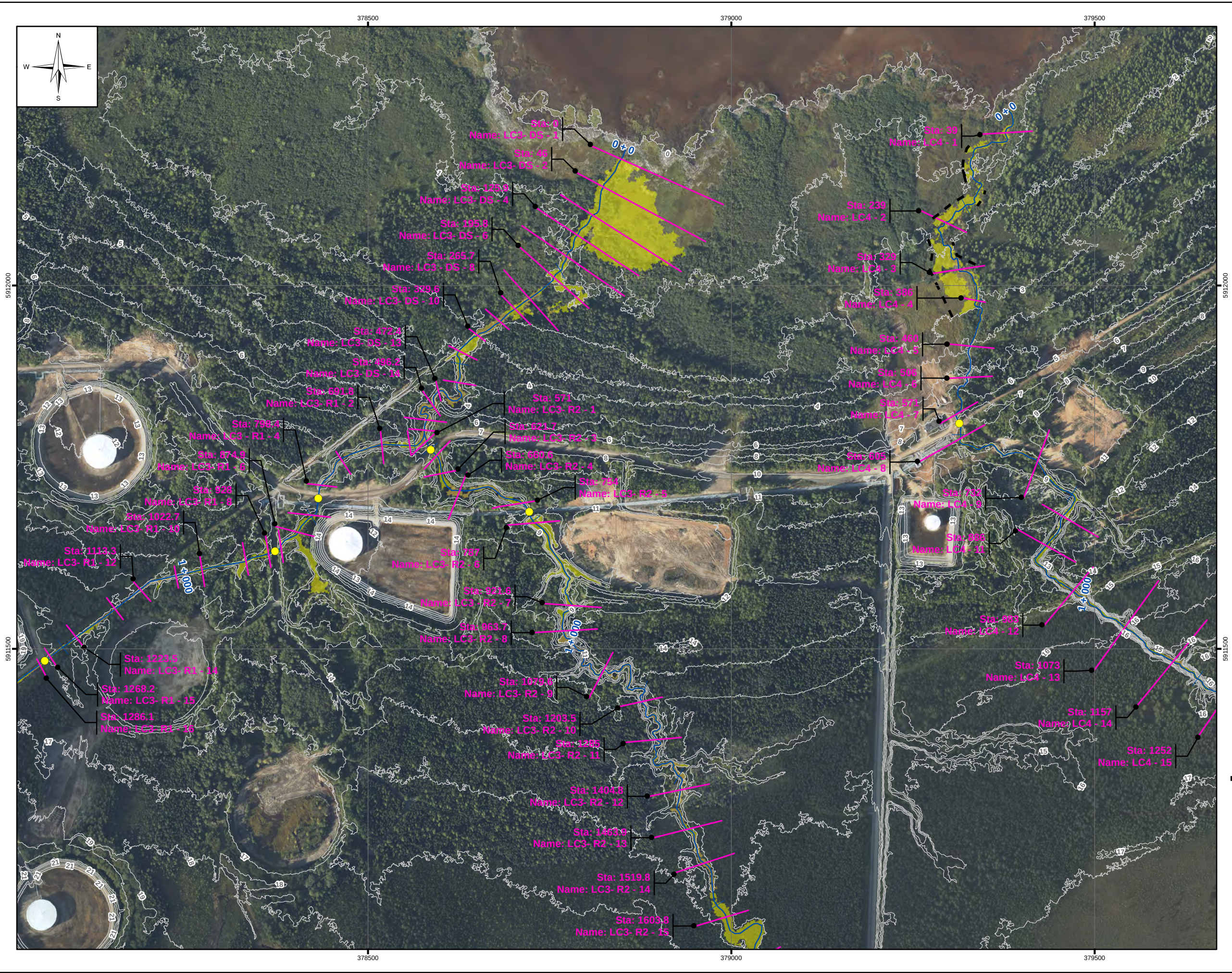
CHURCHILL RIVER FLOOD RISK AND FORECASTING

OPEN WATER 1:20 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) - HVGB-2

JUNE 2020	FIGURE 4.2	REV: 0
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File Name: P:\Projects\2018\18-3217-001\Drawings\GIS\MXD\Flood_Mapping_Creeks\18-3217-001_Fig4.2_11x17.mxd
11"x17" PLOT SCALE 1:1

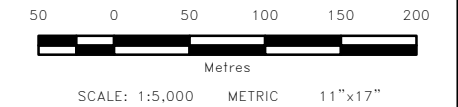


LEGEND:

- Sta: 1252
Name: LC4 - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)**
 - 0.0 – 1.0 m/s
 - 1.0 – 2.0 m/s
 - 2.0 – 3.0 m/s
 - 3.0 – 4.0 m/s
 - > 4.00 m/s

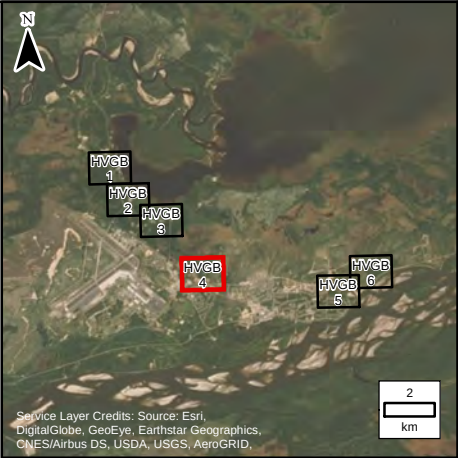
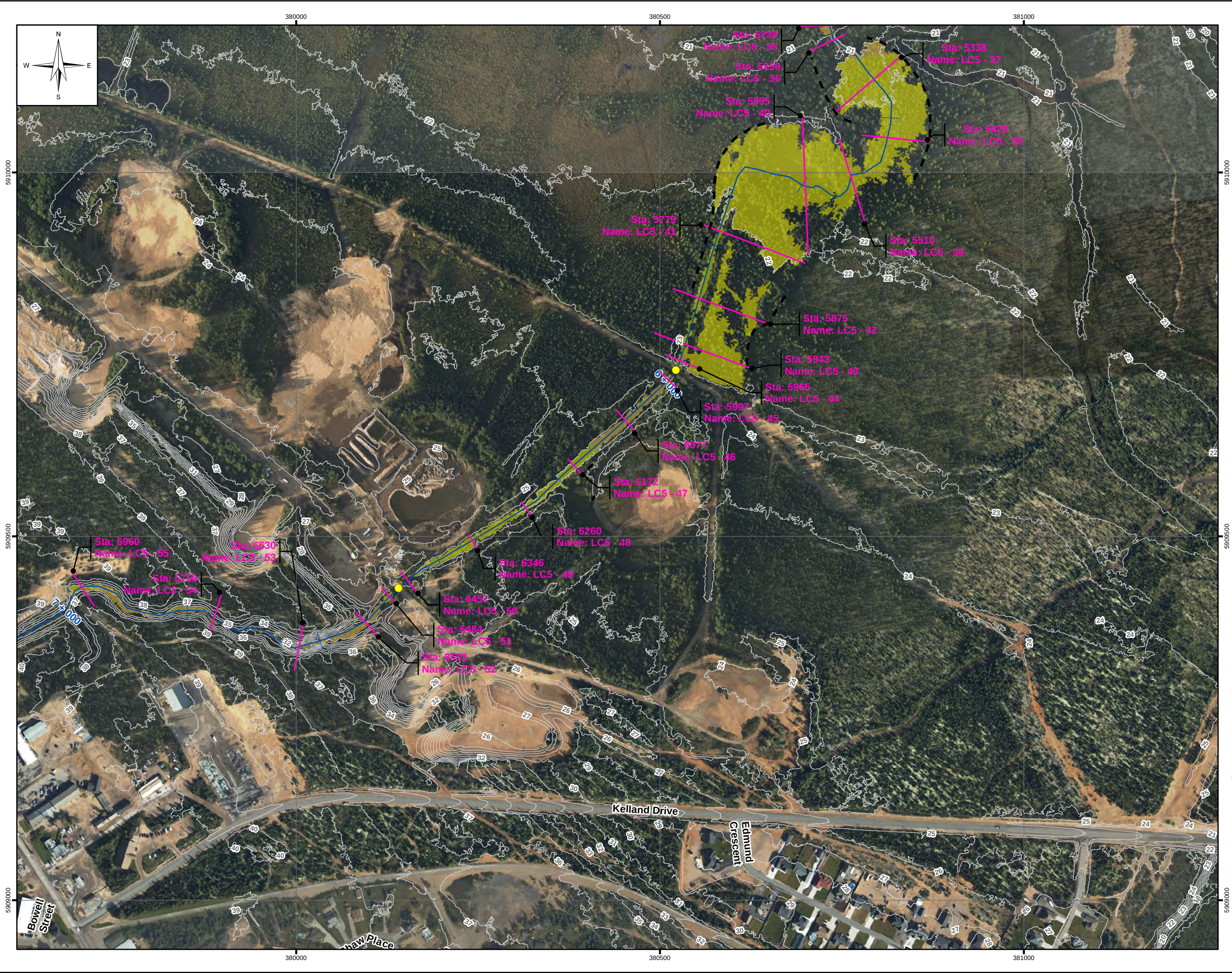
NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
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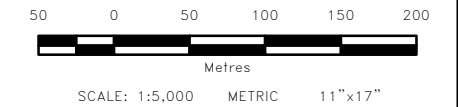
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NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:20 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-3				
JUNE 2020		FIGURE 4.2	REV:	0



LEGEND:

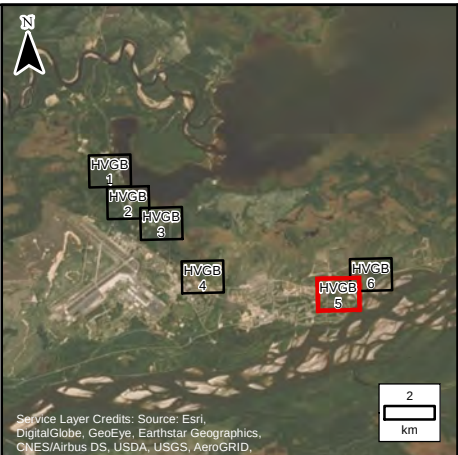
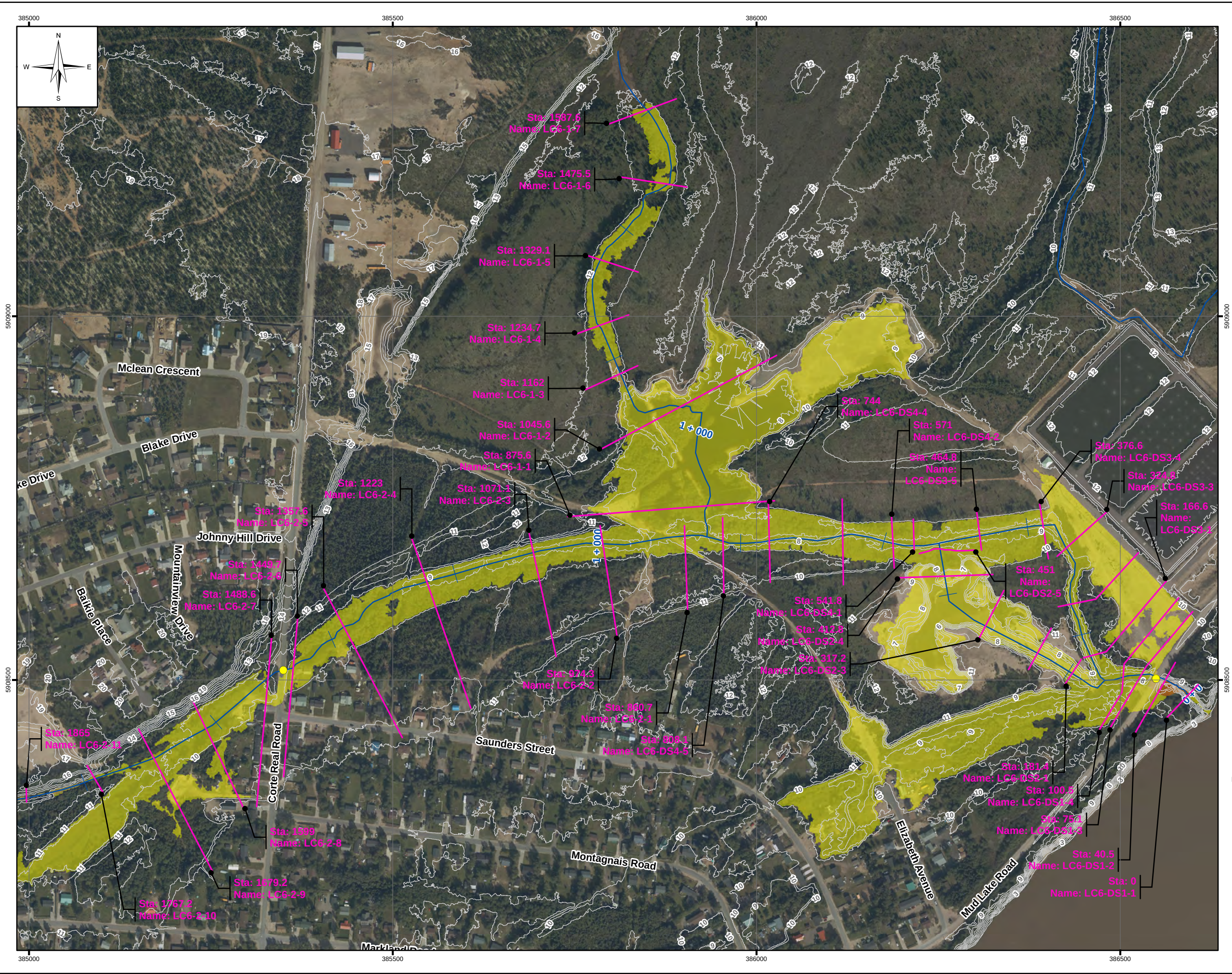
- Sta: 1252
Name: LC5 - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)
 - 0.0 – 1.0 m/s
 - 1.0 – 2.0 m/s
 - 2.0 – 3.0 m/s
 - 3.0 – 4.0 m/s
 - > 4.00 m/s

- NOTES:
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0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:20 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-4				
JUNE 2020		FIGURE 4.2	REV:	0



LEGEND:

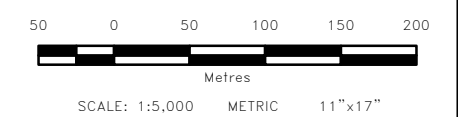
- Sta: 1252
Name: LC4-15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts

Velocity (m/s)

- 0.0 – 1.0 m/s
- 1.0 – 2.0 m/s
- 2.0 – 3.0 m/s
- 3.0 – 4.0 m/s
- > 4.00 m/s

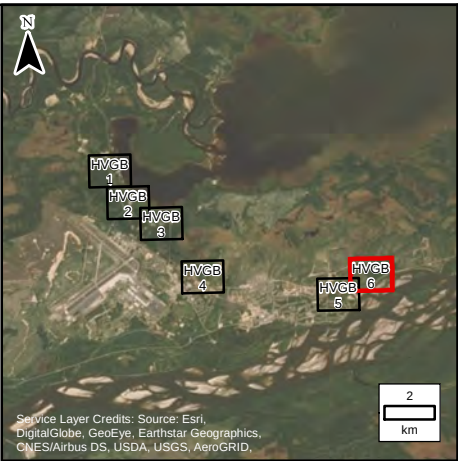
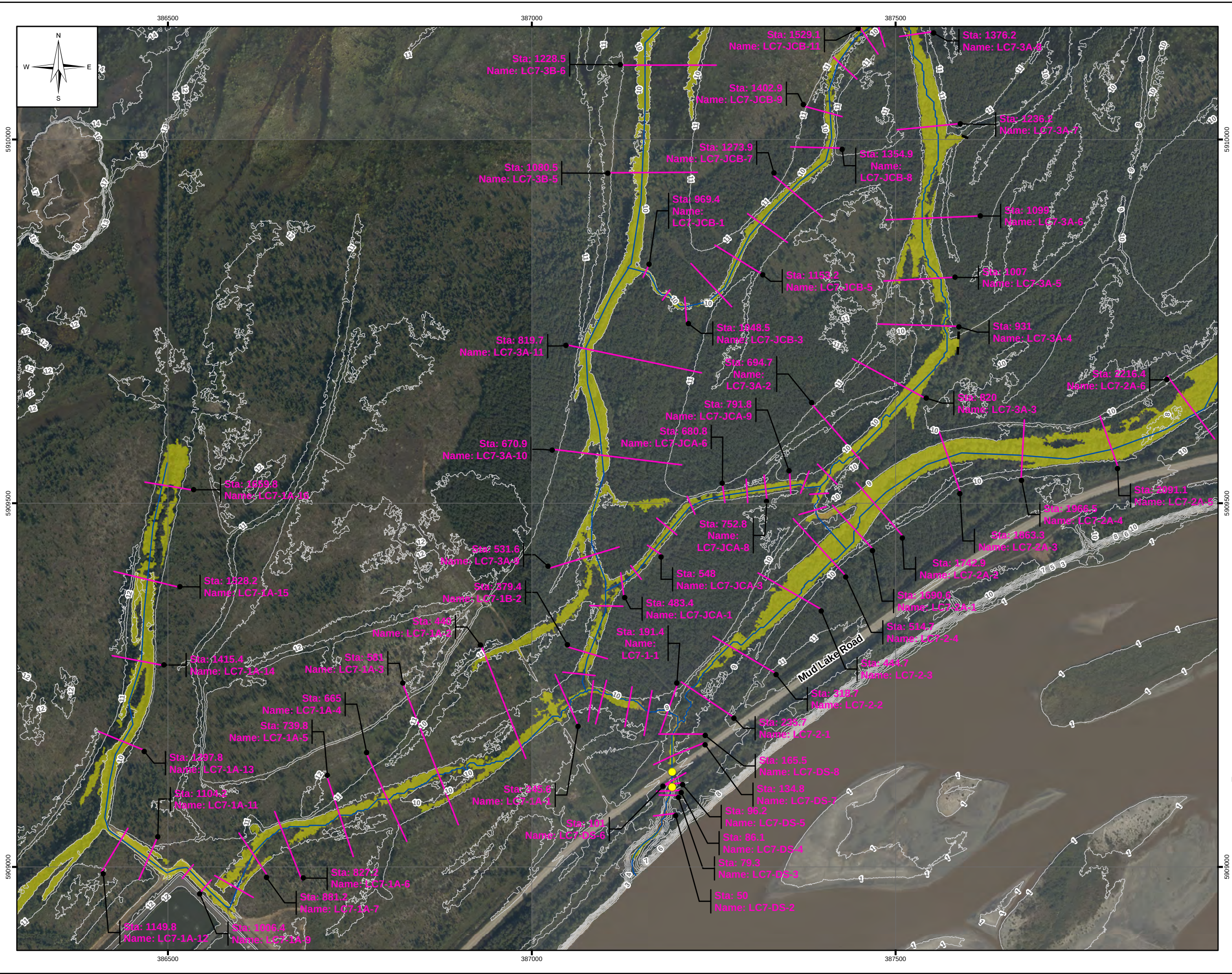
NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
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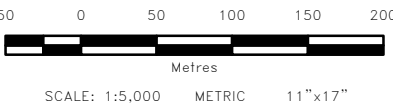
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NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:20 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-5					
JUNE 2020		FIGURE 4.2		REV:	0



LEGEND:

- Sta: 1252
Name: LC4-15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)
 - 0.0 – 1.0 m/s
 - 1.0 – 2.0 m/s
 - 2.0 – 3.0 m/s
 - 3.0 – 4.0 m/s
 - > 4.00 m/s

- NOTES:
- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
 - Topography shown was developed by KGS Group from the LIDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



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Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM), Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

Q	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:20 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-6				
JUNE 2020		FIGURE 4.2		REV: 0



LEGEND:

- Creek Centreline
- Map Extents
- Limit of Mapping

Velocity (m/s)

0.0 – 1.0 m/s
1.0 – 2.0 m/s
2.0 – 3.0 m/s
3.0 – 4.0 m/s
> 4.00 m/s

NOTES:

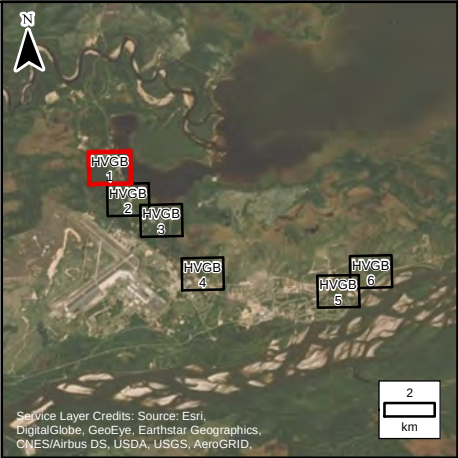
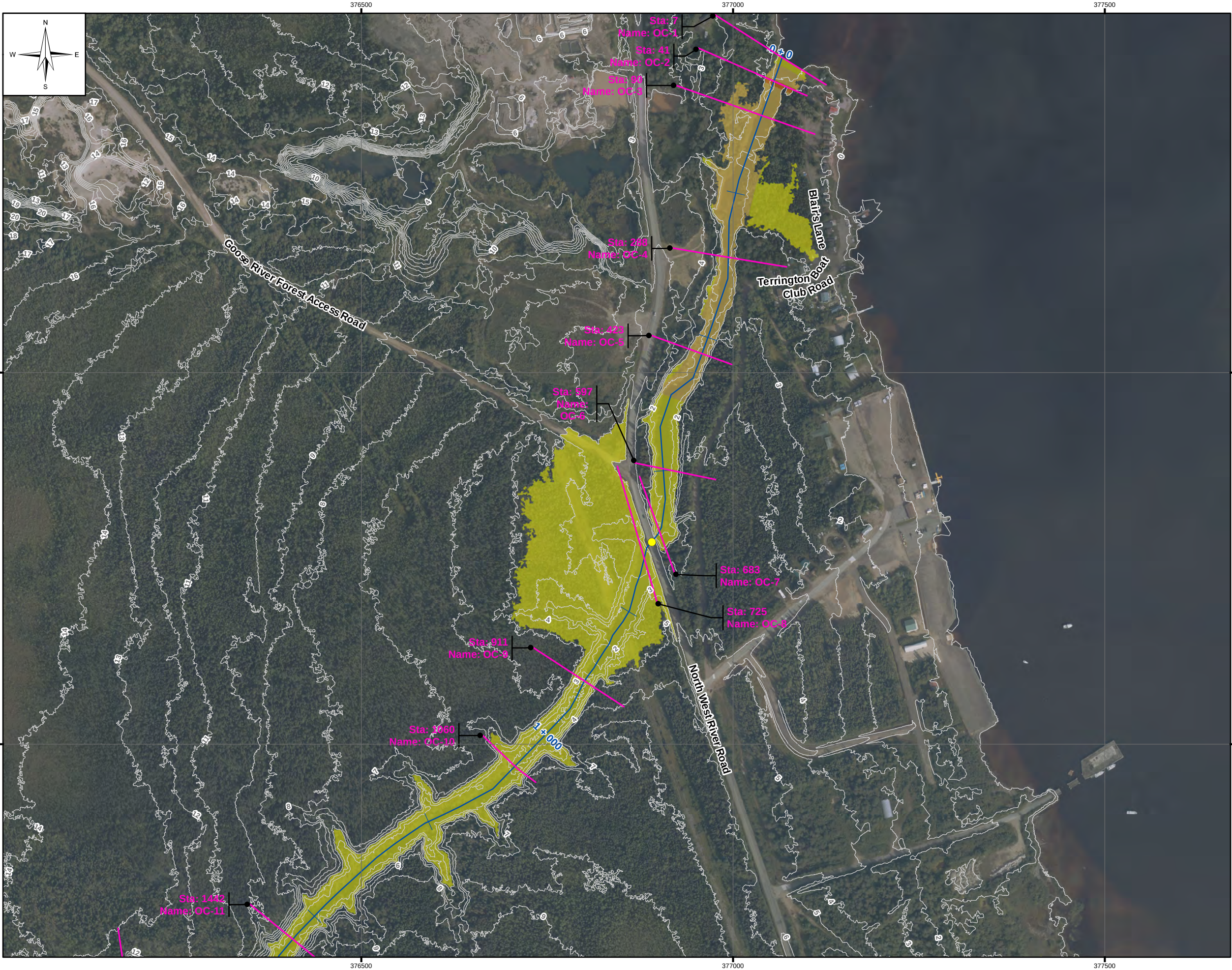
1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019, and by ESRI and DigitalGlobe, WV02 dated June 3, 2015.

0.5 0 0.5 1 1.5 2
Kilometres

SCALE: 1:75,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM), Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

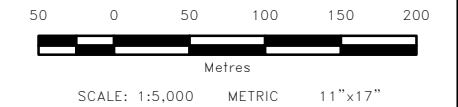
0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:100 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) CONDITIONS – CREEK OVERVIEW MAP				
JUNE 2020		FIGURE 4.3	REV:	0



LEGEND:

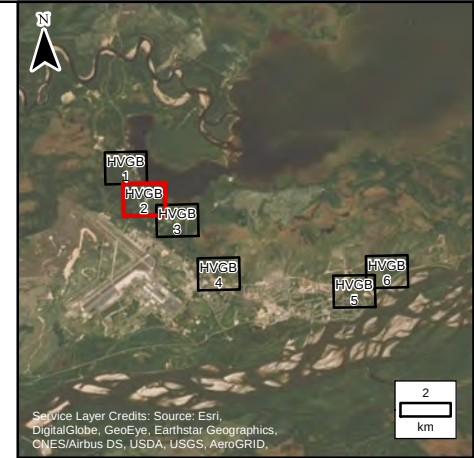
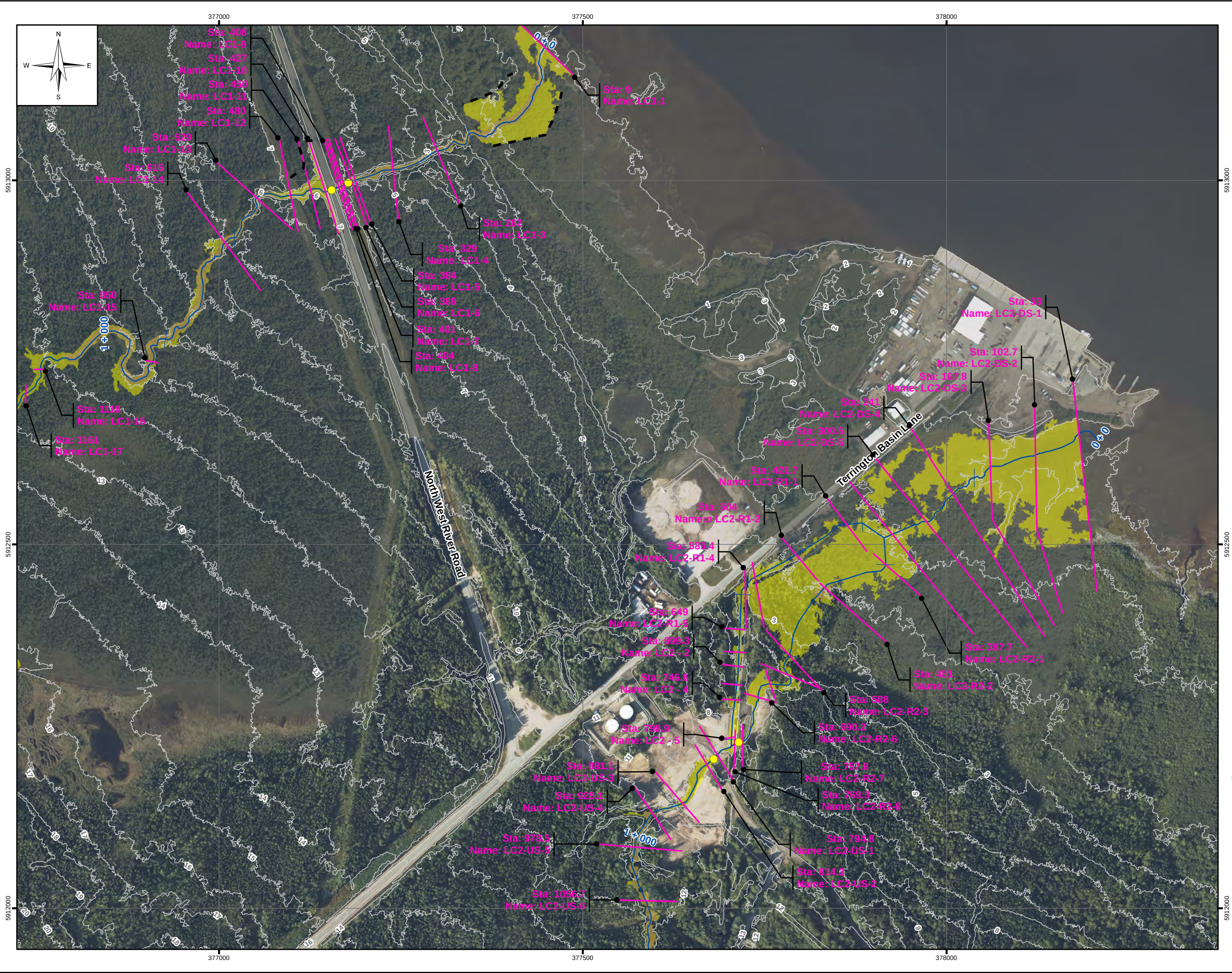
- Sta: 1252
Name: LCA - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.5 m
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)**
 - 0.0 – 1.0 m/s
 - 1.0 – 2.0 m/s
 - 2.0 – 3.0 m/s
 - 3.0 – 4.0 m/s
 - > 4.00 m/s

- NOTES:**
1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
 2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:100 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-1					
JUNE 2020		FIGURE 4.4		REV: 0	

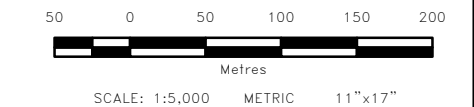


LEGEND:

- Sta: 1252
Name: LC4-15
AEP 1:20:12.0 m
AEP 1:100:12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)
- 0.0 - 1.0 m/s
 - 1.0 - 2.0 m/s
 - 2.0 - 3.0 m/s
 - 3.0 - 4.0 m/s
 - > 4.00 m/s

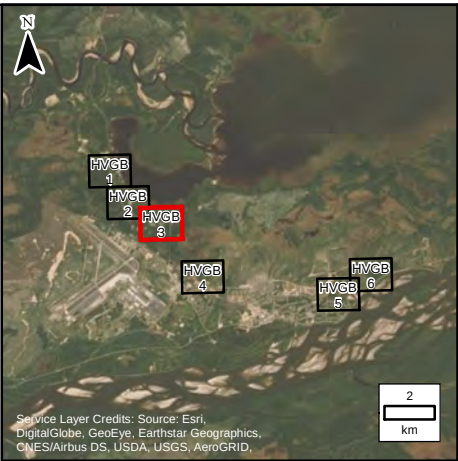
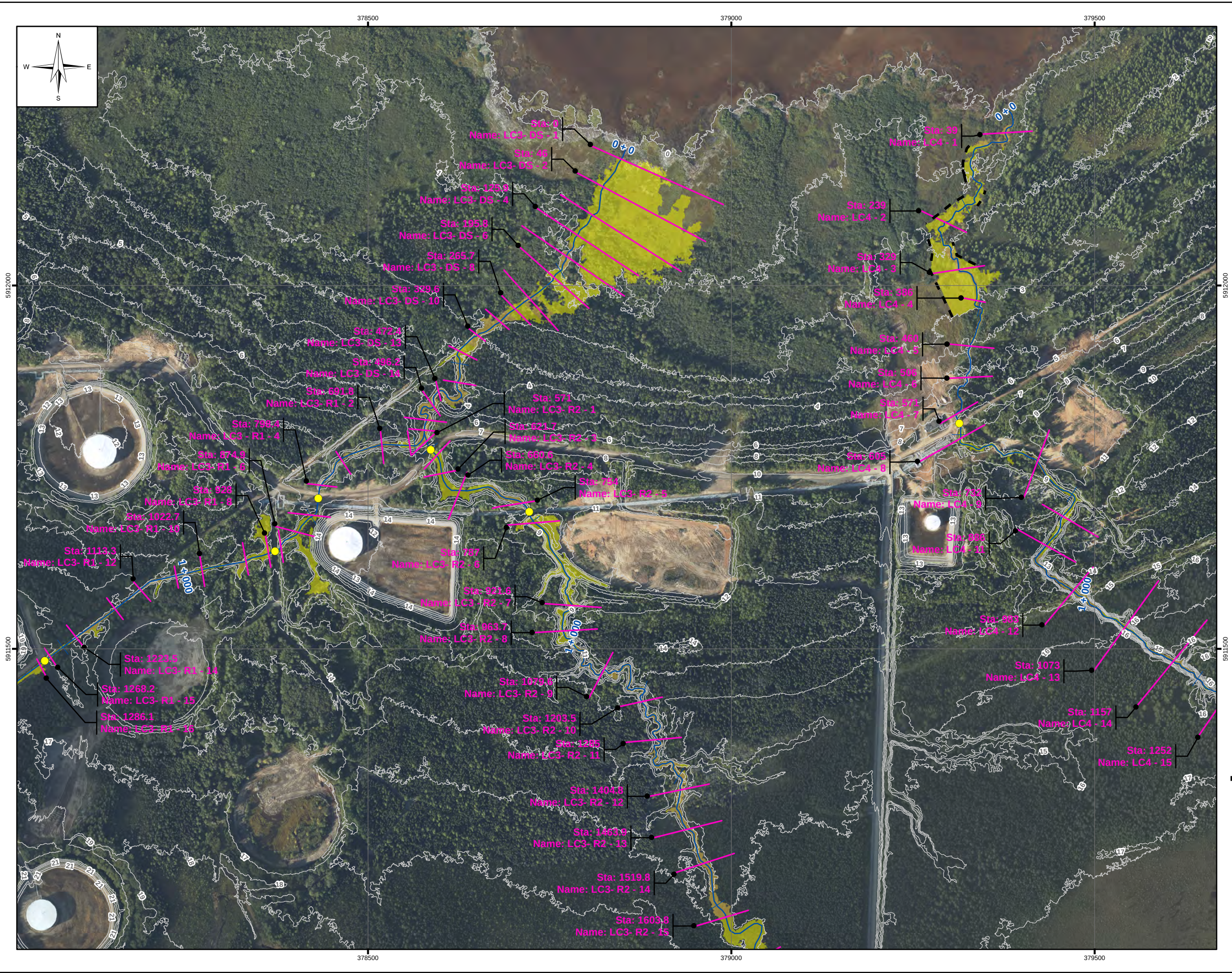
NOTES:

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All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
KGS GROUP CONSULTING ENGINEERS				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:100 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-2				
JUNE 2020		FIGURE 4.4		REV: 0

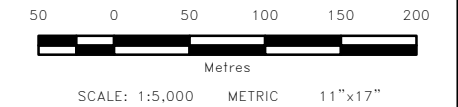


LEGEND:

- Sta: 1252
Name: LC4 - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)
 - 0.0 – 1.0 m/s
 - 1.0 – 2.0 m/s
 - 2.0 – 3.0 m/s
 - 3.0 – 4.0 m/s
 - > 4.00 m/s

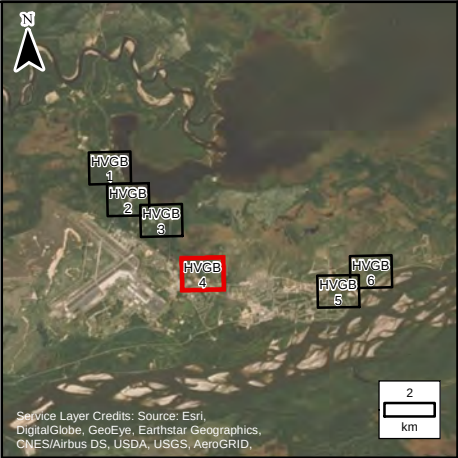
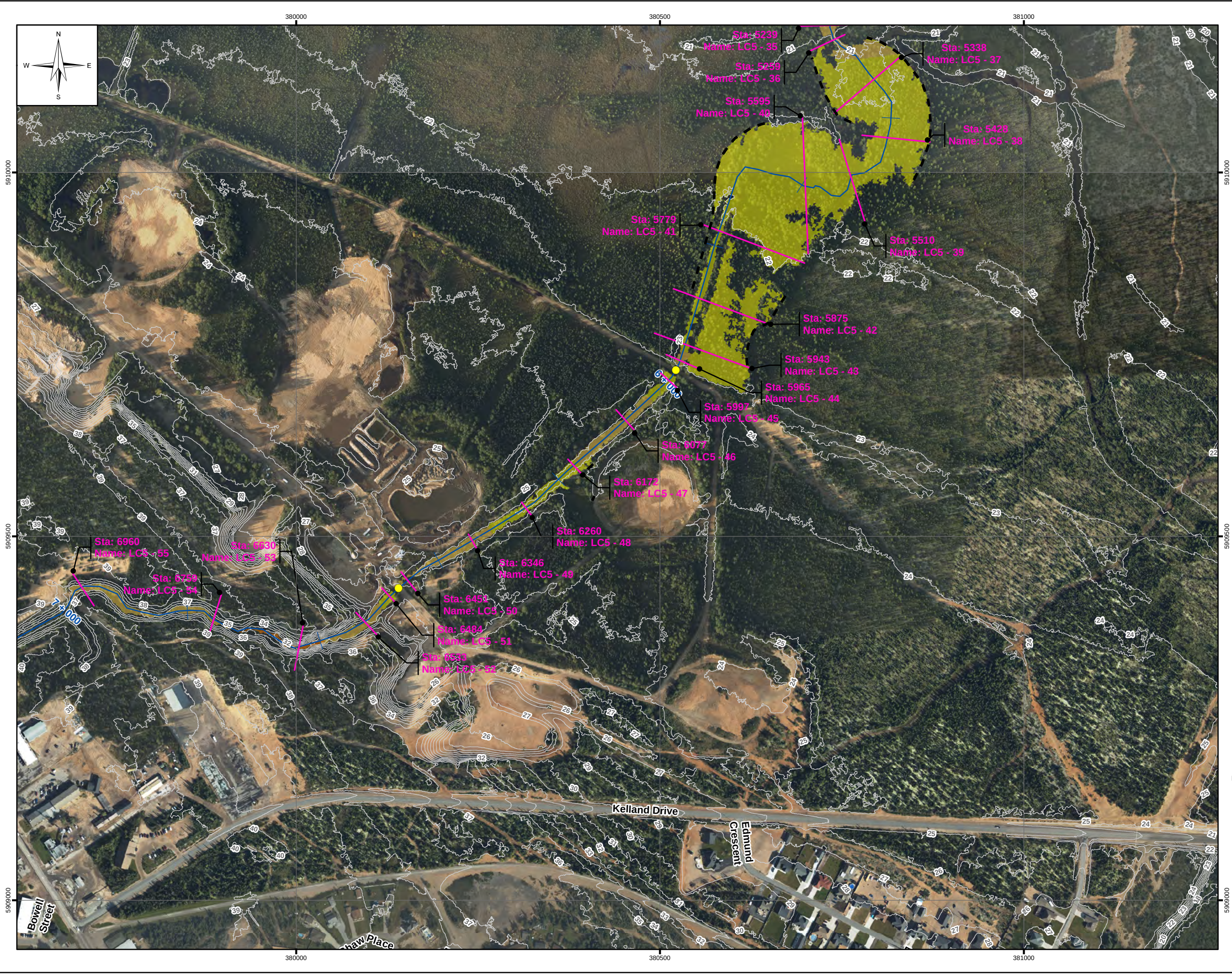
NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
- Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM)
Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

Q	20/06/30	ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:100 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-3					
JUNE 2020		FIGURE 4.4		REV:	0

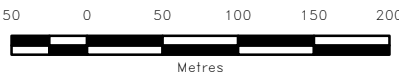


LEGEND:

- Sta: 1252
Name: LC4 - 15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)
 - 0.0 - 1.0 m/s
 - 1.0 - 2.0 m/s
 - 2.0 - 3.0 m/s
 - 3.0 - 4.0 m/s
 - > 4.00 m/s

NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
- Topography shown was developed by KGS Group from the LIDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM)
Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

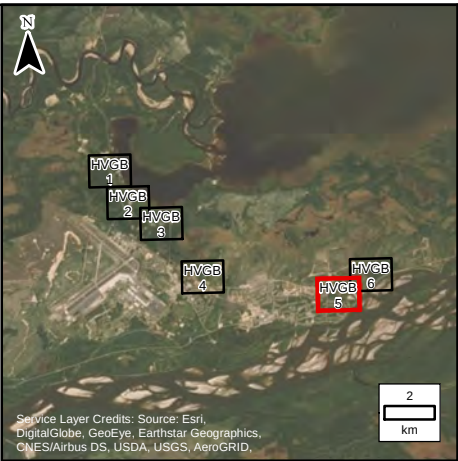
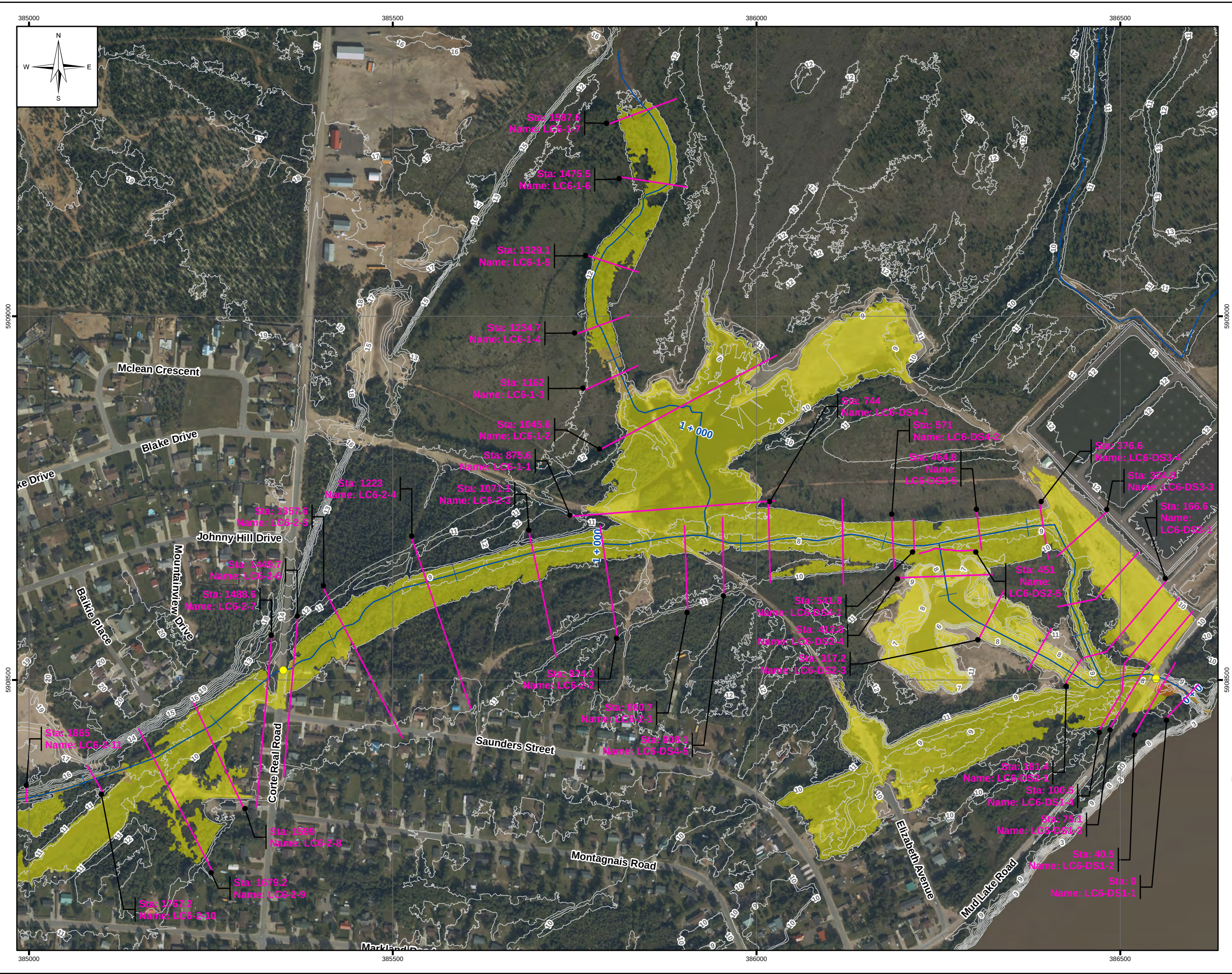
0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
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CHURCHILL RIVER FLOOD RISK AND FORECASTING

OPEN WATER 1:100 YEAR VELOCITY DISTRIBUTION
FOR CURRENT CLIMATE, CURRENT DEVELOPMENT
(CC-CD) - HVGB-4

JUNE 2020	FIGURE 4.4	REV: 0
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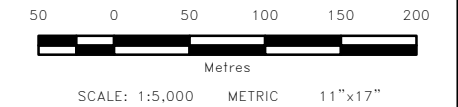


LEGEND:

- Sta: 1252
Name: LC4-15
AEP 1:20: 12.0 m
AEP 1:100: 12.1 m
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Velocity (m/s)
 - 0.0 – 1.0 m/s
 - 1.0 – 2.0 m/s
 - 2.0 – 3.0 m/s
 - 3.0 – 4.0 m/s
 - > 4.00 m/s

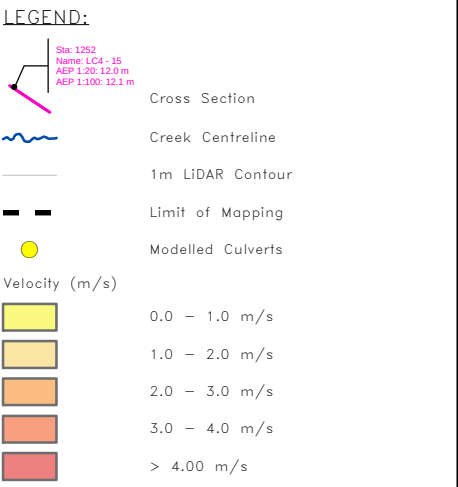
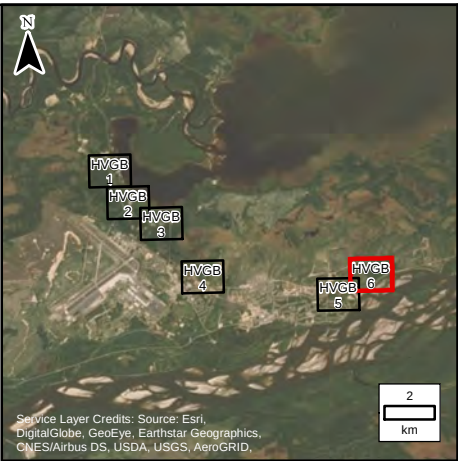
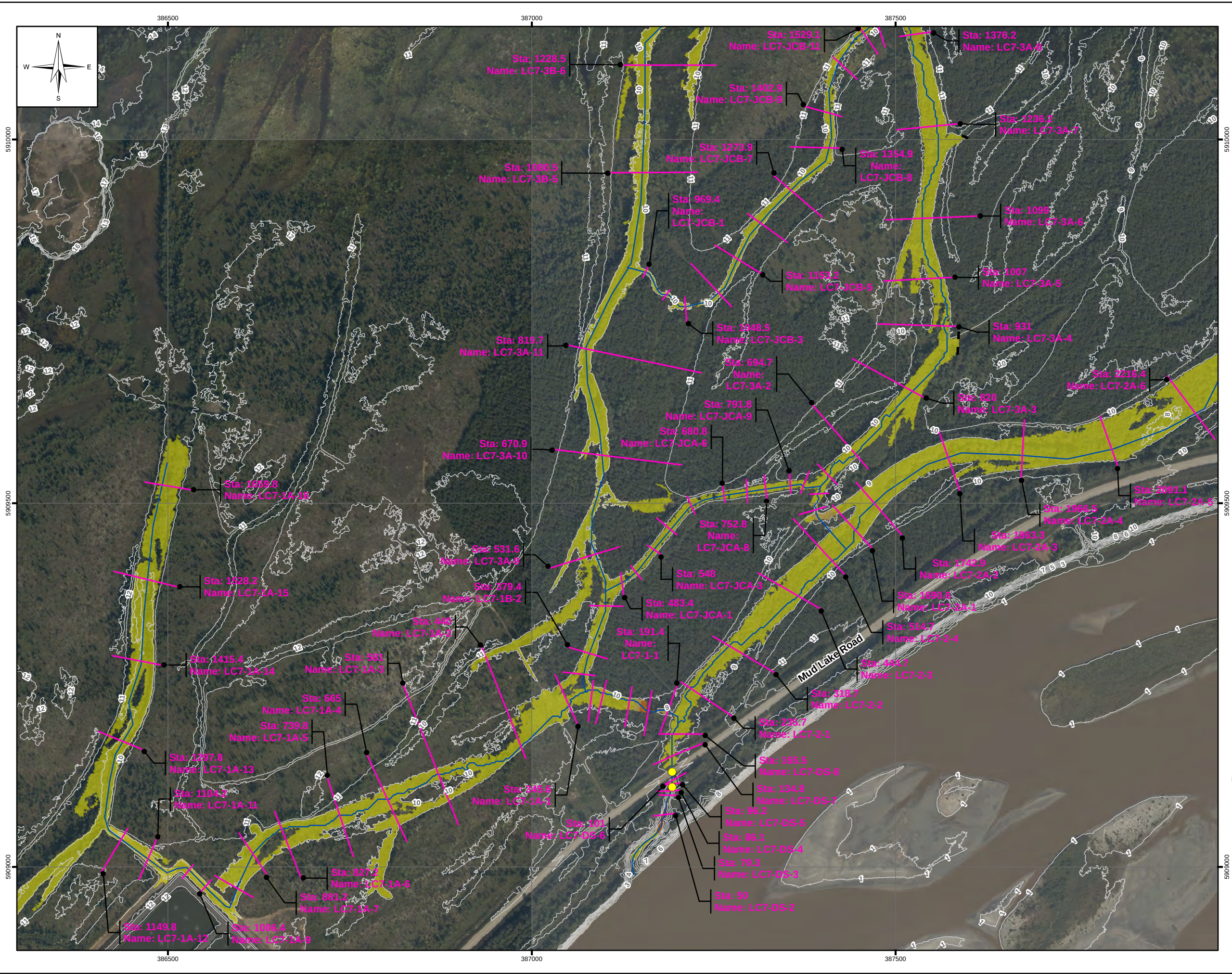
NOTES:

1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



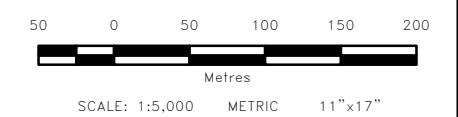
All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:100 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-5				
JUNE 2020		FIGURE 4.4		REV: 0



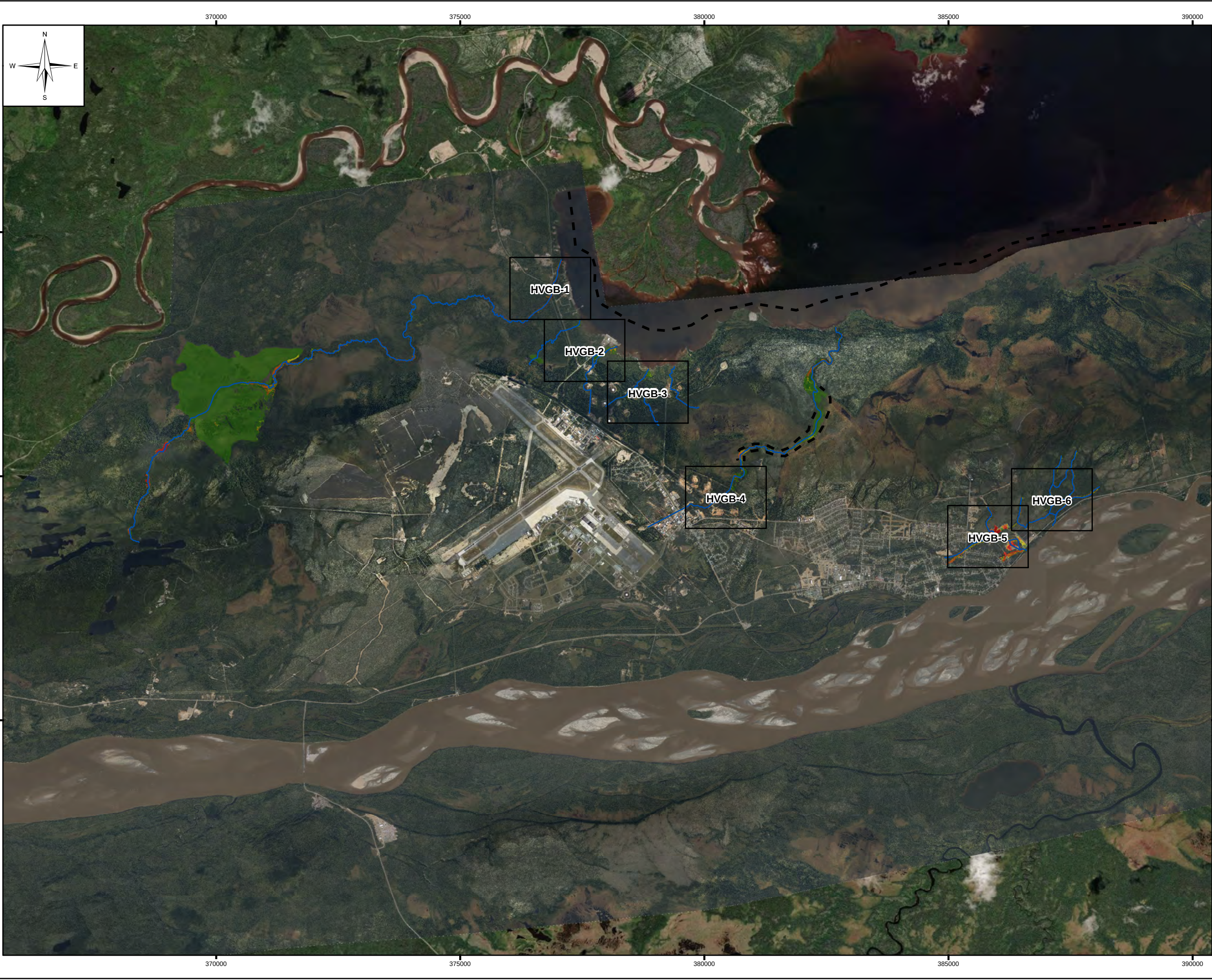
NOTES:

1. Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:100 YEAR VELOCITY DISTRIBUTION FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-6				
JUNE 2020		FIGURE 4.4	REV:	0



- LEGEND:
- Creek Centreline
 - Map Extents
 - Limit of Mapping
 - Low – Caution
 - Moderate – Danger for Some (Includes children, the elderly, and the infirm)
 - Significant – Danger for Most (Includes the general public)
 - Extreme – Danger for All (Includes the emergency services)

NOTES:

1. Imagery is supplied by ATGIS Geomatics and dated as September 11 – 13, 2019, and by ESRI and DigitalGlobe, WV02 dated June 3, 2015.



SCALE: 1:75,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM), Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				

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KGS

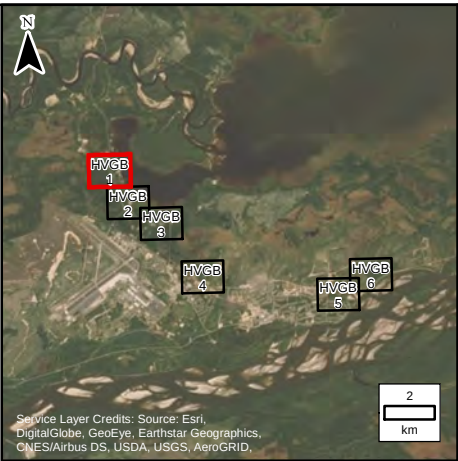
GROUP

CONSULTING ENGINEERS

CHURCHILL RIVER FLOOD RISK AND FORECASTING

OPEN WATER 1:20 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) CONDITIONS – CREEK OVERVIEW MAP

JUNE 2020	FIGURE 5.1	REV: 0
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LEGEND:

- Sta: 1252 Name: LC4-15 Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Low – Caution
- Moderate – Danger for Some (Includes children, the elderly, and the infirm)
- Significant – Danger for Most (Includes the general public)
- Extreme – Danger for All (Includes the emergency services)

NOTES:

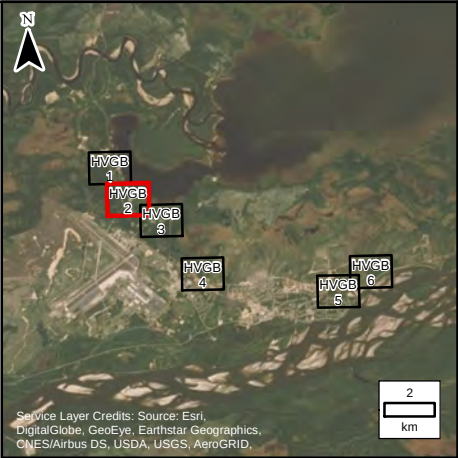
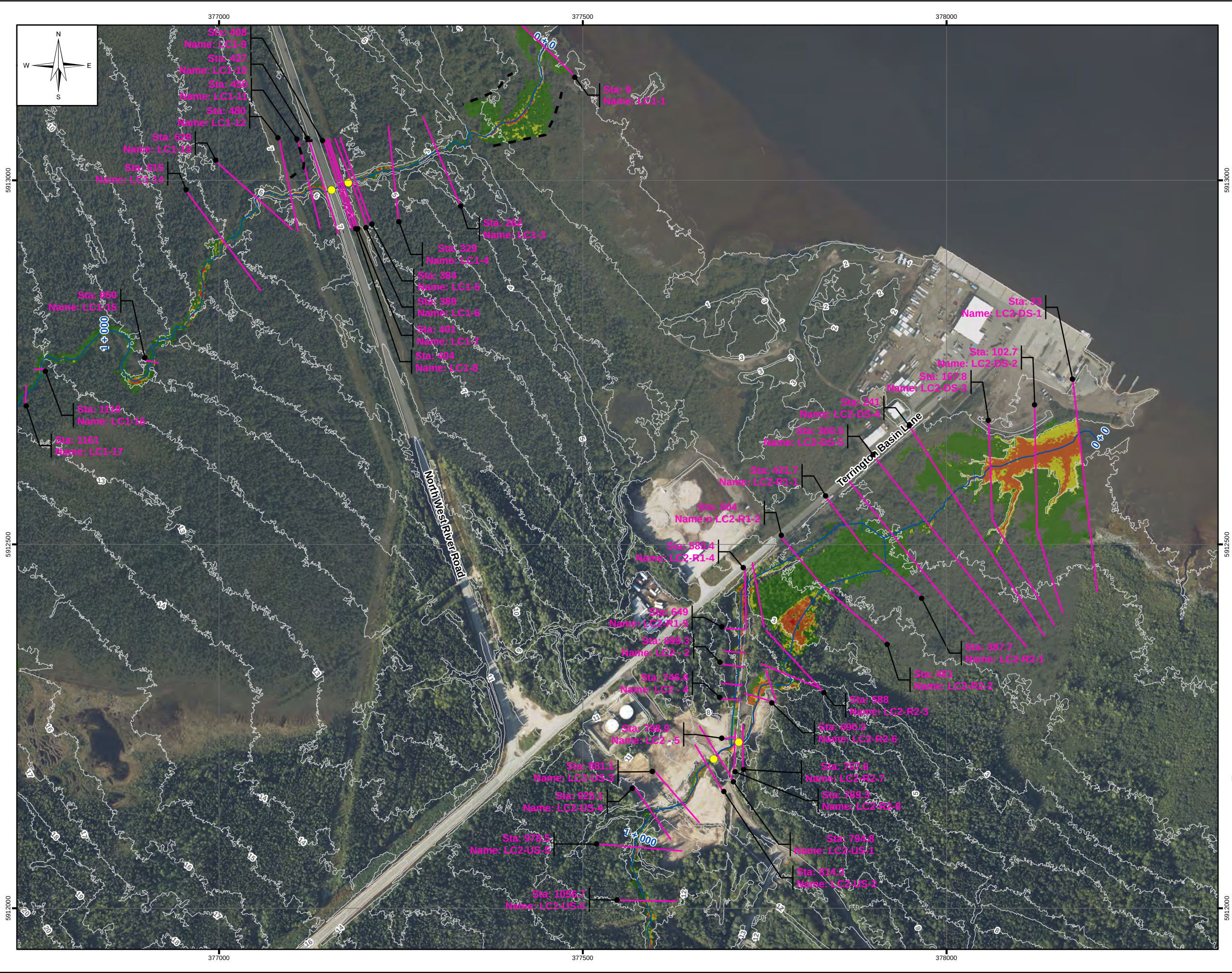
1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM), Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:20 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-1					
JUNE 2020		FIGURE 5.2		REV:	0

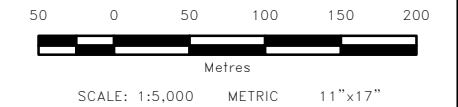


LEGEND:

- Sta: 1252 Name: LC4-15 Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Low – Caution
- Moderate – Danger for Some (Includes children, the elderly, and the infirm)
- Significant – Danger for Most (Includes the general public)
- Extreme – Danger for All (Includes the emergency services)

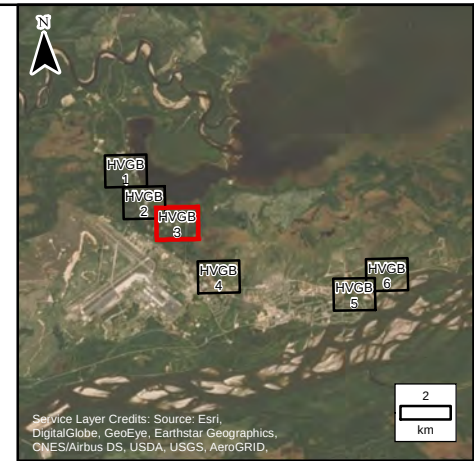
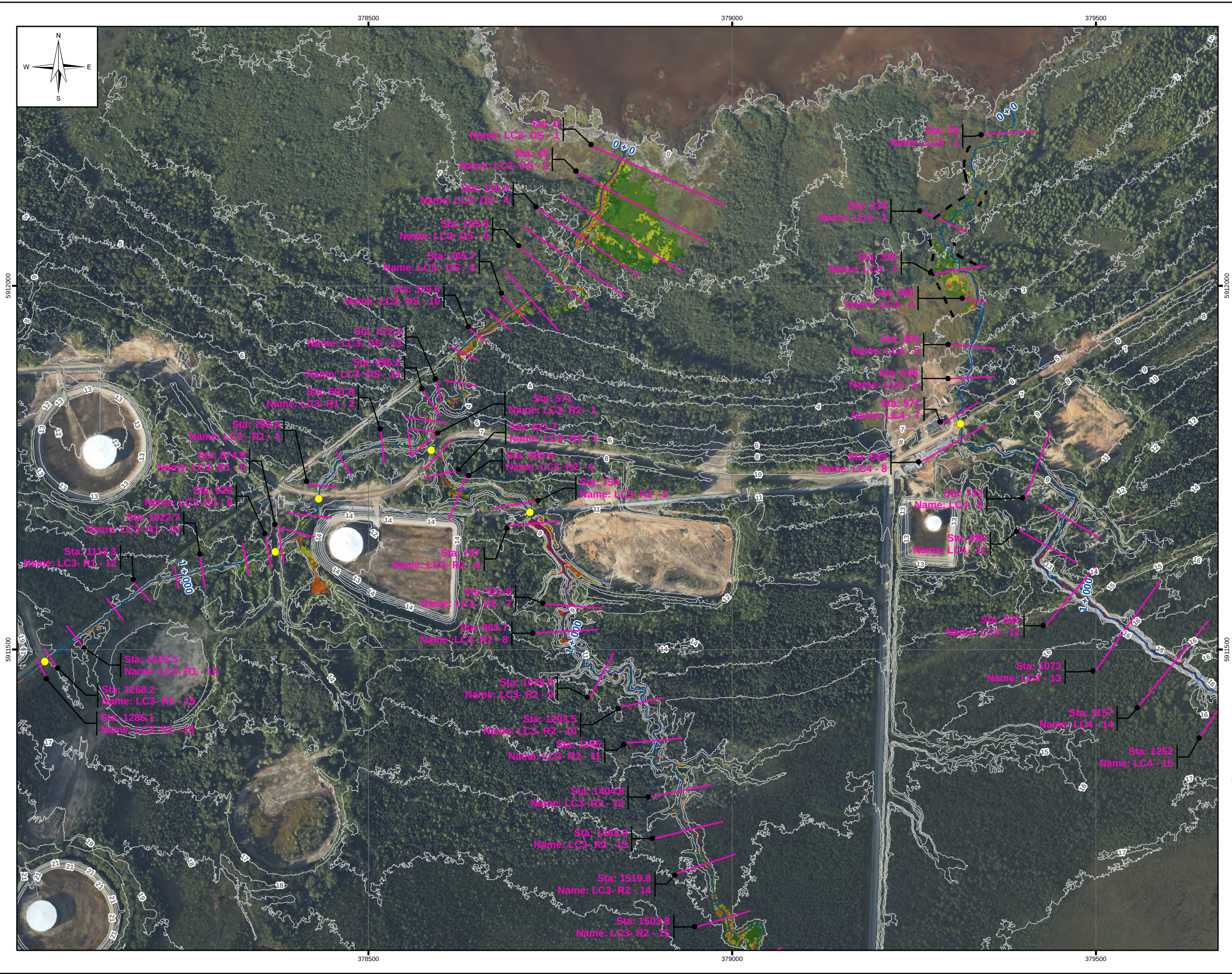
NOTES:

1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



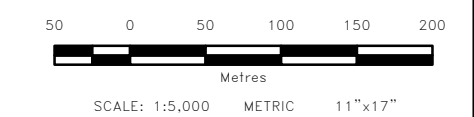
All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM)
Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:20 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-2					
JUNE 2020		FIGURE 5.2		REV:	0



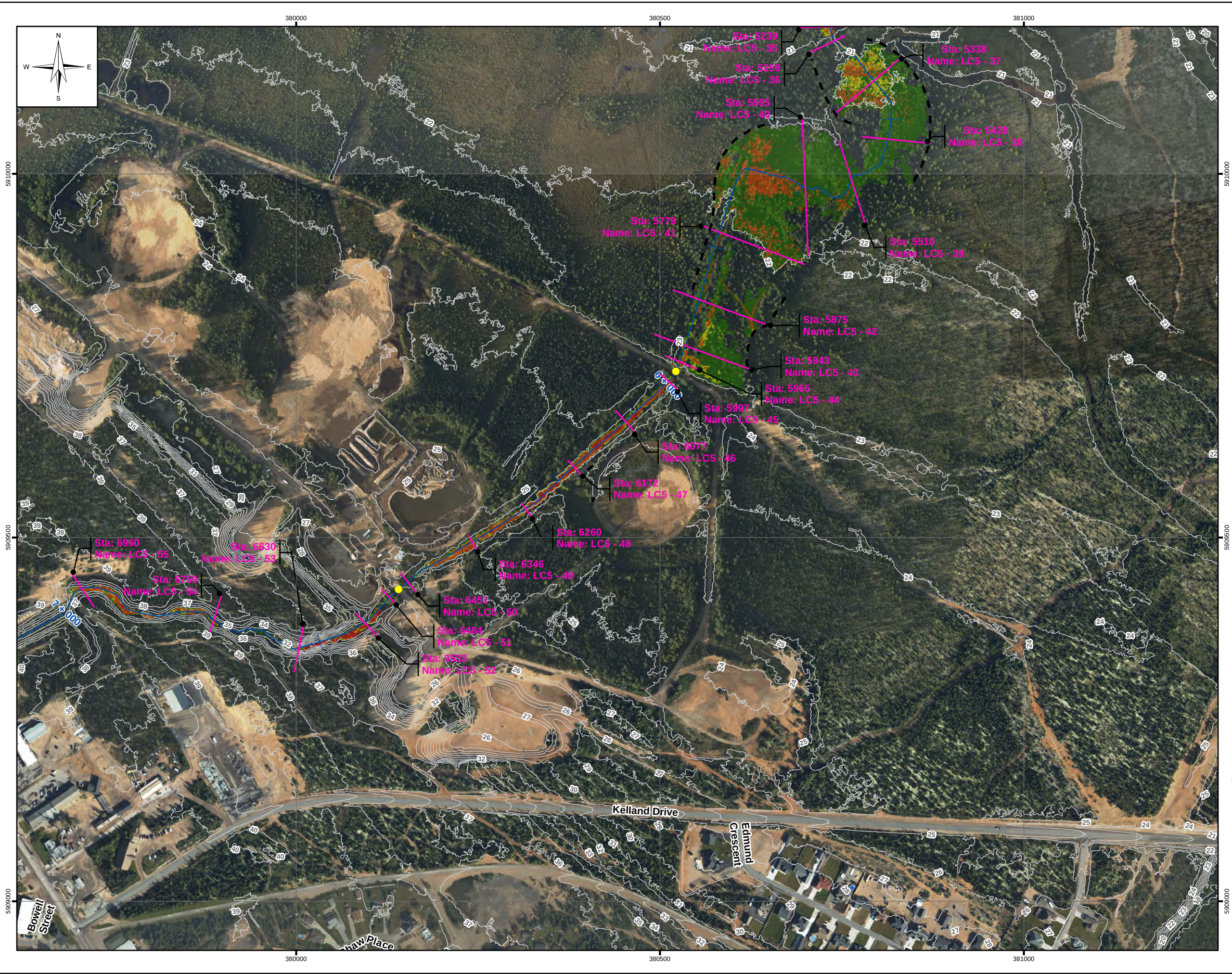
- LEGEND:**
- Cross Section
 - Creek Centreline
 - 1m LIDAR Contour
 - Limit of Mapping
 - Modelled Culverts
 - Low - Caution
 - Moderate - Danger for Some (Includes children, the elderly, and the infirm)
 - Significant - Danger for Most (Includes the general public)
 - Extreme - Danger for All (Includes the emergency services)

- NOTES:**
1. Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
 2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM)
Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:20 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-3					
JUNE 2020		FIGURE 5.2			REV: 0



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID.

LEGEND:

- Sta: 1252 Name: LC4 - 15
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Low - Caution
- Moderate - Danger for Some (Includes children, the elderly, and the infirm)
- Significant - Danger for Most (Includes the general public)
- Extreme - Danger for All (Includes the emergency services)

NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
- Topography shown was developed by KGS Group from the LIDAR captured by ATLAS Geomatics on September 11 - 13, 2019.

Metres

SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM)
Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY

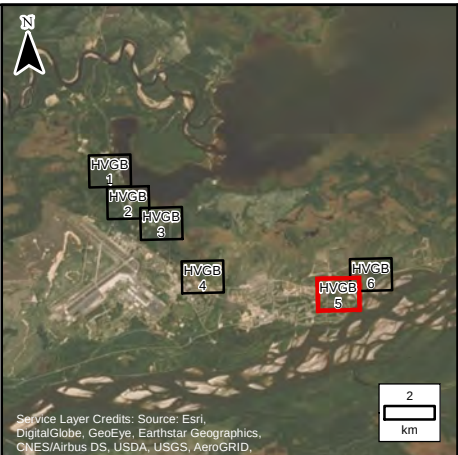
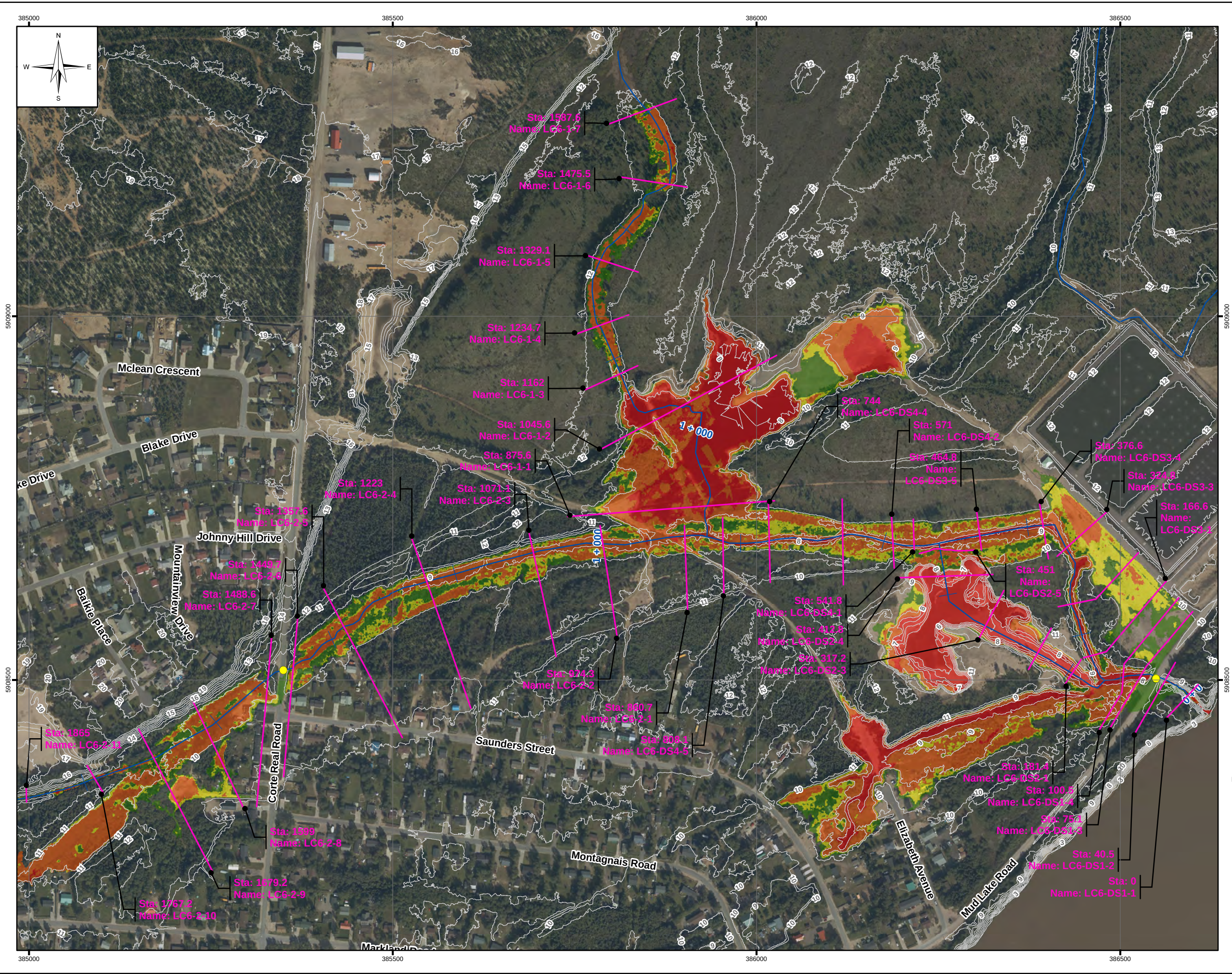
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CHURCHILL RIVER FLOOD RISK AND FORECASTING

OPEN WATER 1:20 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) - HVGB-4

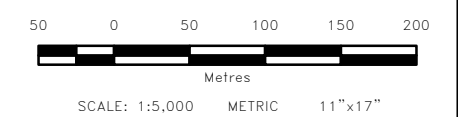
JUNE 2020	FIGURE 5.2	REV: 0
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LEGEND:

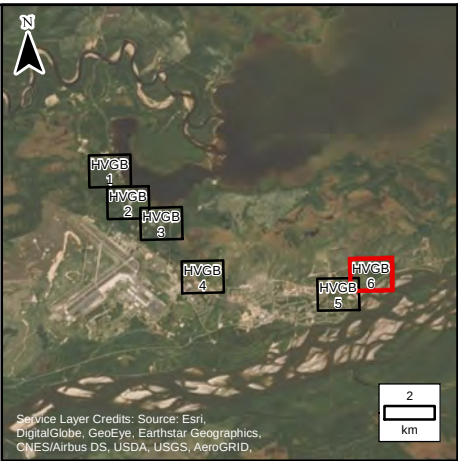
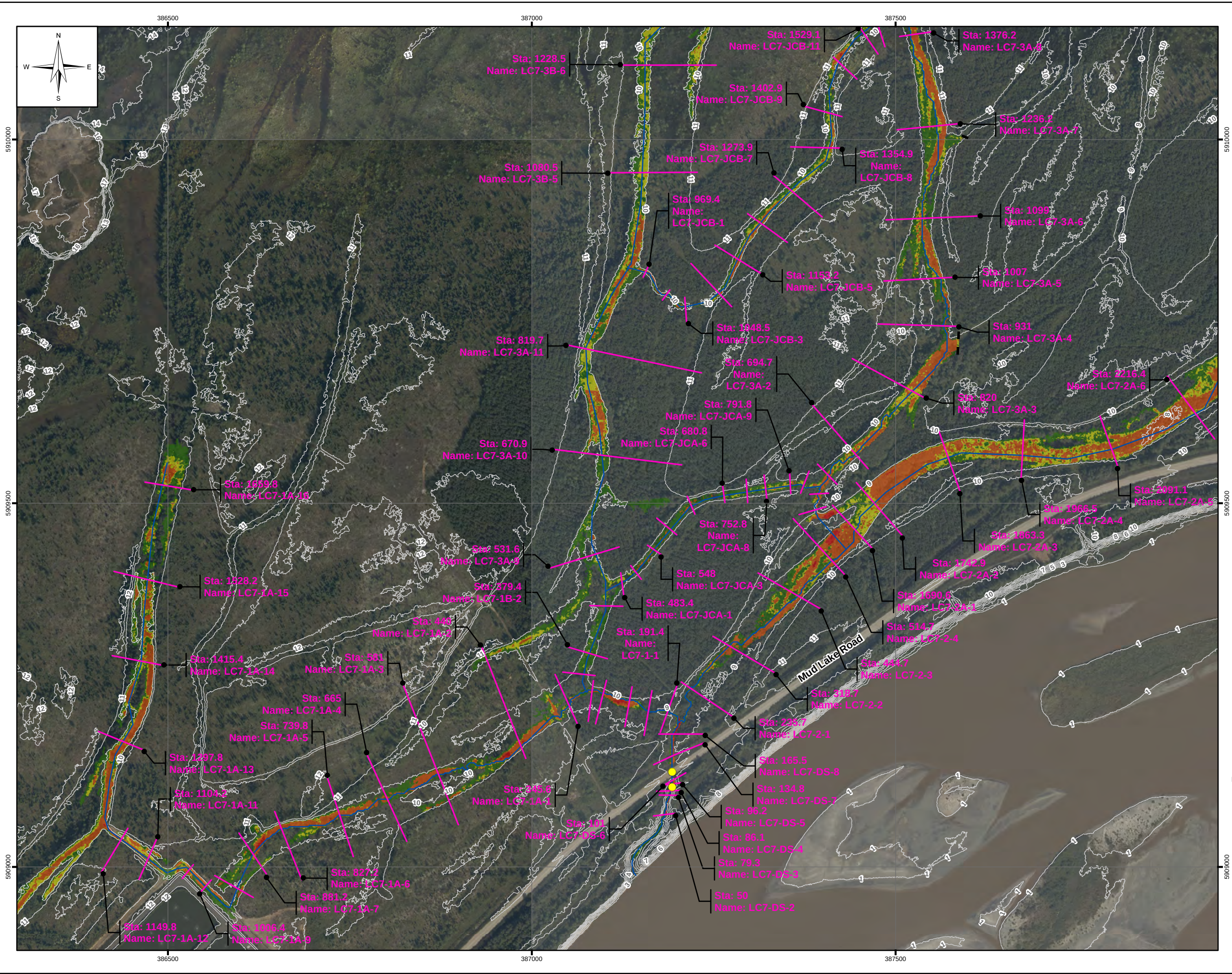
- Sta: 1252 Name: LC4-15
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Low – Caution
- Moderate – Danger for Some (Includes children, the elderly, and the infirm)
- Significant – Danger for Most (Includes the general public)
- Extreme – Danger for All (Includes the emergency services)

- NOTES:**
1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
 2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



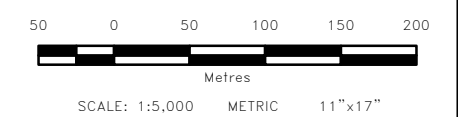
All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:20 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-5				
JUNE 2020		FIGURE 5.2		REV: 0



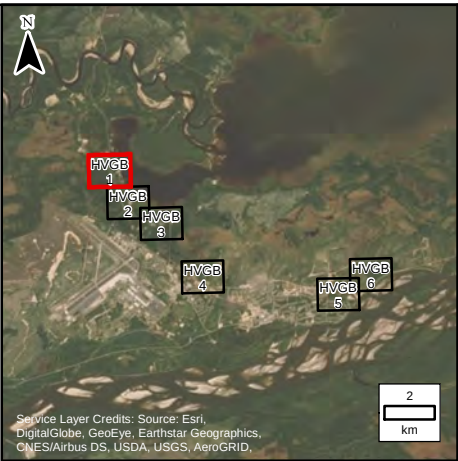
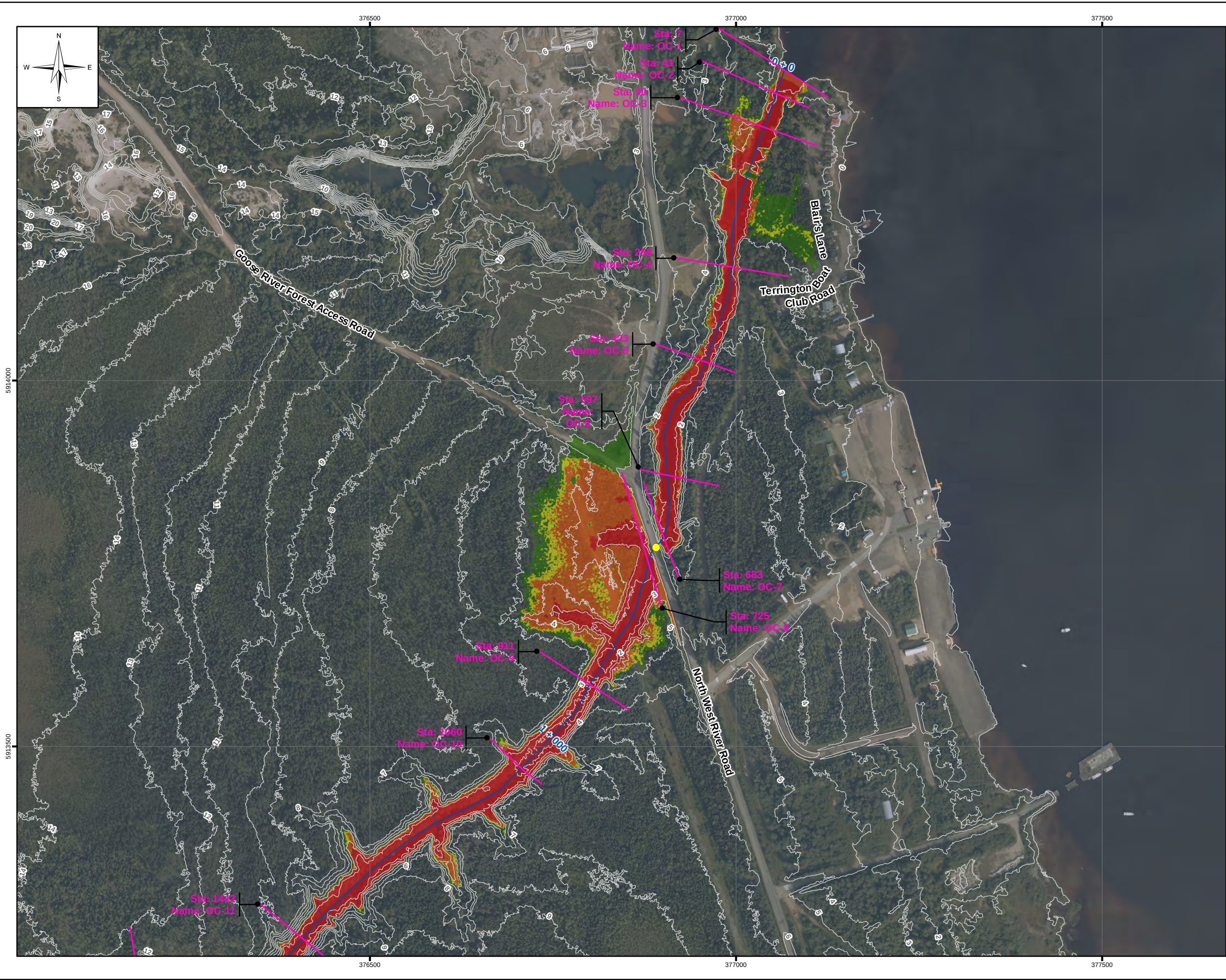
- LEGEND:**
- Cross Section
 - Creek Centreline
 - 1m LIDAR Contour
 - Limit of Mapping
 - Modelled Culverts
 - Low - Caution
 - Moderate - Danger for Some (Includes children, the elderly, and the infirm)
 - Significant - Danger for Most (Includes the general public)
 - Extreme - Danger for All (Includes the emergency services)

- NOTES:**
1. Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
 2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:20 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-6					
JUNE 2020		FIGURE 5.2		REV:	0



LEGEND:

- Sta: 1252 Name: LC4-15 Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Low – Caution
- Moderate – Danger for Some (Includes children, the elderly, and the infirm)
- Significant – Danger for Most (Includes the general public)
- Significant – Danger for Most (Includes the general public)

NOTES:

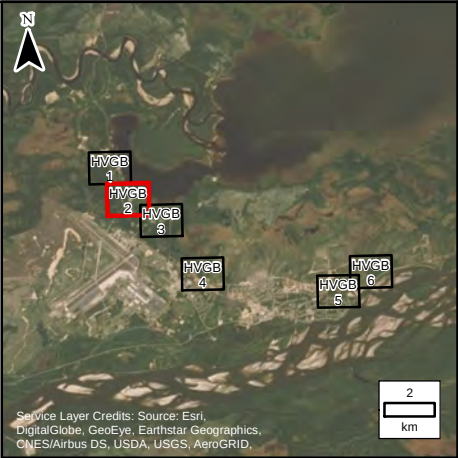
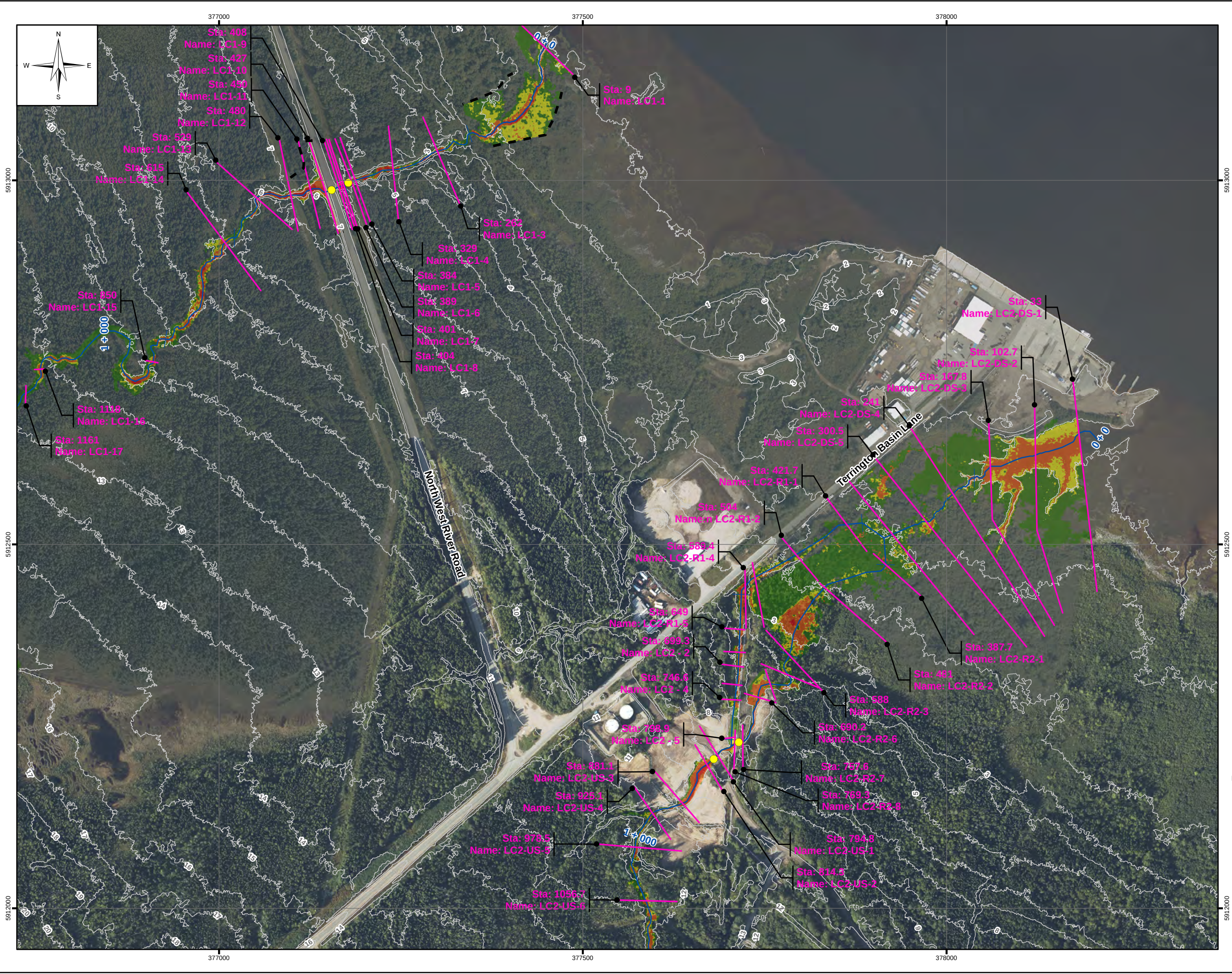
- Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
- Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

Q	20/06/30	ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:100 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-1					
JUNE 2020		FIGURE 5.4		REV:	0



LEGEND:

- Sta: 1252
Name: LC4-15
- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Low - Caution
- Moderate - Danger for Some
(Includes children, the elderly,
and the infirm)
- Significant - Danger for Most
(Includes the general public)
- Significant - Danger for Most
(Includes the general public)

NOTES:

- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
- Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM)
Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY

REVISIONS / ISSUE

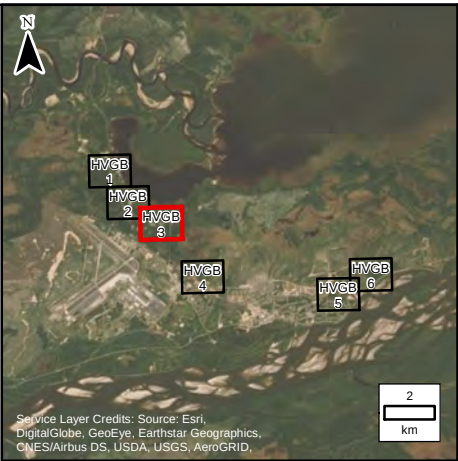
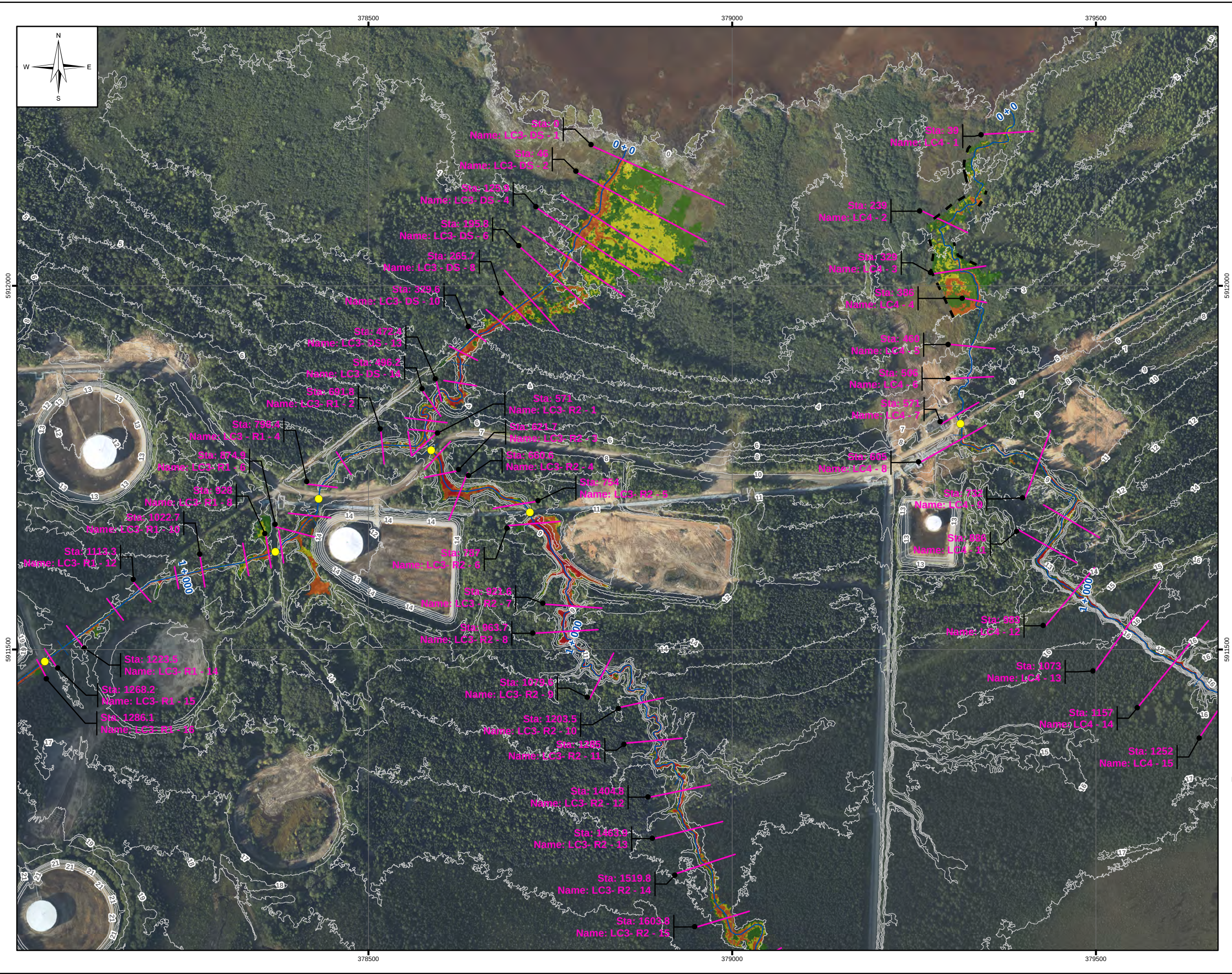
KGS GROUP
CONSULTING ENGINEERS

Newfoundland Labrador

CHURCHILL RIVER FLOOD RISK AND FORECASTING

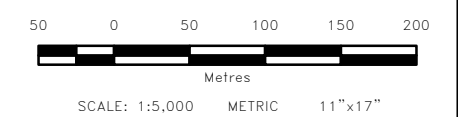
OPEN WATER 1:100 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) - HVGB-2

JUNE 2020	FIGURE 5.4	REV: 0
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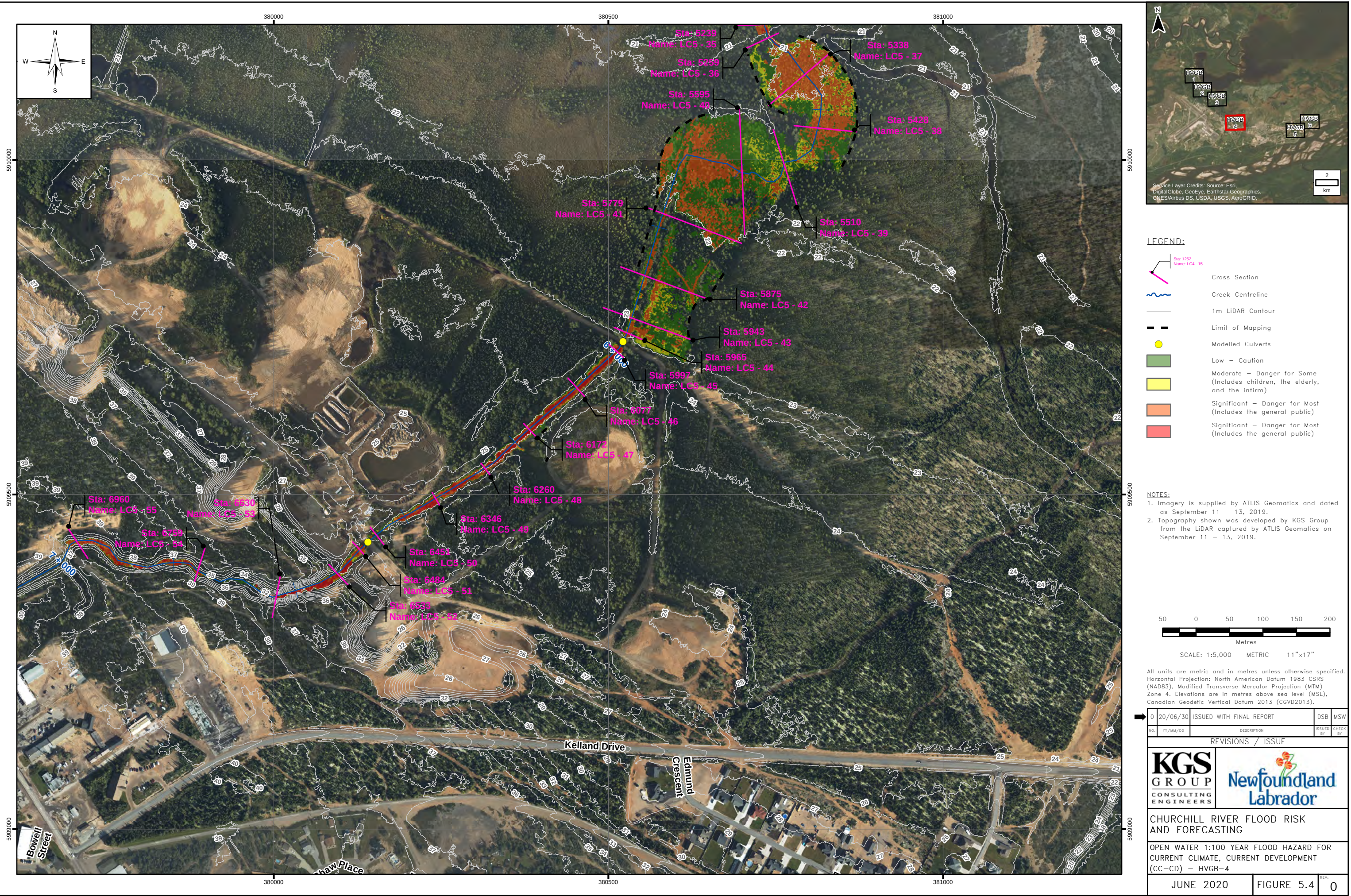
- LEGEND:**
- Cross Section
 - Creek Centreline
 - 1m LIDAR Contour
 - Limit of Mapping
 - Modelled Culverts
 - Low - Caution
 - Moderate - Danger for Some (Includes children, the elderly, and the infirm)
 - Significant - Danger for Most (Includes the general public)
 - Significant - Danger for Most (Includes the general public)

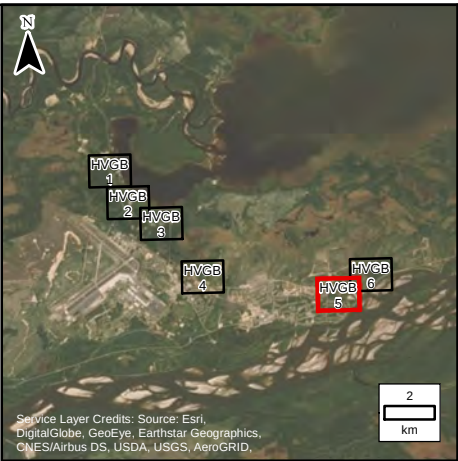
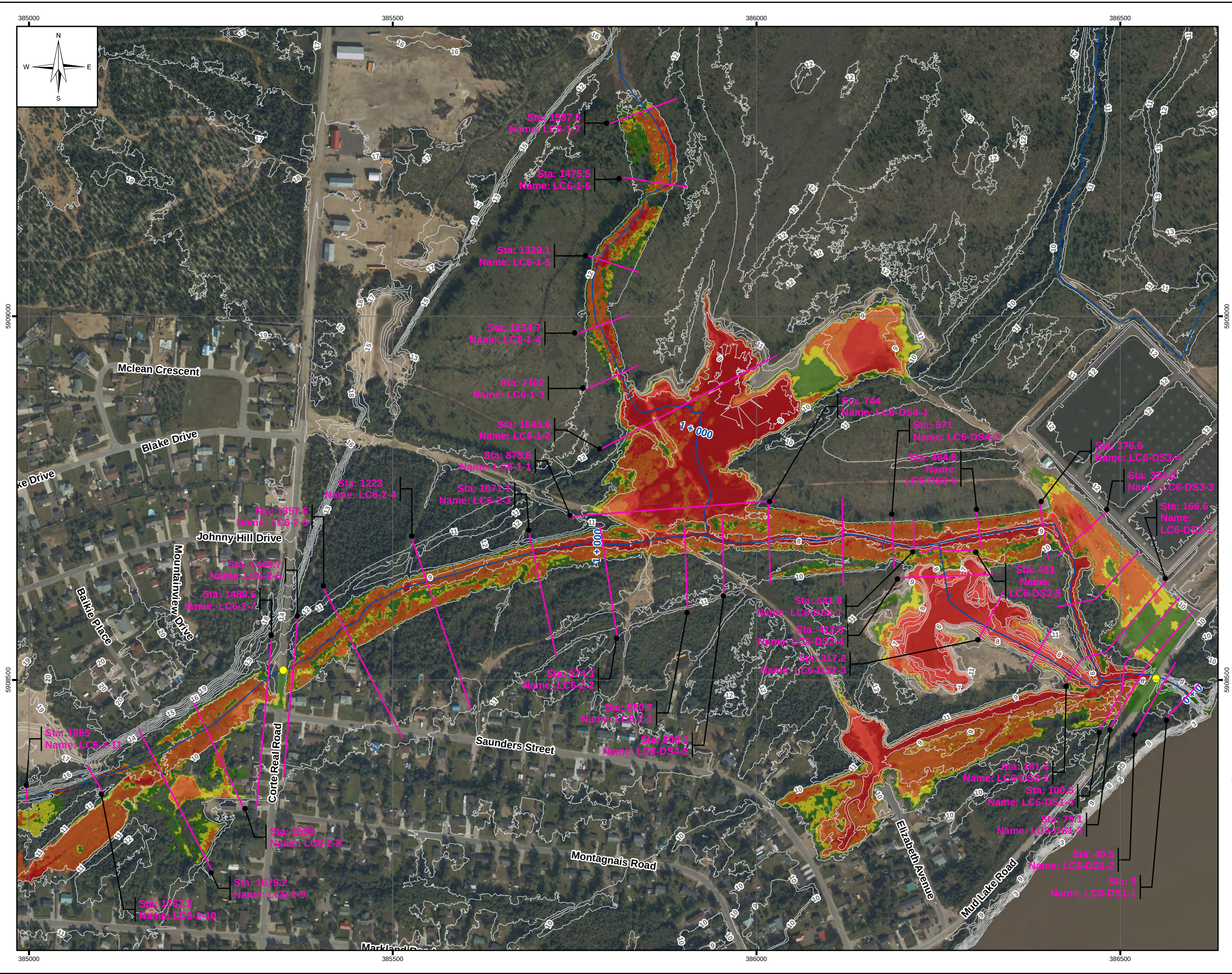
- NOTES:**
- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
 - Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:100 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-3				
JUNE 2020		FIGURE 5.4	REV:	0



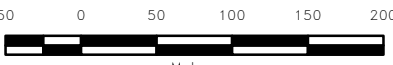


LEGEND:

- Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Low - Caution
- Moderate - Danger for Some (Includes children, the elderly, and the infirm)
- Significant - Danger for Most (Includes the general public)
- Significant - Danger for Most (Includes the general public)

NOTES:

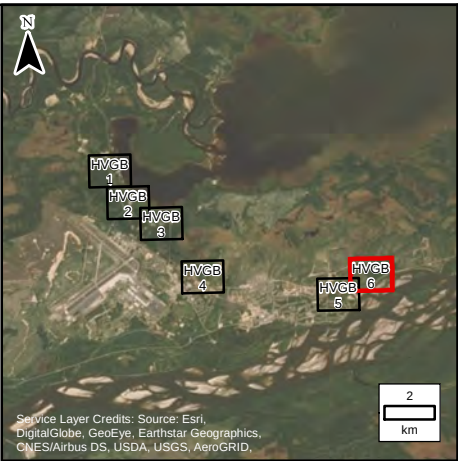
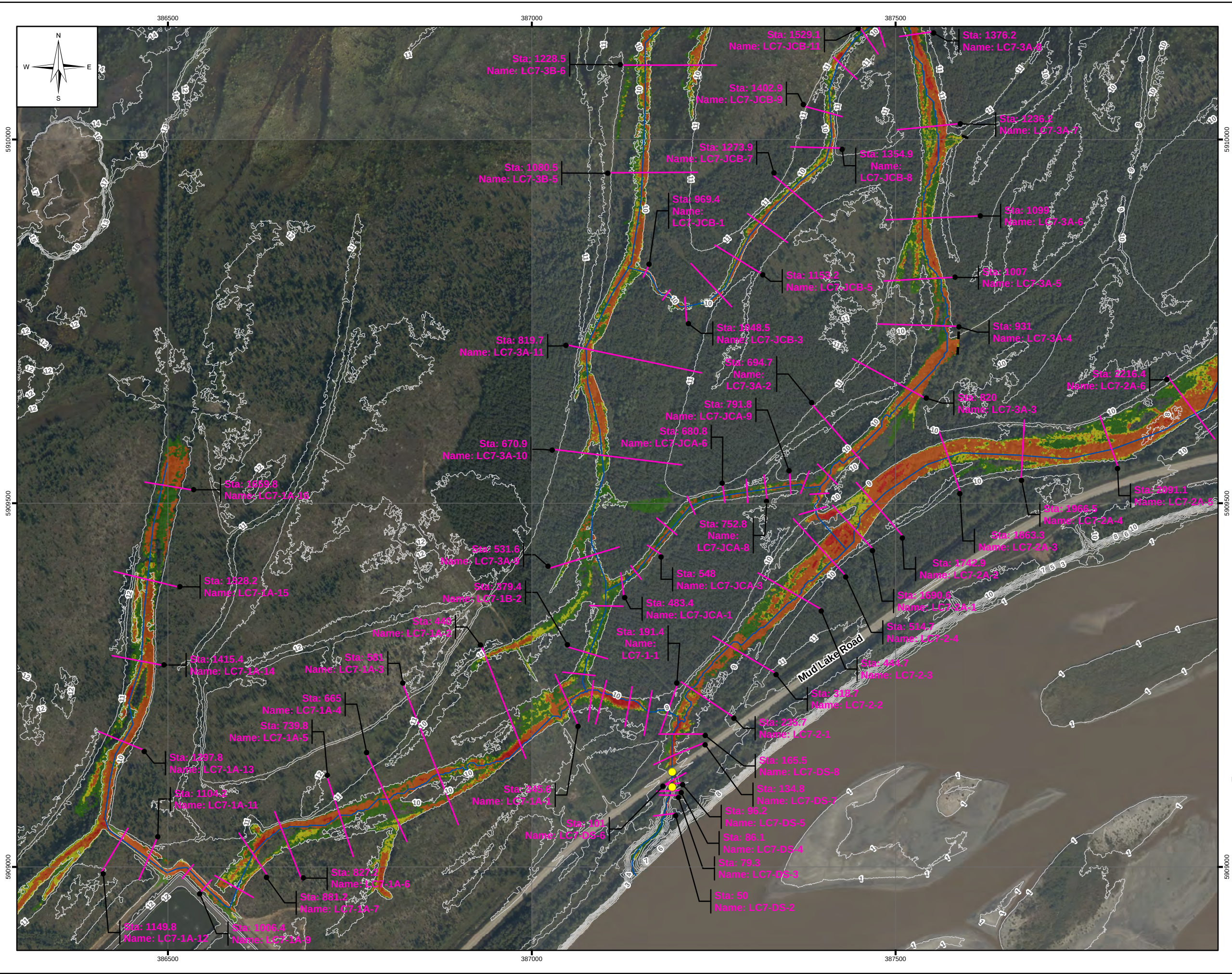
- Imagery is supplied by ATLAS Geomatics and dated as September 11 - 13, 2019.
- Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 - 13, 2019.



SCALE: 1:5,000 METRIC 11"x17"

All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0	20/06/30	ISSUED WITH FINAL REPORT		DSB	MSW
NO.	YY/MM/DD	DESCRIPTION		ISSUED BY	CHECK BY
REVISIONS / ISSUE					
					
CHURCHILL RIVER FLOOD RISK AND FORECASTING					
OPEN WATER 1:100 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-5					
JUNE 2020		FIGURE 5.4		REV:	0

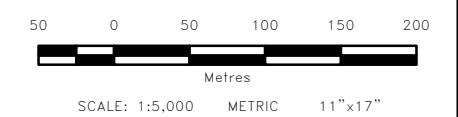


LEGEND:

- Sta: 1228.5 Name: LC7-3B-6 Cross Section
- Creek Centreline
- 1m LIDAR Contour
- Limit of Mapping
- Modelled Culverts
- Low – Caution
- Moderate – Danger for Some (Includes children, the elderly, and the infirm)
- Significant – Danger for Most (Includes the general public)
- Significant – Danger for Most (Includes the general public)

NOTES:

1. Imagery is supplied by ATLAS Geomatics and dated as September 11 – 13, 2019.
2. Topography shown was developed by KGS Group from the LiDAR captured by ATLAS Geomatics on September 11 – 13, 2019.



All units are metric and in metres unless otherwise specified.
Horizontal Projection: North American Datum 1983 CSRS (NAD83), Modified Transverse Mercator Projection (MTM) Zone 4. Elevations are in metres above sea level (MSL), Canadian Geodetic Vertical Datum 2013 (CGVD2013).

0 20/06/30		ISSUED WITH FINAL REPORT	DSB	MSW
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
				
CHURCHILL RIVER FLOOD RISK AND FORECASTING				
OPEN WATER 1:100 YEAR FLOOD HAZARD FOR CURRENT CLIMATE, CURRENT DEVELOPMENT (CC-CD) – HVGB-6				
JUNE 2020		FIGURE 5.4		REV: 0