



## **Appendix J.4**

Detailed Figures (as referenced in Fish and Fish Habitat EA [Section 6.9])

May 2021

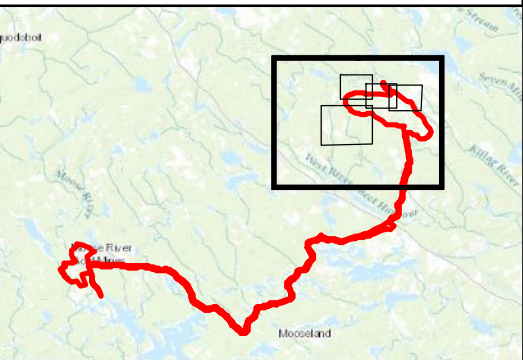
Completed for the Updated 2021 Beaver Dam Mine EIS



FIGURE J.4-1 A

**Beaver Dam Mine Project  
Fish Habitat Evaluation  
Methodology: Beaver  
Dam Mine Site**

- Daily Flow Assessment Points
- Transect Locations
- Lime Doser
- Collector Road
- Local Road
- Dry Weather / Seasonal Road
- Diveways (>300 m)
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Beaver Lake IR 17
- Fish Habitat Assessment Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 250 500 1,000 m

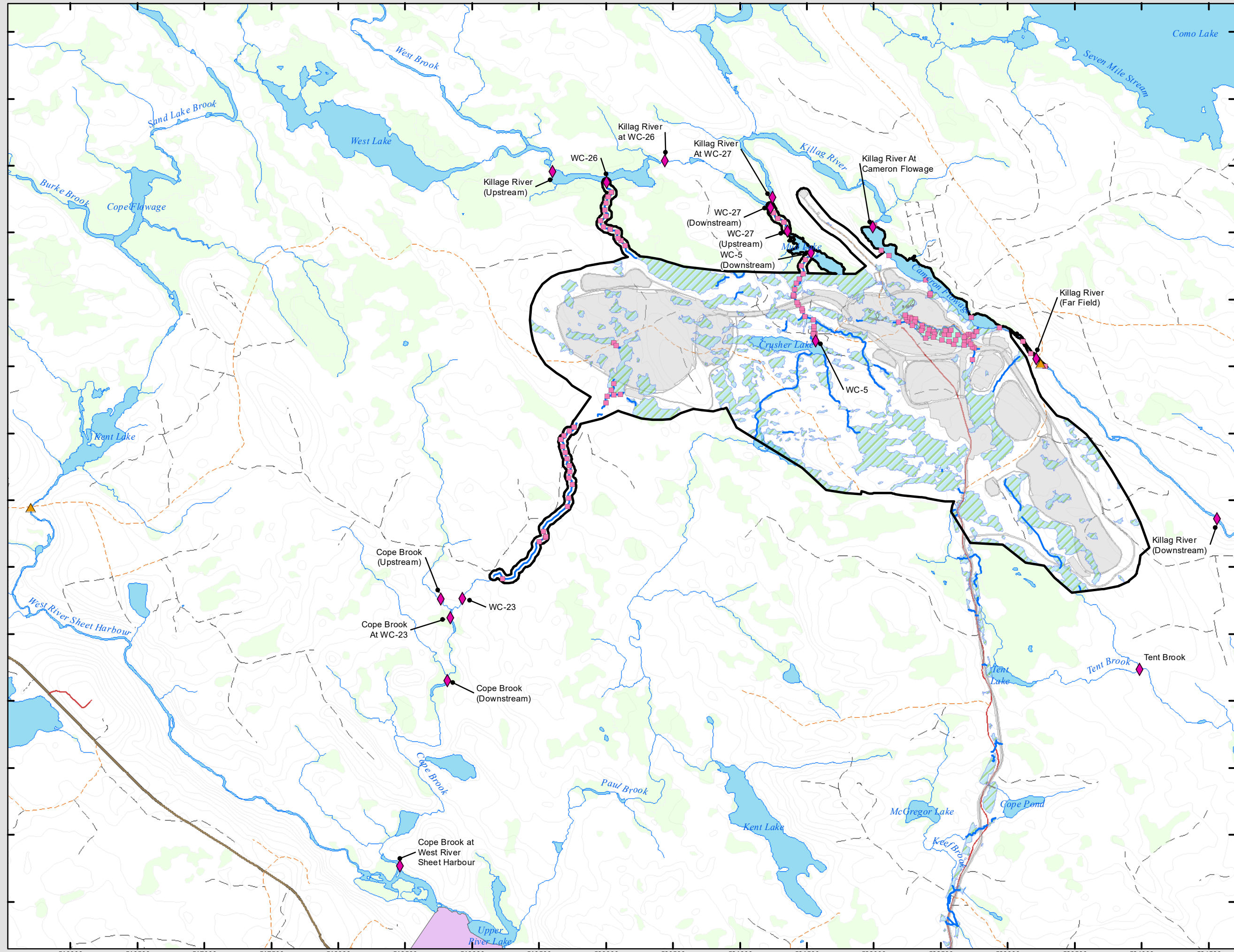
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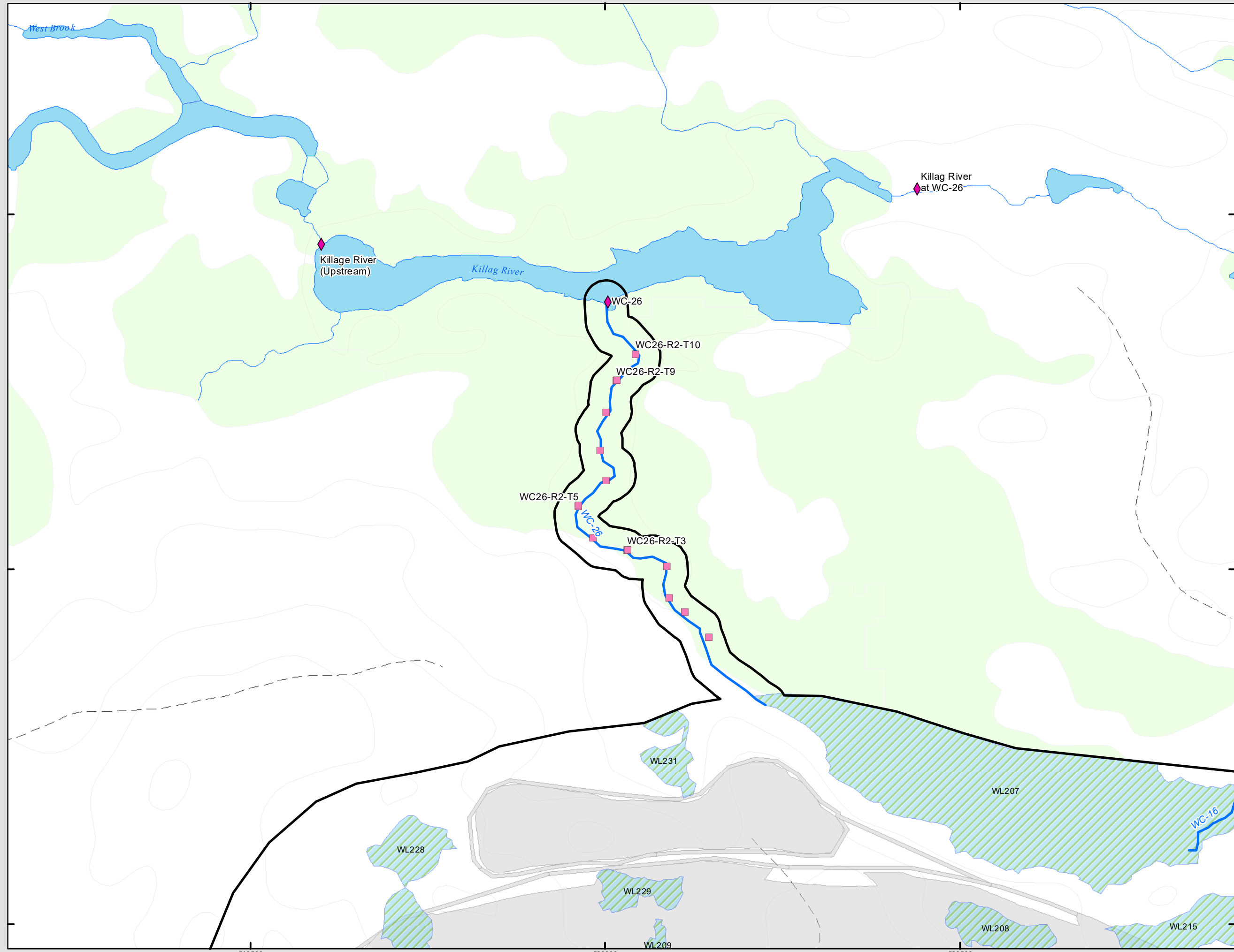


Prepared For:

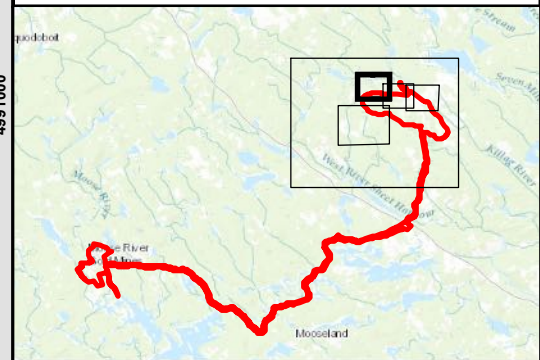


FIGURE J.4-1 B


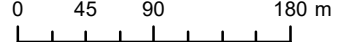
**Beaver Dam Mine Project  
Fish Habitat Evaluation  
Methodology: Beaver  
Dam Mine Site**



- Daily Flow Assessment Points
- Transect Locations
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Fish Habitat Assessment Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

1:5,000 Scale when printed @ 11" x 17"

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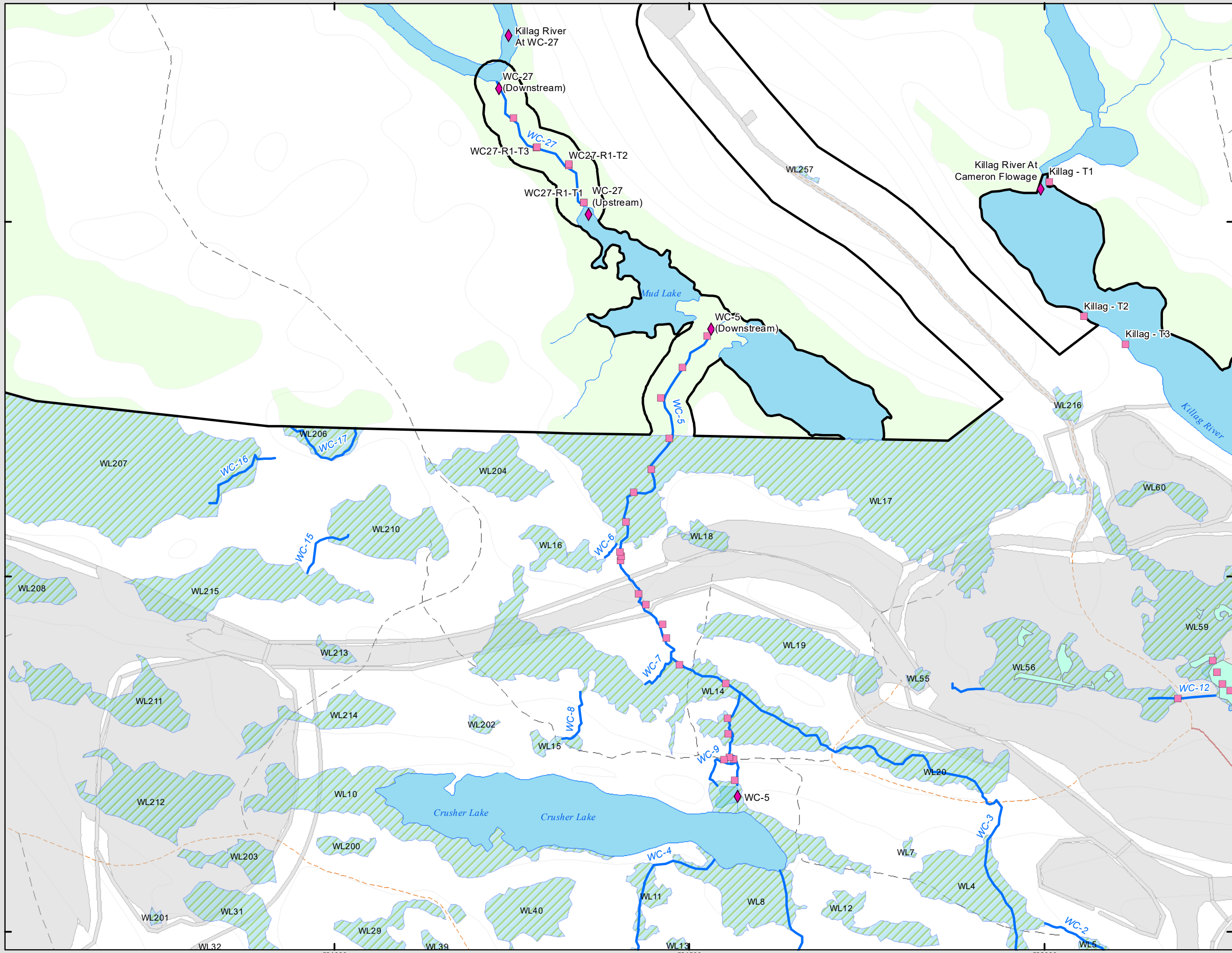


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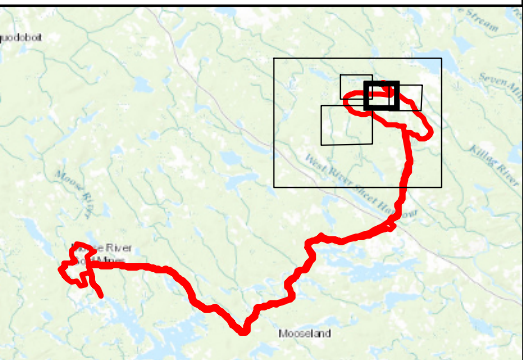


FIGURE J.4-1 C


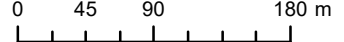
Beaver Dam Mine Project  
Fish Habitat Evaluation  
Methodology: Beaver  
Dam Mine Site



- Daily Flow Assessment Points
- Transect Locations
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Fish Habitat Assessment Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

1:5,000 Scale when printed @ 11" x 17"

Drawn By: LP Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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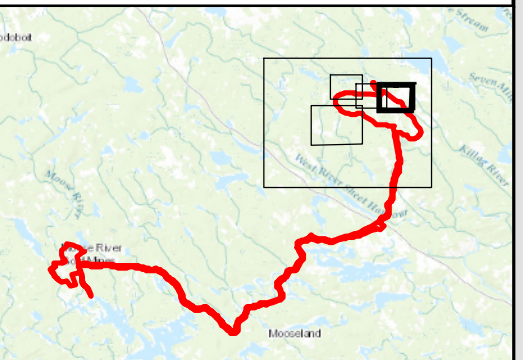
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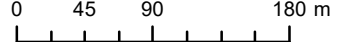
FIGURE J.4-1 D

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Methodology: Beaver  
Dam Mine Site

- Daily Flow Assessment Points
- Transect Locations
- Lime Doser
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Fish Habitat Assessment Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

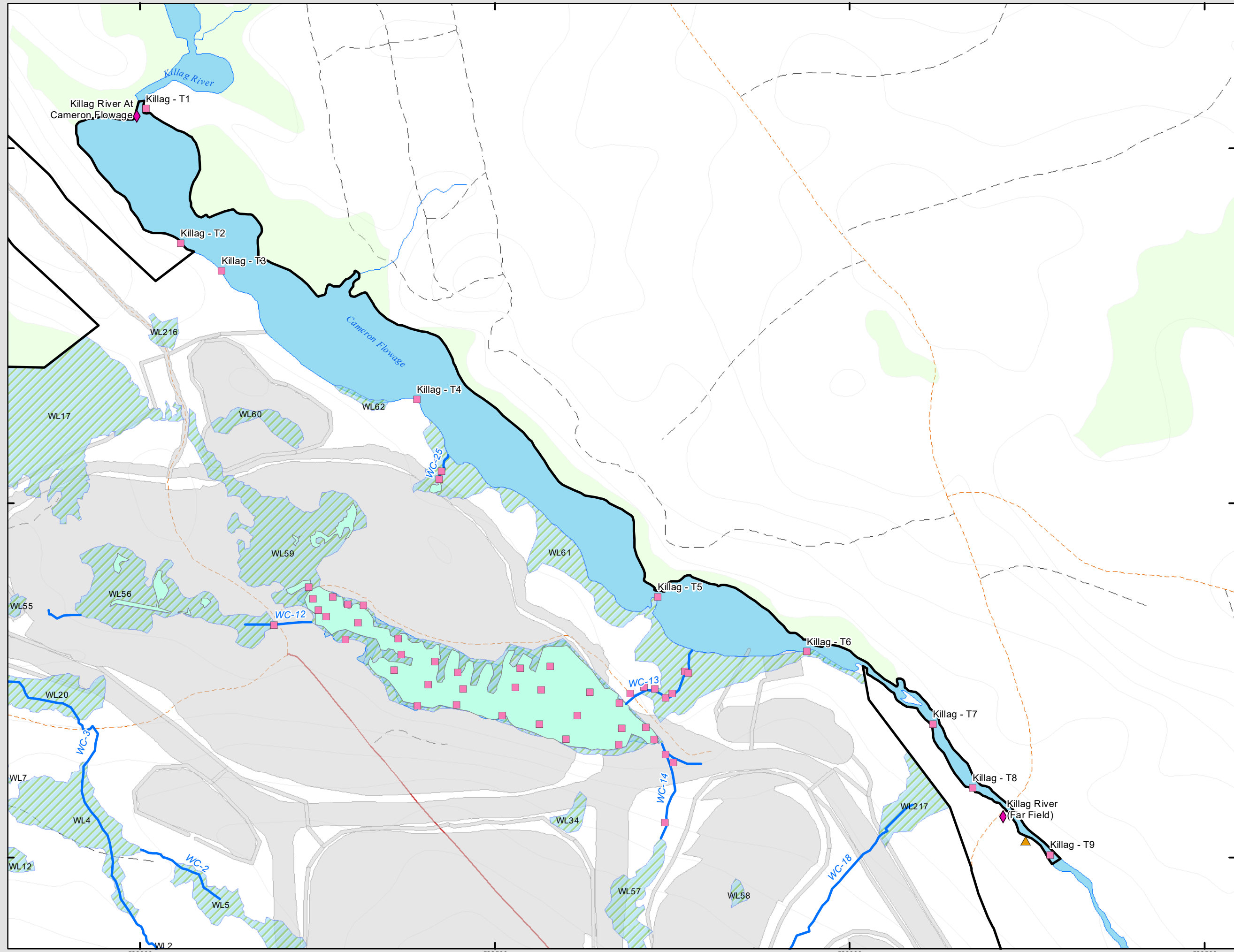
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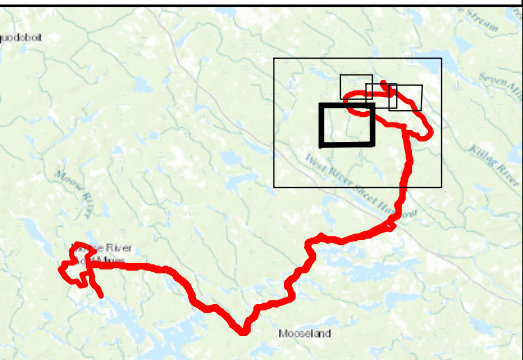


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**FIGURE J.4-1 E**

**Beaver Dam Mine Project  
Fish Habitat Evaluation  
Methodology: Beaver  
Dam Mine Site**

-  Daily Flow Assessment Points
-  Transect Locations
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Field Delineated Watercourses within PA
-  NSTDB Mapped Watercourses outside PA
-  Lake
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Planned Infrastructure
-  Fish Habitat Assessment Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 75 150 300 m

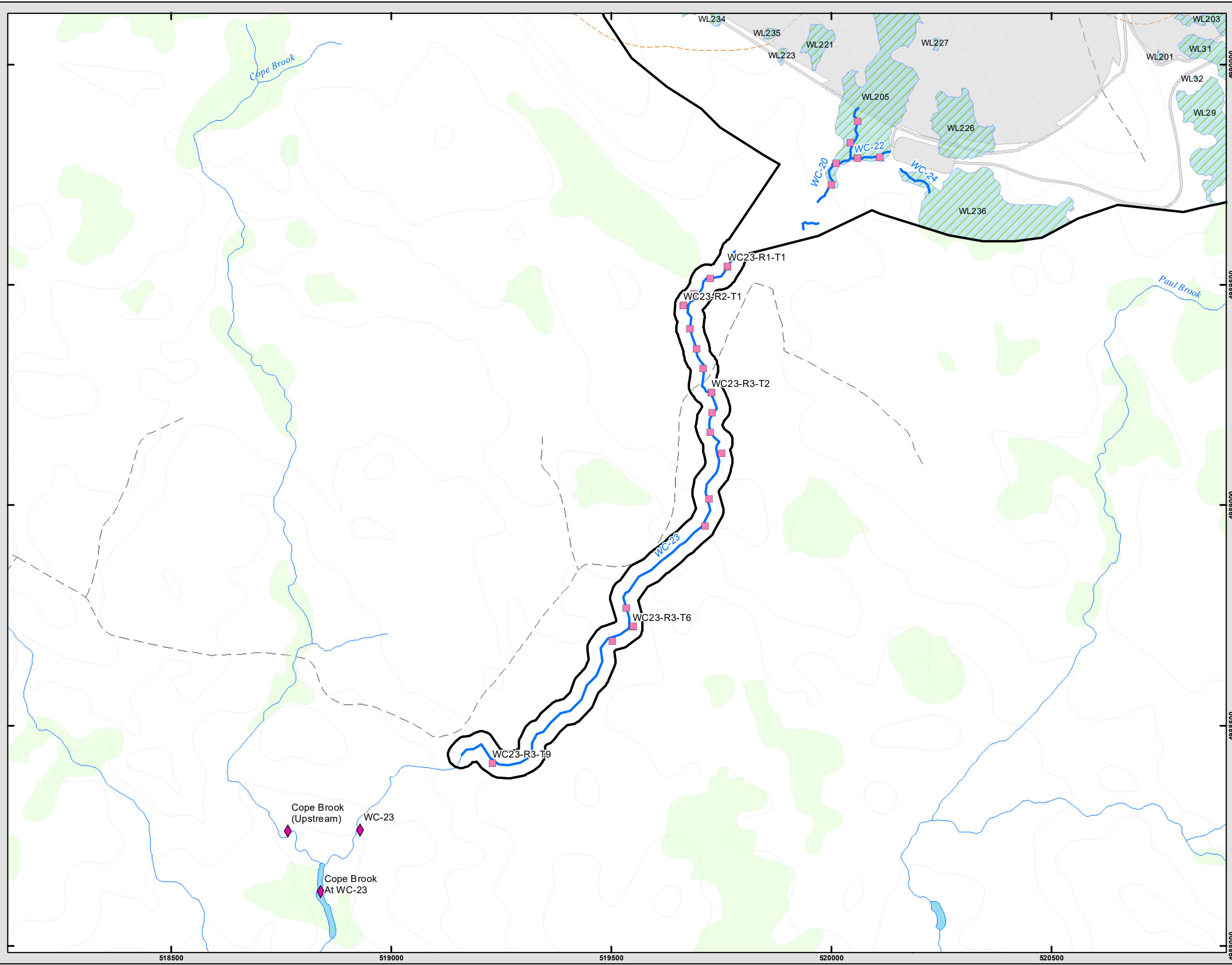
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Drawn By: LP Date: 2021-04-14  
 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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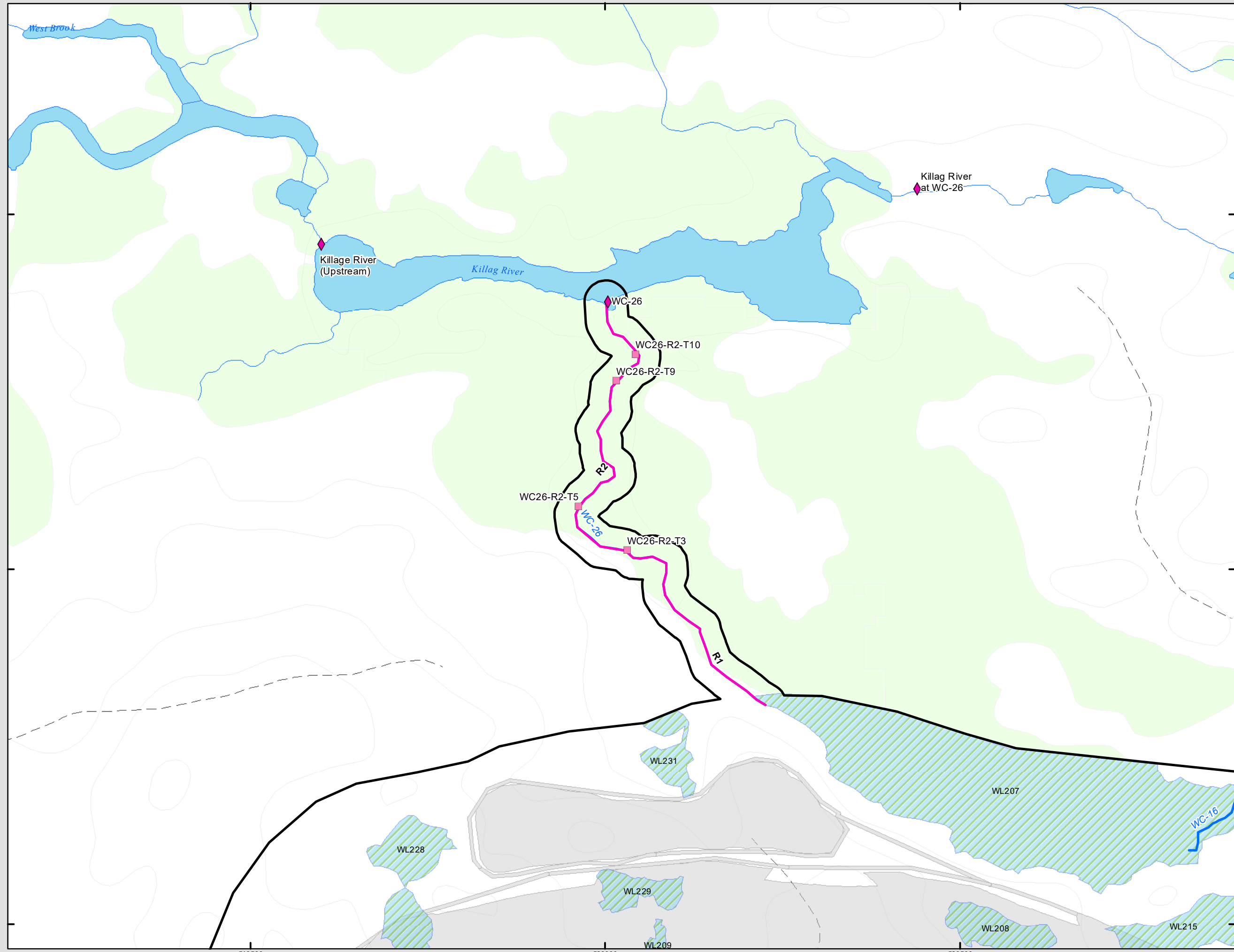


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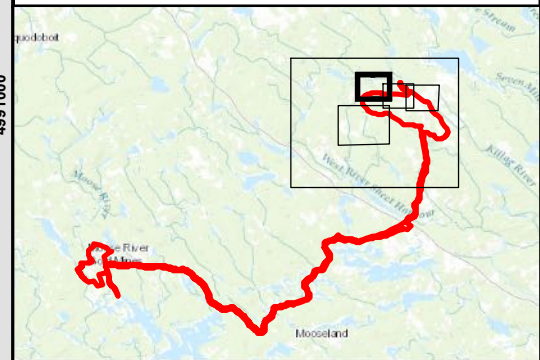


FIGURE J.4-2 A

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Beaver Dam  
Mine Site



- Fish Habitat Quantification: Dominant Habitat Type by Reach (R)**
- ◆ Daily Flow Assessment Points
  - Transect Locations
  - Track
  - Topo Contours (5 m)
  - Field Delineated Watercourses within PA
  - NSTDB Mapped Watercourses outside PA
  - Lake
  - Field Delineated Wetlands within PA
  - NSE Mapped Wetlands outside PA
  - Planned Infrastructure
  - Fish Habitat Assessment Area (FHAA)



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

1:5,000 Scale when printed @ 11" x 17"

Drawn By: LP Date: 2021-04-14  
 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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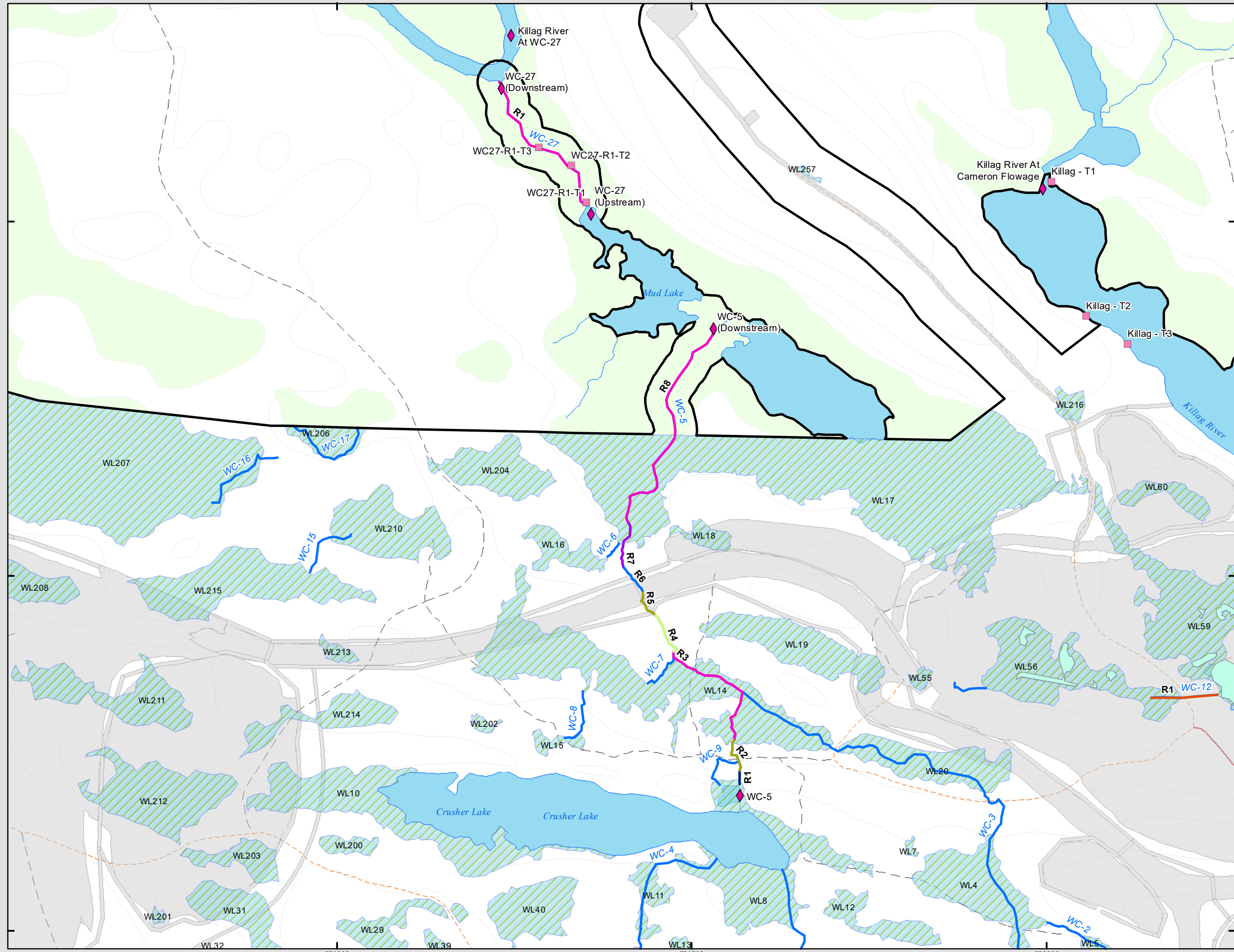
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FIGURE J.4-2 B

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Beaver Dam  
Mine Site

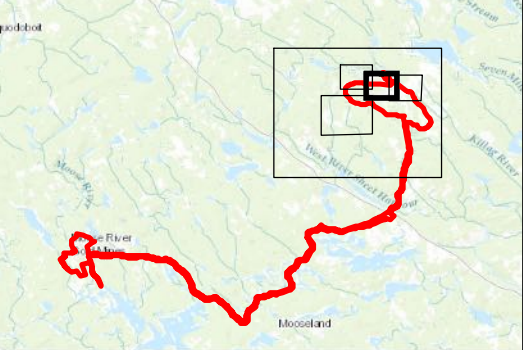


**Fish Habitat Quantification: Dominant Habitat Type by Reach (R)**


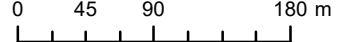
- Cascade
- Rapid
- Run
- Pool
- Flat
- No Defined Channel
- Seep

**Legend:**

- Daily Flow Assessment Points
- Transect Locations
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Fish Habitat Assessment Area (FHAA)



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

1:5,000 Scale when printed @ 11" x 17"

Drawn By: LP  
Reviewed By: XX  
Date: 2021-04-14

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



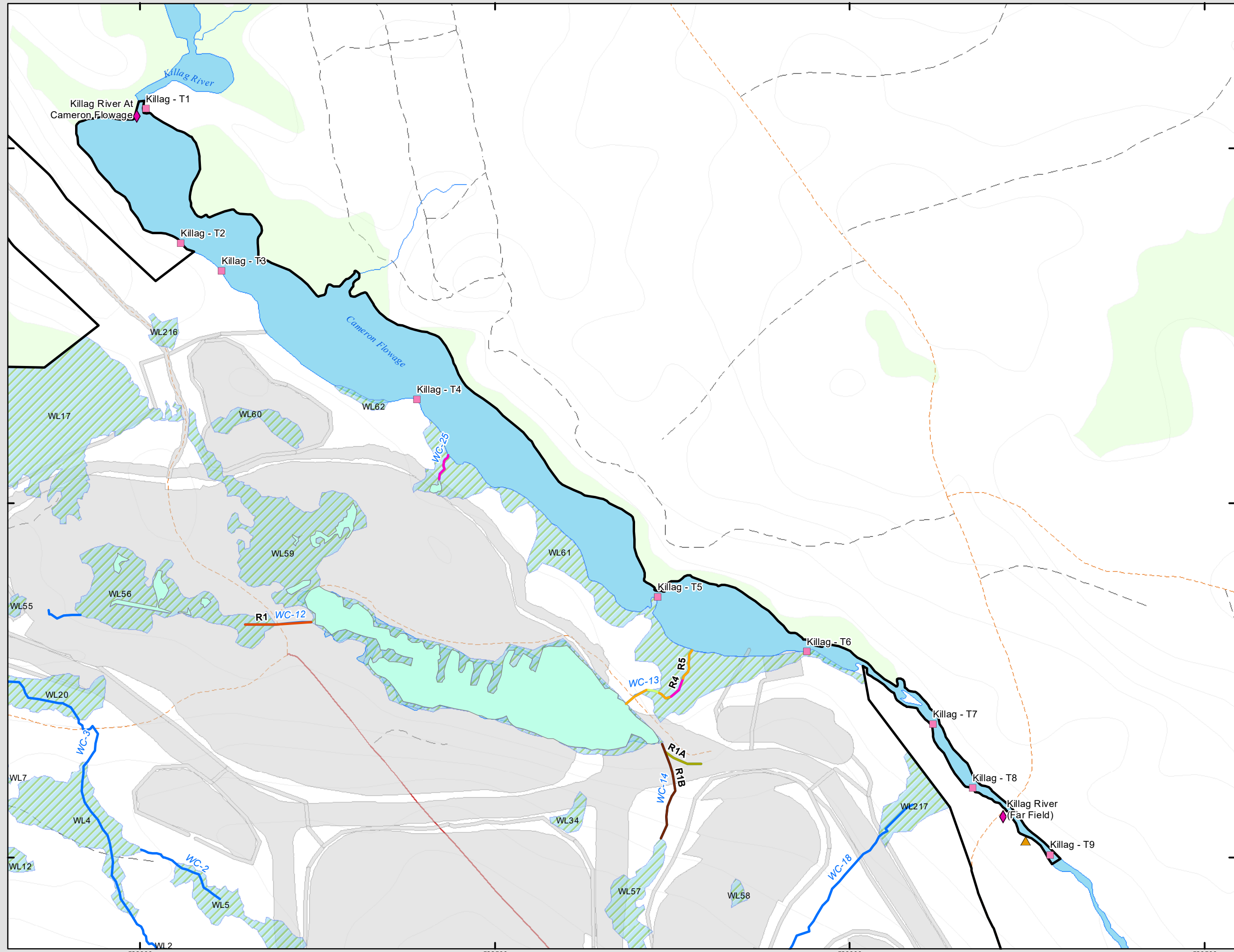
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FIGURE J.4-4 C

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Beaver Dam  
Mine Site

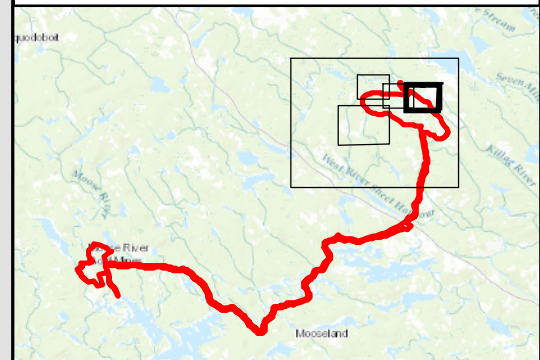


**Fish Habitat Quantification: Dominant Habitat Type by Reach (R)**

- Step-pool
- Run
- Riffle
- Pool
- Flat
- Seep

**Daily Flow Assessment Points**

- Transect Locations
- Lime Doser
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Fish Habitat Assessment Area (FHAA)



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 45 90 180 m

1:5,000 Scale when printed @ 11" x 17"

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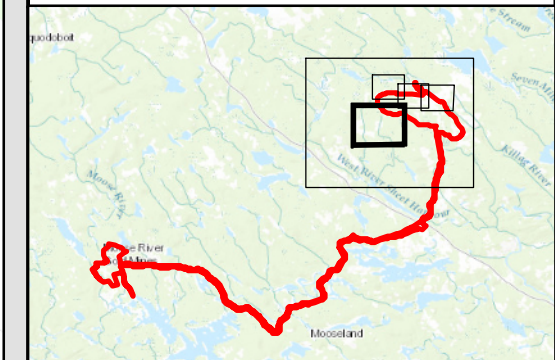
Prepared For:



FIGURE J.4-4 D

### Beaver Dam Mine Project Fish Habitat Evaluation Results: Beaver Dam Mine Site

- Fish Habitat Quantification:  
Dominant Habitat Type by  
Reach (R)**
- Daily Flow Assessment Points
  - Transect Locations
  - Dry Weather / Seasonal Road
  - Flat
  - Track
  - Topo Contours (5 m)
  - Field Delineated Watercourses within PA
  - NSTDB Mapped Watercourses outside PA
  - Lake
  - Field Delineated Wetlands within PA
  - NSE Mapped Wetlands outside PA
  - Planned Infrastructure
  - Fish Habitat Assessment Area (FHAA)



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 75 150 300 m

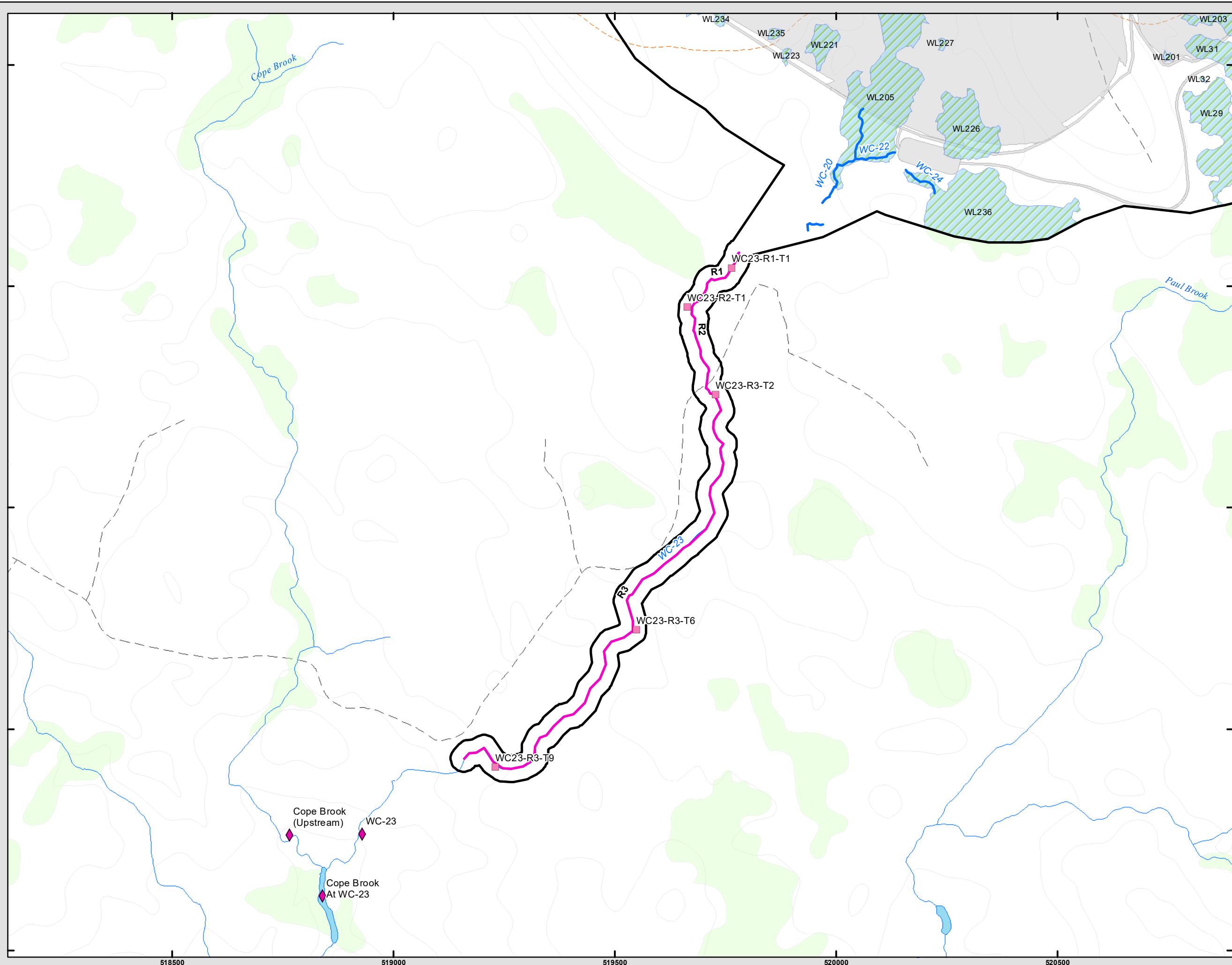
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Drawn By: LP Date: 2021-04-14  
 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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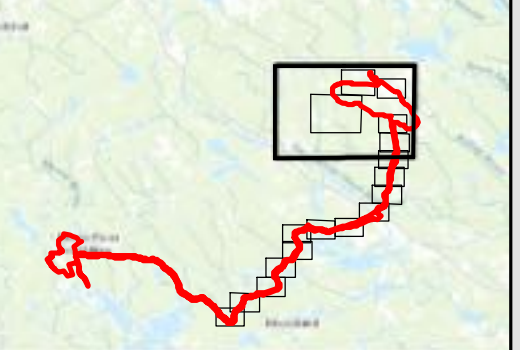
FIGURE J.4-3A

Beaver Dam Mine Project

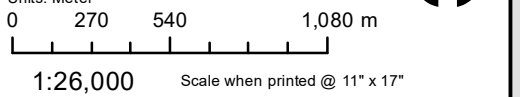
Fisheries Resources

- Lime Doser
- Fisheries Resources
- Provincially Regulated Watercourses
- Wetland Providing Fish Habitat\*
- NSTDB Mapped Watercourses outside PA
- Collector Road
- Local Road
- Dry Weather / Seasonal Road
- Diveways (>300 m)
- Track
- Topo Contours (5 m)
- Open Water
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Fish Habitat Assessment Area (FHAA)
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

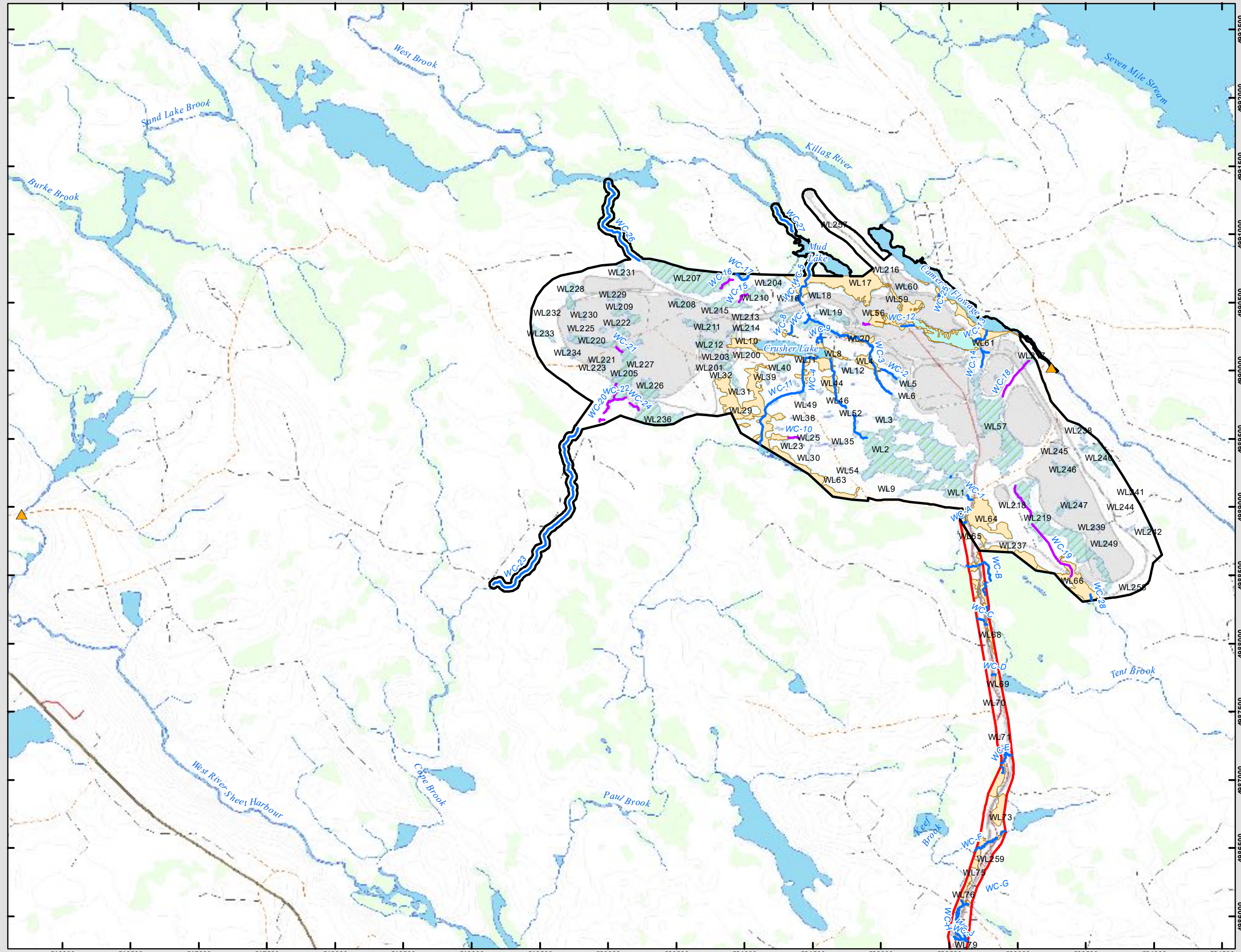


Drawn By: EP Date: 2021-04-14  
 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors,



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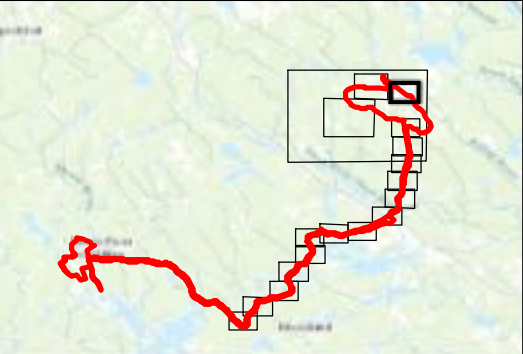
FIGURE J.4-3B

Beaver Dam Mine Project

Fisheries Resources

- Lime Doser
- Fisheries Resources
- Provincially Regulated Watercourses
- Wetland Providing Fish Habitat\*
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Open Water
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Fish Habitat Assessment Area (FHAA)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



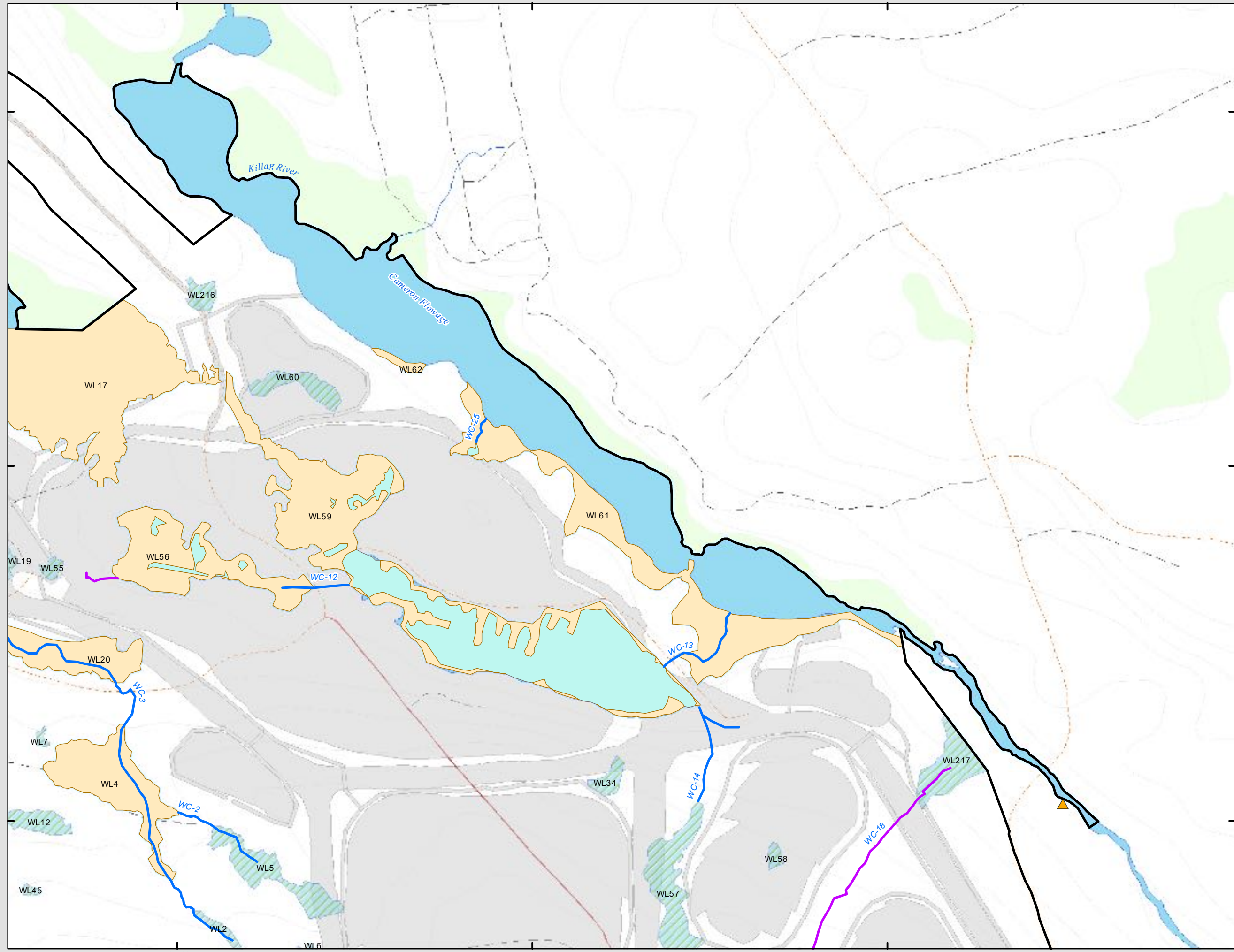
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 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter  
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 1:5,000 Scale when printed @ 11" x 17"

Drawn By: EP Reviewed By: XX Date: 2021-04-14

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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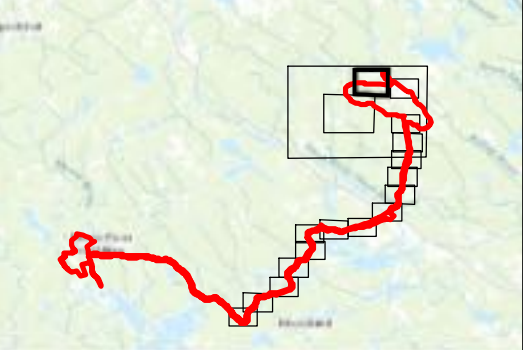
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**FIGURE J.4-3C**


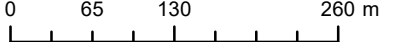
**Beaver Dam Mine Project  
Fisheries Resources**

-  Fisheries Resources
-  Provincially Regulated Watercourses
-  Wetland Providing Fish Habitat\*
-  NSTDB Mapped Watercourses outside PA
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Planned Infrastructure
-  Fish Habitat Assessment Area (FHAA)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

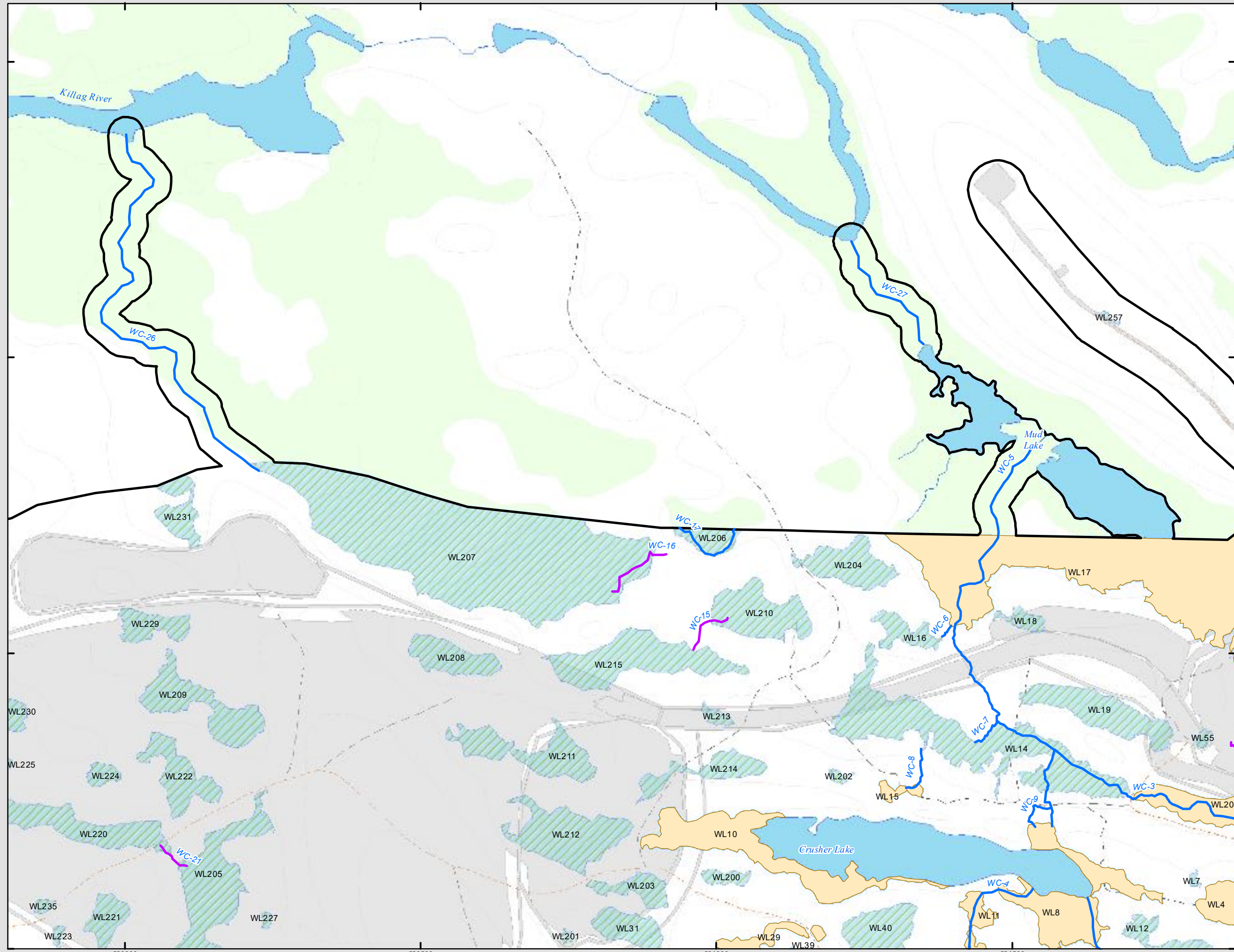
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Drawn By: EP Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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4990000  
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520500  
521000  
521500












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**FIGURE J.4-3D**


**Beaver Dam Mine Project  
Fisheries Resources**

-  Fisheries Resources
-  Provincially Regulated Watercourses
-  Wetland Providing Fish Habitat\*
-  NSTDB Mapped Watercourses outside PA
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Planned Infrastructure
-  Fish Habitat Assessment Area (FHAA)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only




Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter



0 85 170 340 m

1:8,000 Scale when printed @ 11" x 17"

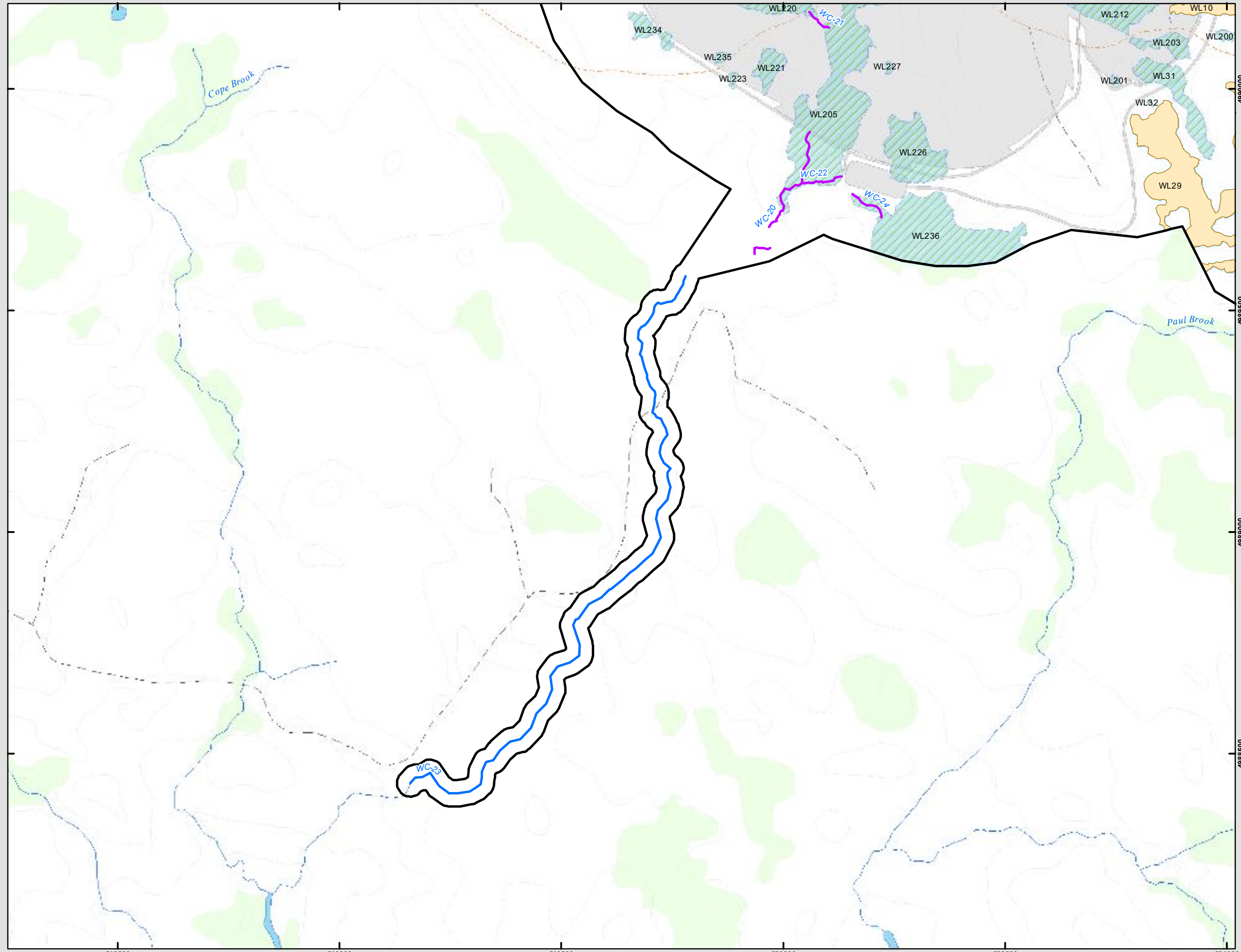


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Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors,

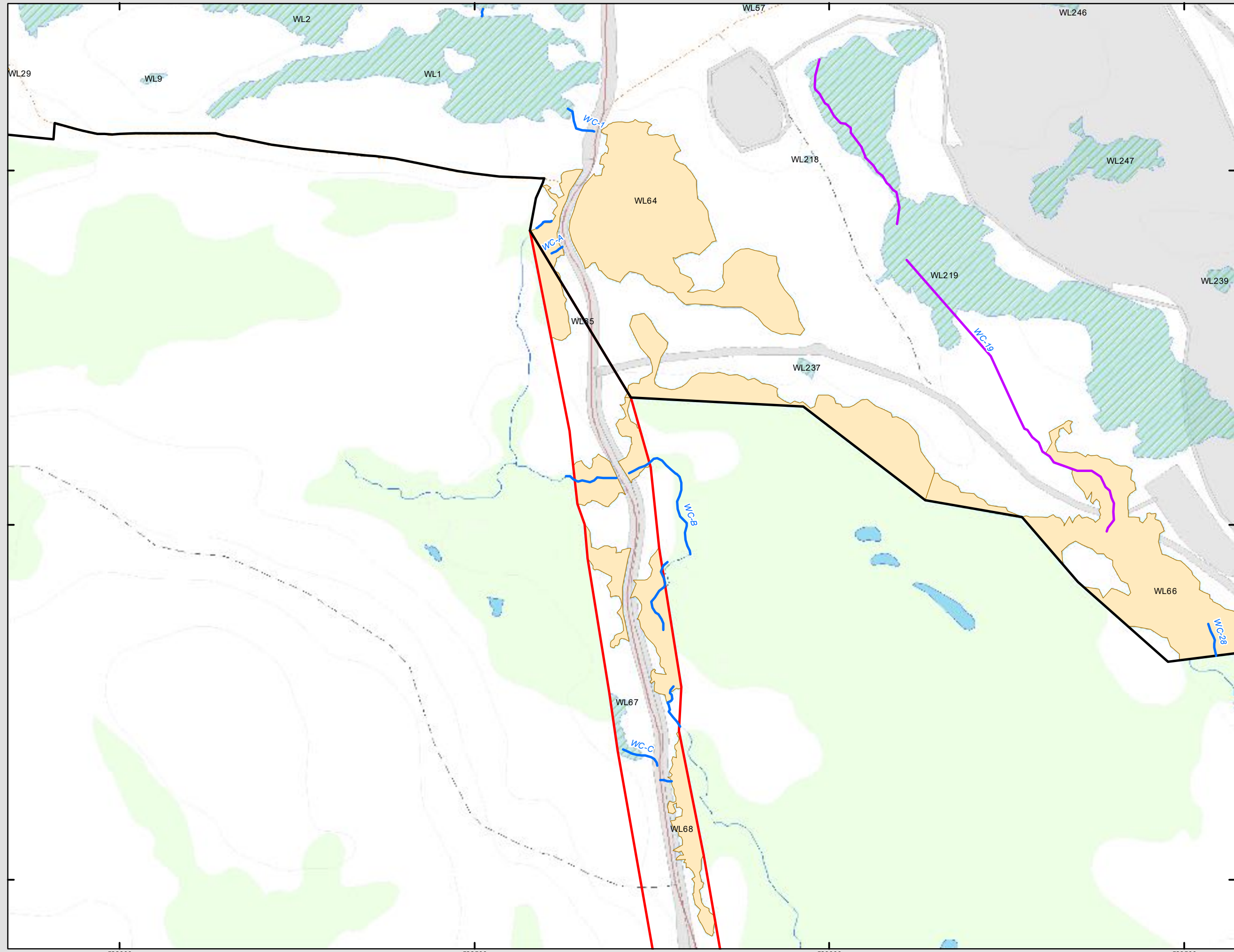















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**FIGURE J.4-3E**

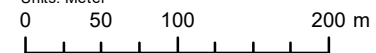
**Beaver Dam Mine Project  
 Fisheries Resources**



-  Fisheries Resources
-  Provincially Regulated Watercourses
-  Wetland Providing Fish Habitat\*
-  NSTDB Mapped Watercourses outside PA
-  Local Road
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Planned Infrastructure
-  Fish Habitat Assessment Area (FHAA)
-  Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter  
  
 1:5,000 Scale when printed @ 11" x 17"

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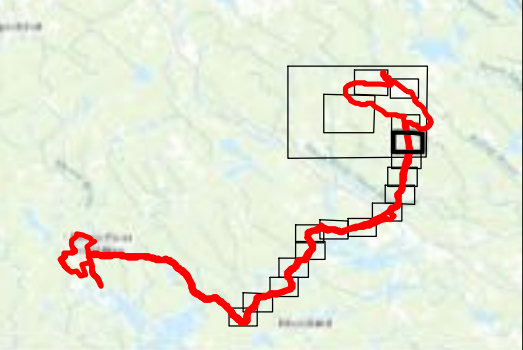


FIGURE J.4-3F

Beaver Dam Mine Project  
Fisheries Resources

- Fisheries Resources
- Wetland Providing Fish Habitat\*
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



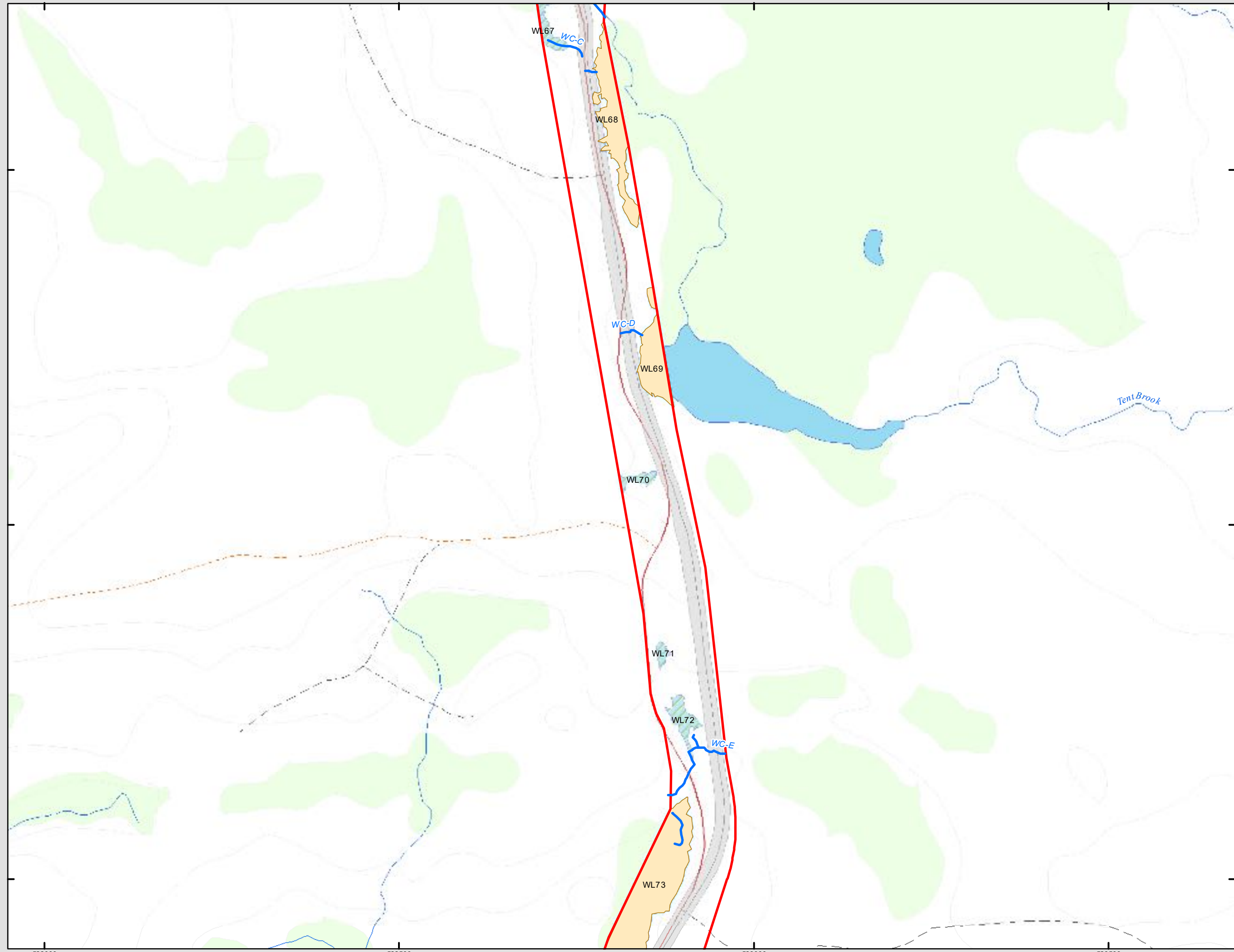
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 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter  
 0 50 100 200 m  
 1:5,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors,



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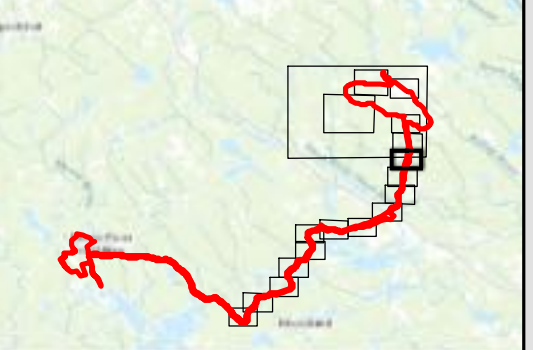


FIGURE J.4-3G

Beaver Dam Mine Project  
Fisheries Resources

- Fisheries Resources
- Wetland Providing Fish Habitat\*
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Open Water
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
Projection: Transverse Mercator  
Datum: North American 1983 CSRS  
Units: Meter



0 50 100 200 m

1:5,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2021-04-14  
Reviewed By: XX

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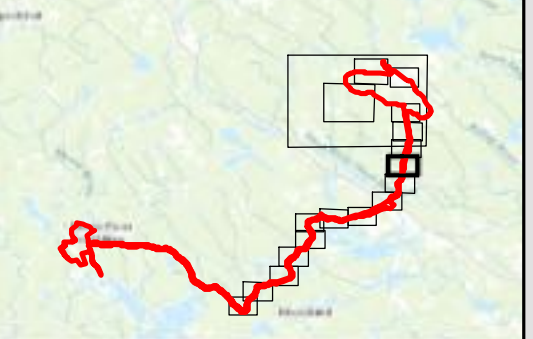


FIGURE J.4-3H

Beaver Dam Mine Project  
Fisheries Resources

- Fisheries Resources
- Wetland Providing Fish Habitat\*
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



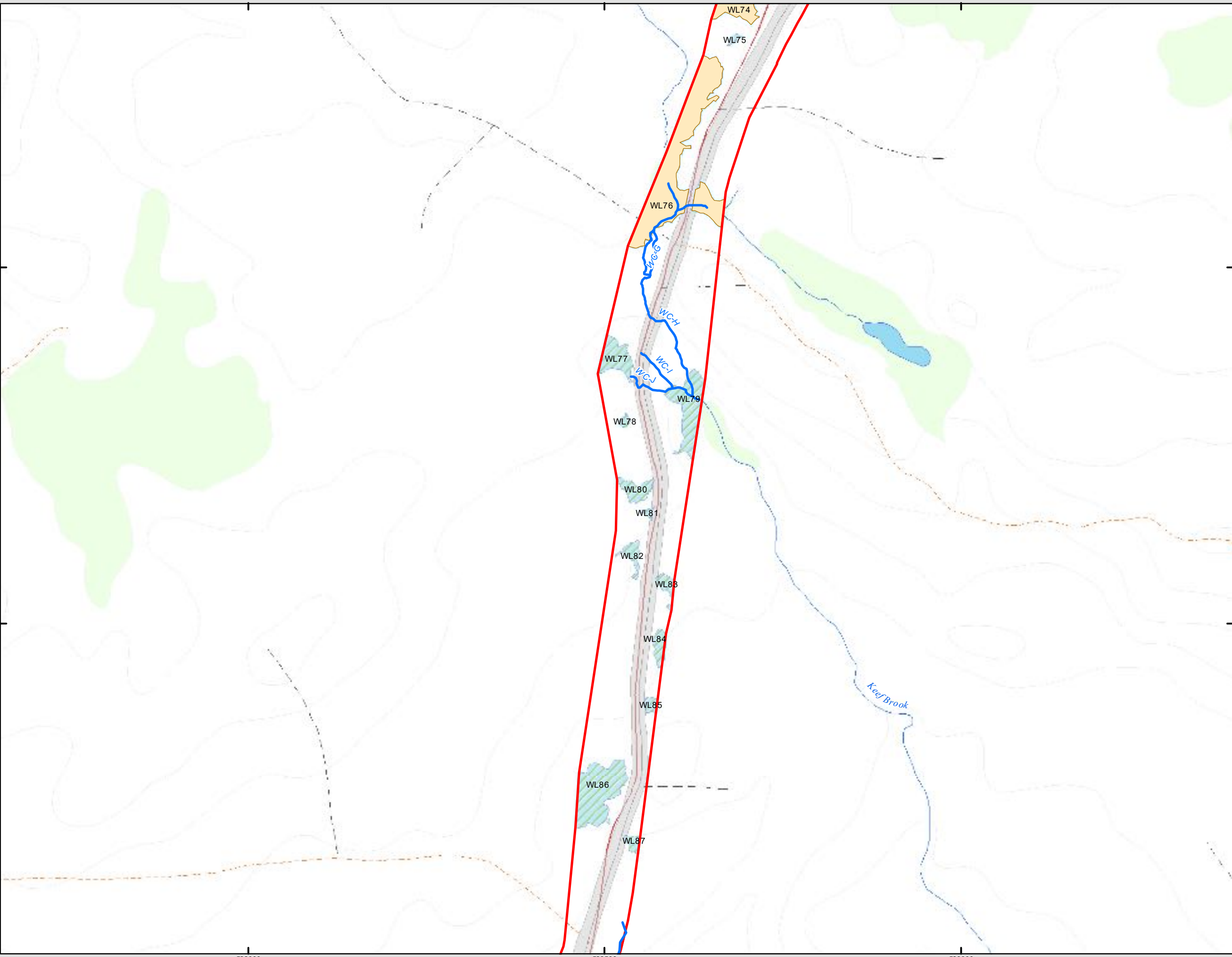
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Drawn By: EP Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors,



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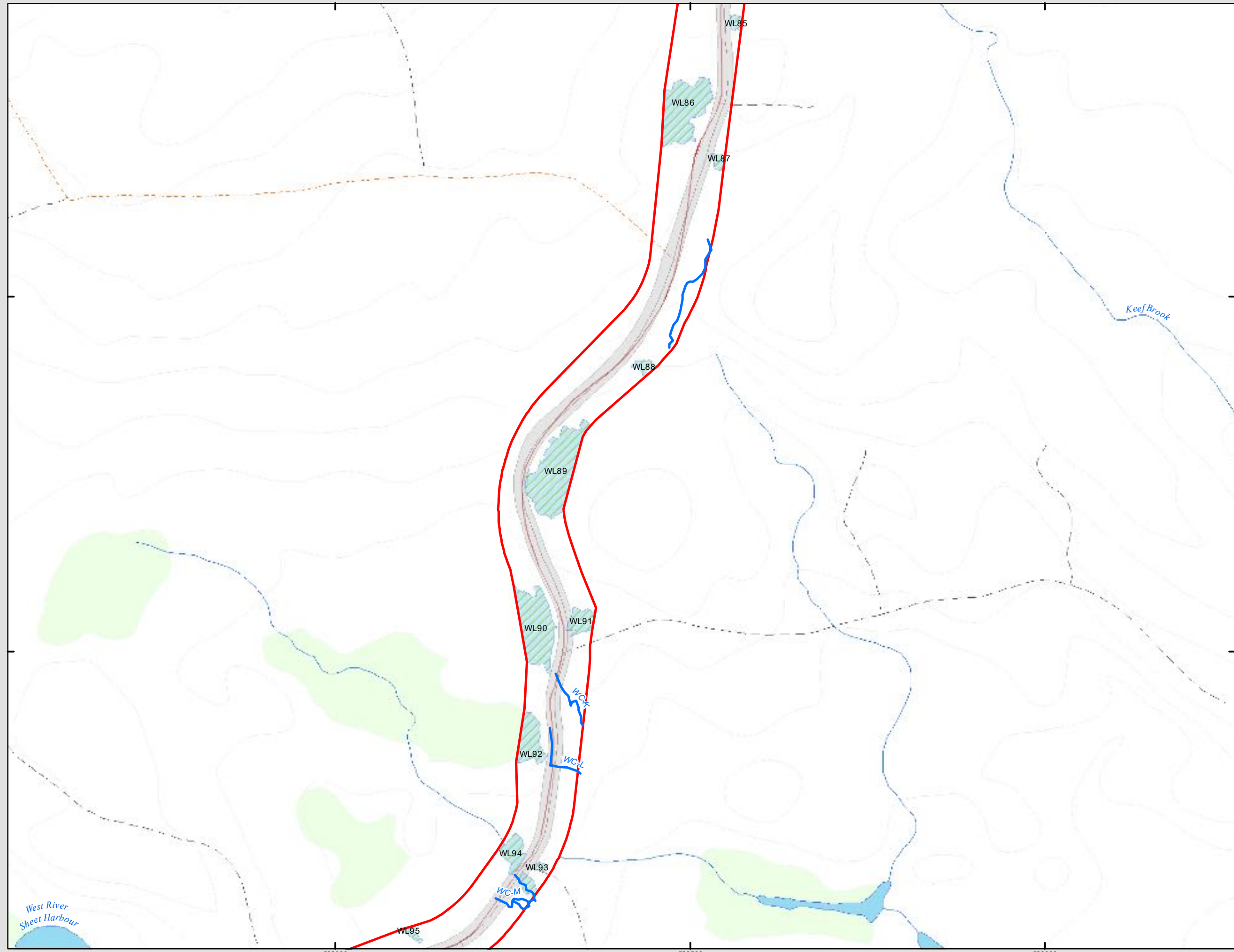
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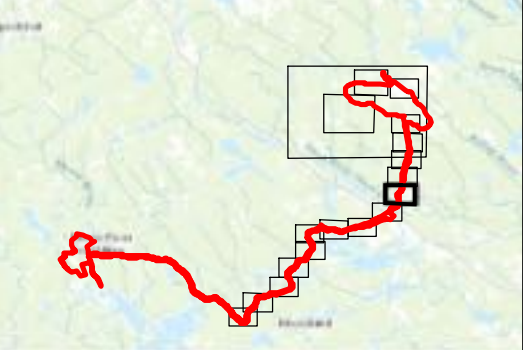
FIGURE J.4-3I

Beaver Dam Mine Project  
Fisheries Resources



- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter  
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 1:5,000 Scale when printed @ 11" x 17"

Drawn By: EP  
Reviewed By: XX  
Date: 2021-04-14

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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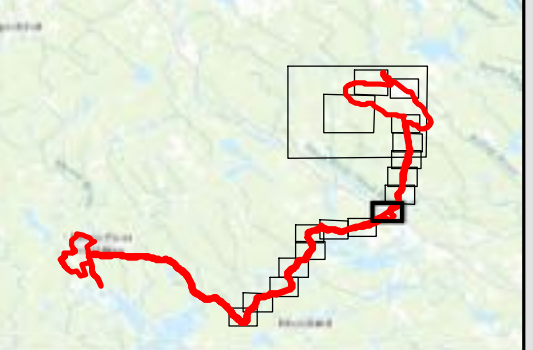


FIGURE J.4-3J

Beaver Dam Mine Project  
Fisheries Resources

- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Collector Road
- Local Road
- Dry Weather / Seasonal Road
- Diveways (>300 m)
- Track
- Topo Contours (5 m)
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



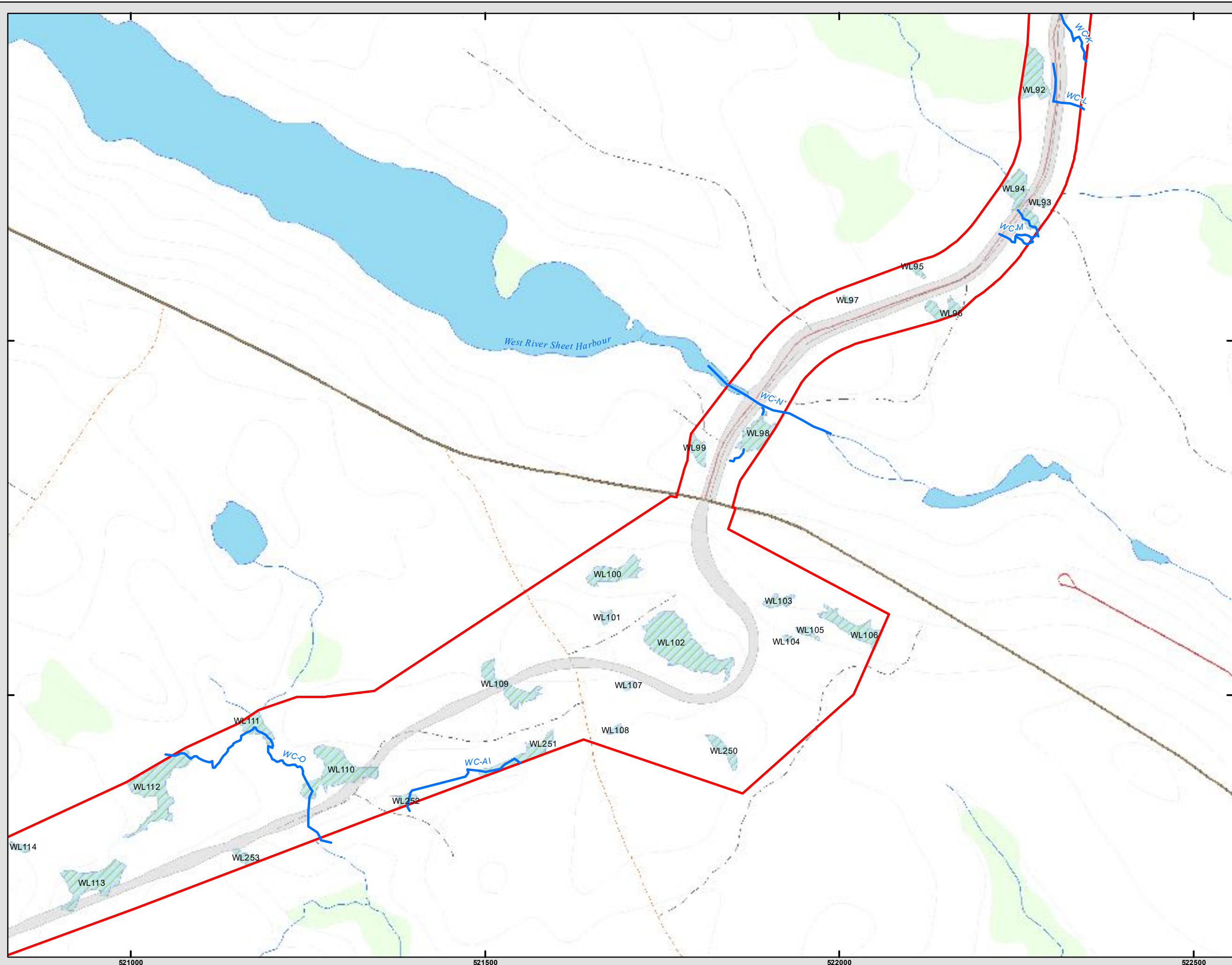
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 1:5,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Gamin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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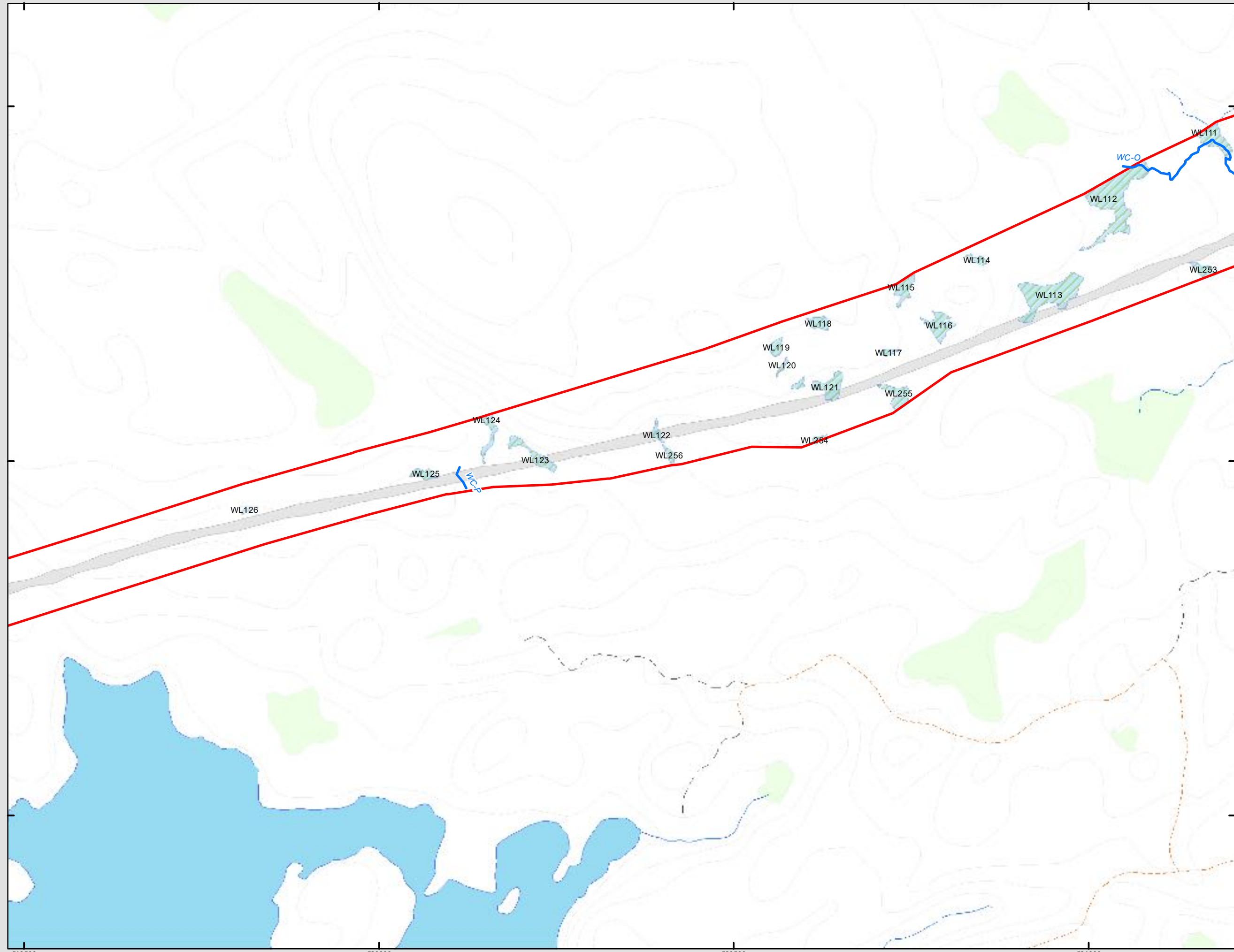
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

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**FIGURE J4-3K**

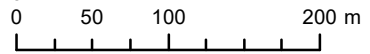
**Beaver Dam Mine Project  
 Fisheries Resources**



-  Fisheries Resources
-  NSTDB Mapped Watercourses outside PA
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Planned Infrastructure
-  Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter  
  
 1:5,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2021-04-14  
 Reviewed By: XX

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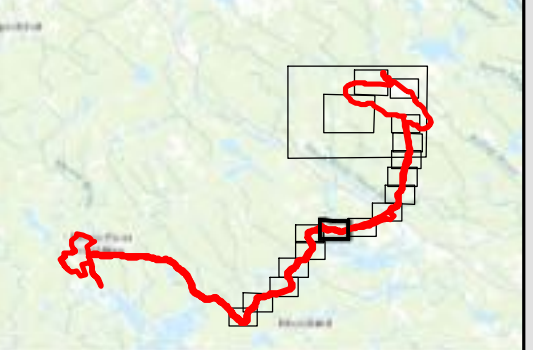


FIGURE J.4-3L

Beaver Dam Mine Project  
Fisheries Resources

- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



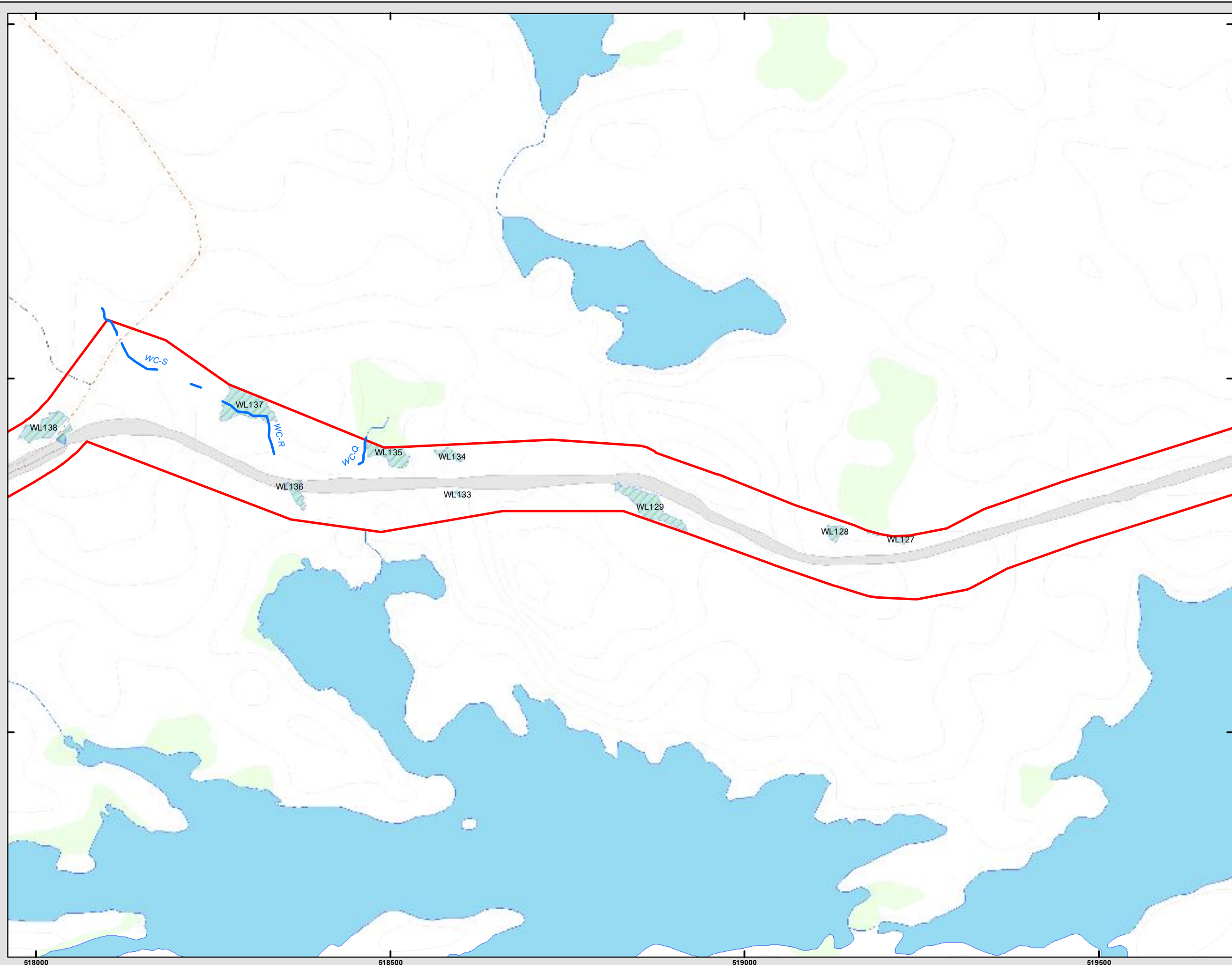
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Drawn By: EP Date: 2021-04-14  
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Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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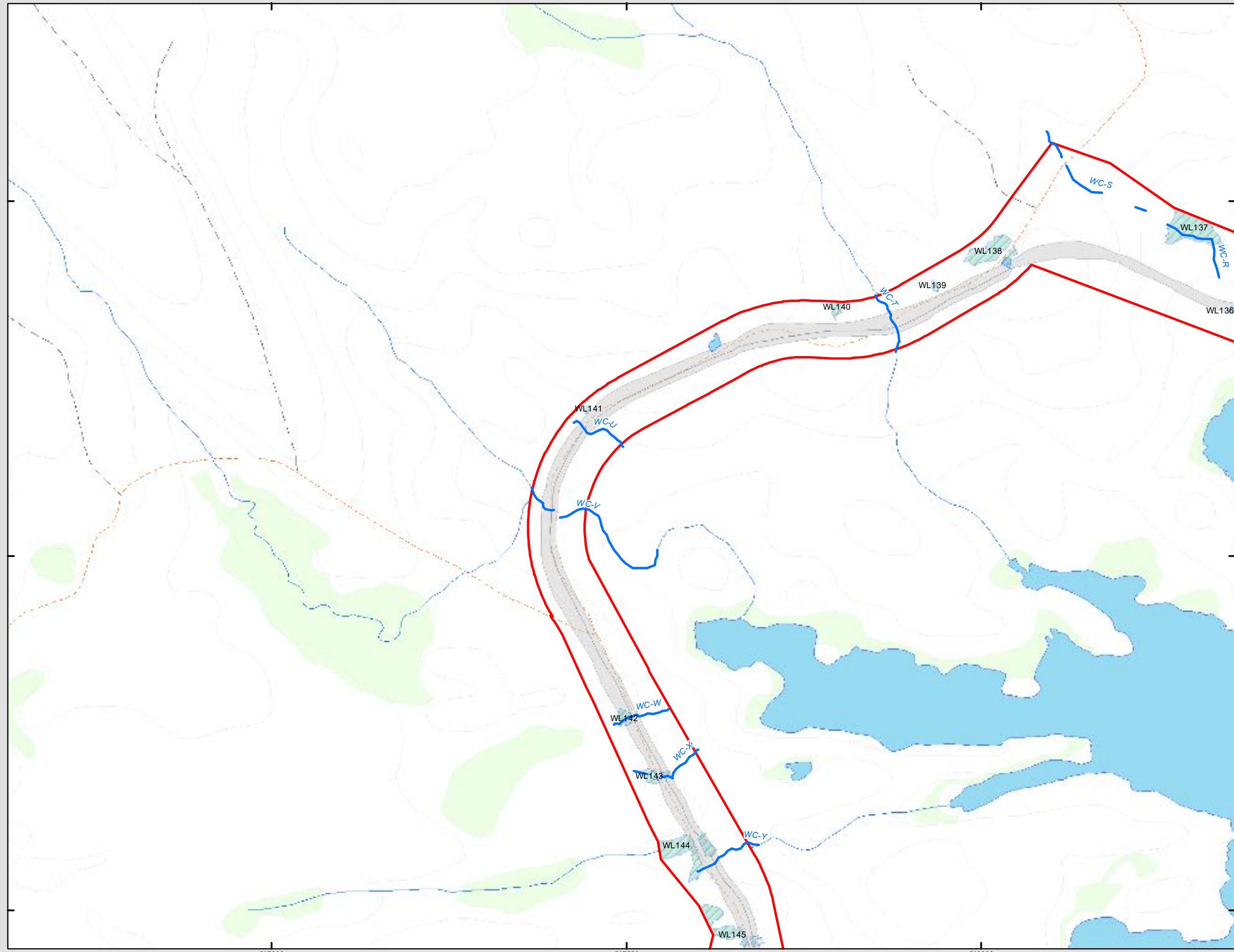


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FIGURE J.4-3M

Beaver Dam Mine Project  
Fisheries Resources



- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- - - Dry Weather / Seasonal Road
- - - Track
- - - Topo Contours (5 m)
- Open Water
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter  
 0 50 100 200 m  
 1:5,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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FIGURE J.4-3N

Beaver Dam Mine Project  
Fisheries Resources

- Fisheries Resources
- Wetland Providing Fish Habitat\*
- NSTDB Mapped Watercourses outside PA
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Open Water
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



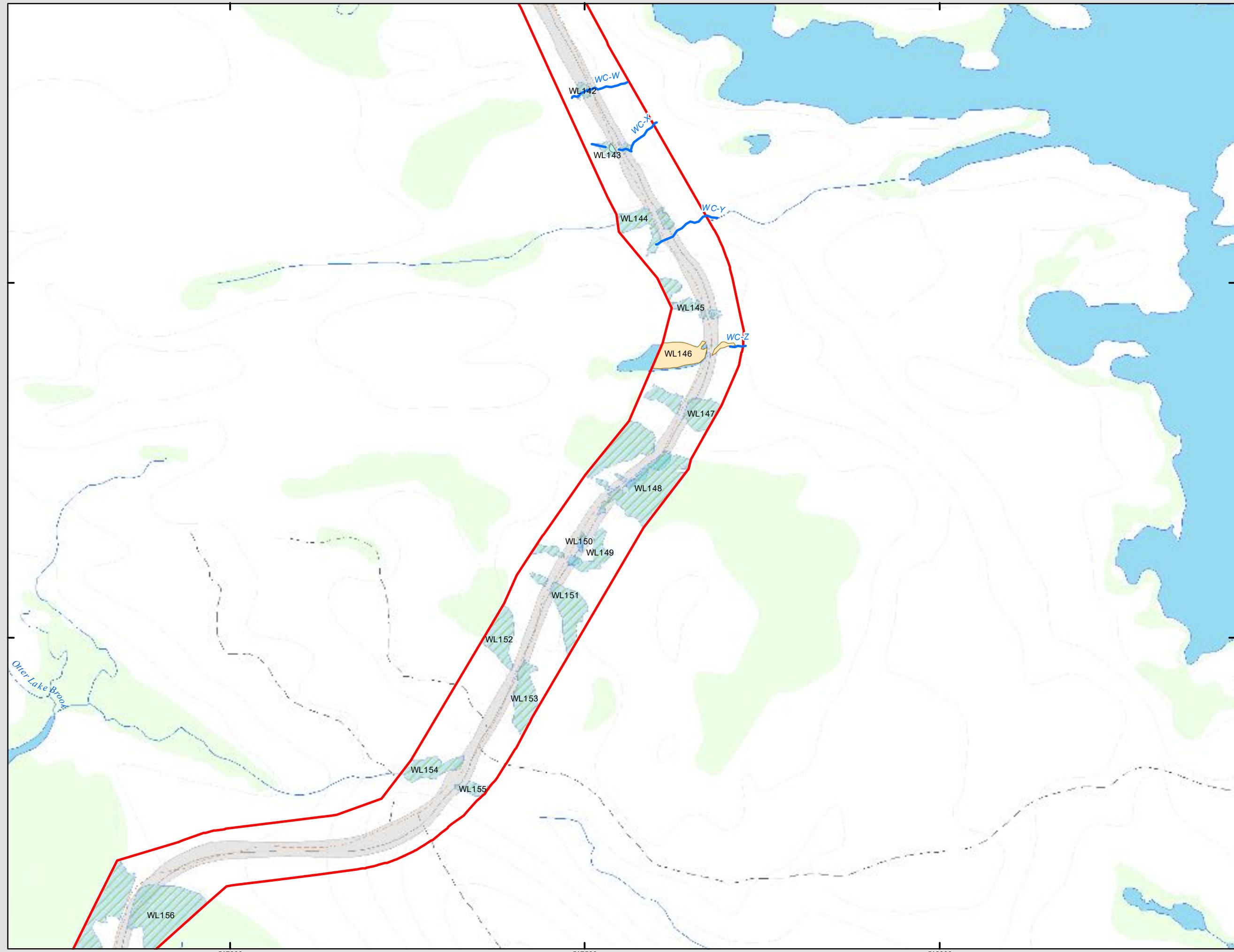
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Drawn By: EP Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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Otter Lake Brook

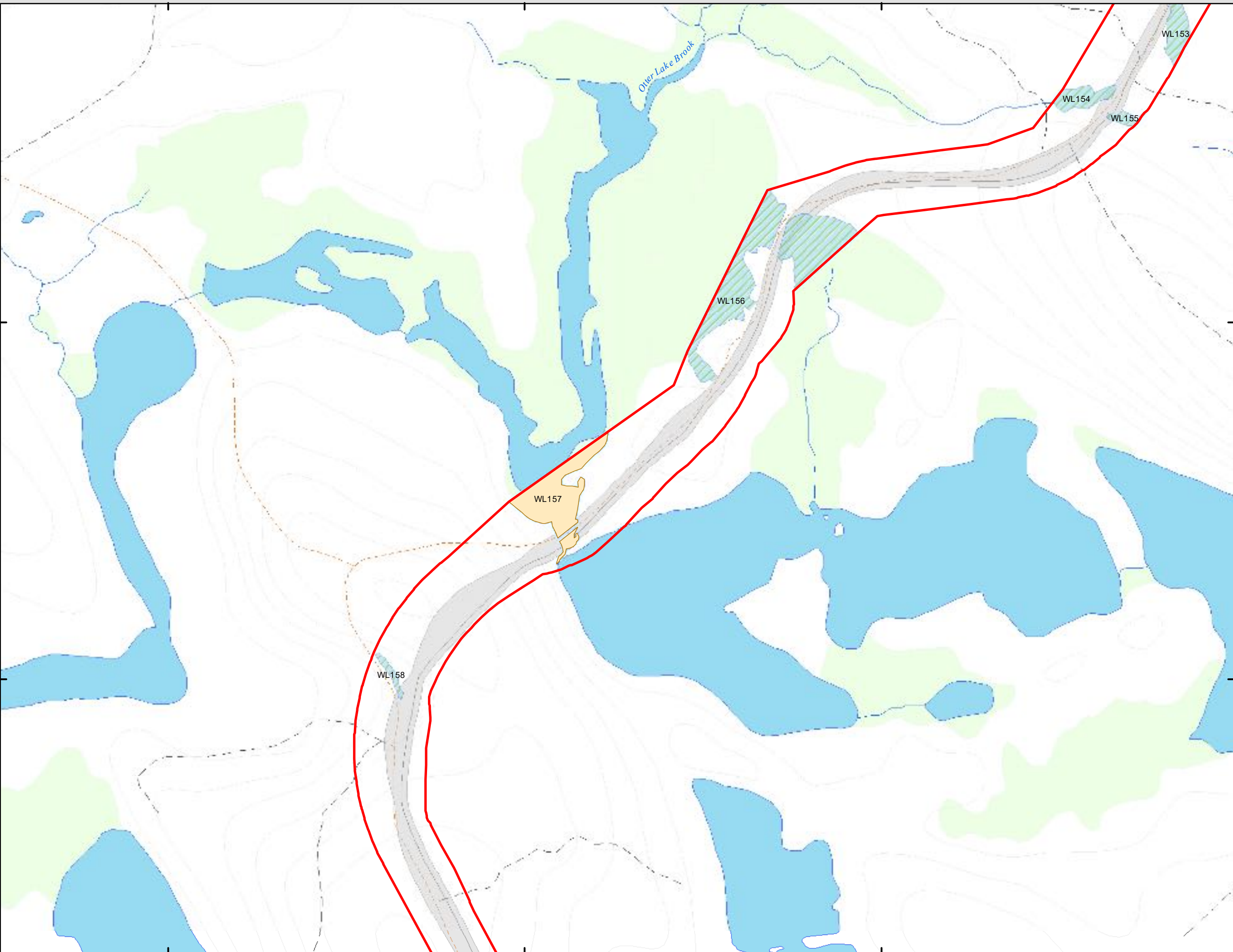


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FIGURE J.4-30

Beaver Dam Mine Project  
Fisheries Resources

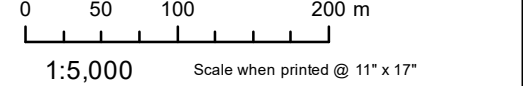


- Wetland Providing Fish Habitat\*
- NSTDB Mapped Watercourses outside PA
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter



Drawn By: EP Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors,



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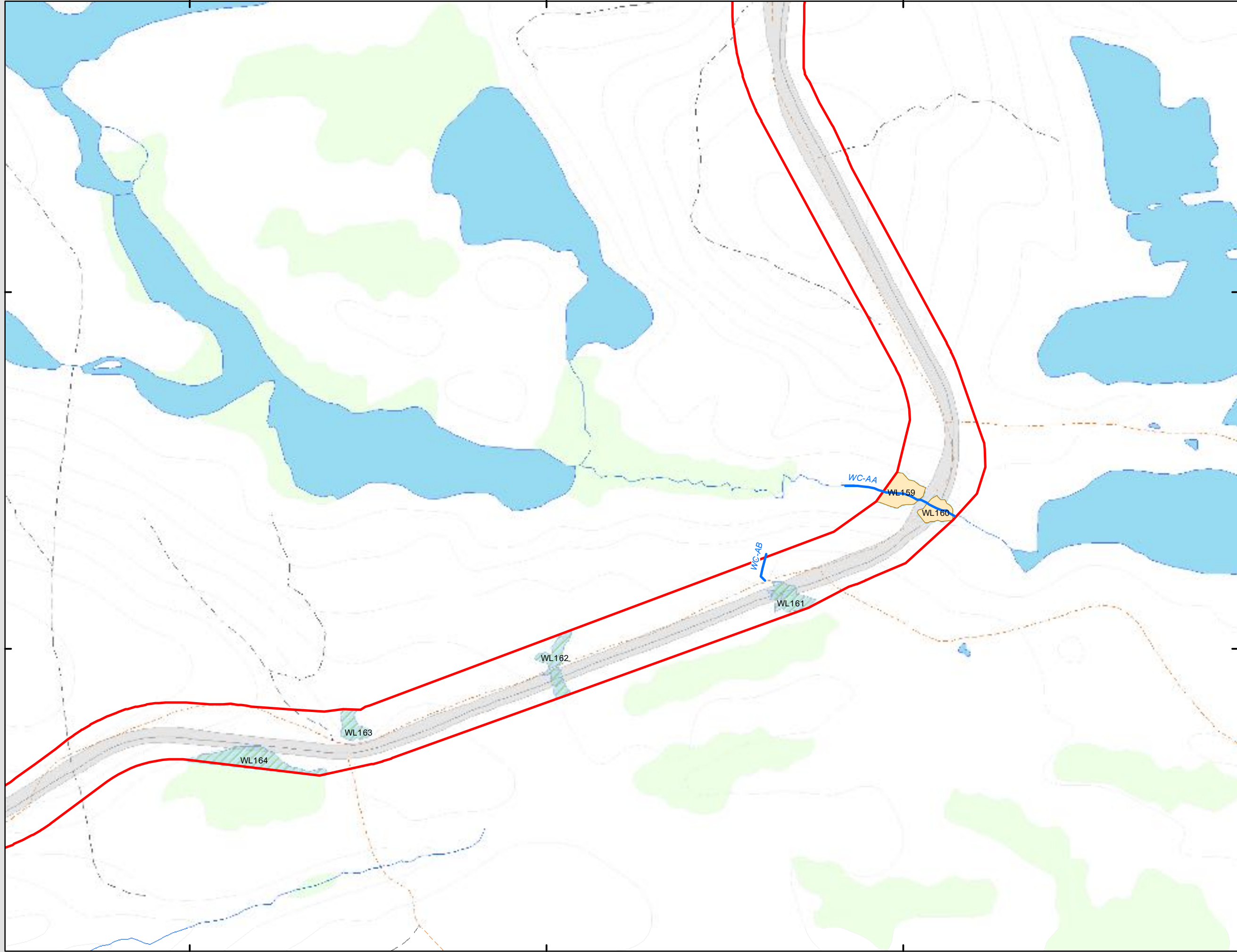
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FIGURE J.4-3

Beaver Dam Mine Project  
Fisheries Resources



- Fisheries Resources
- Wetland Providing Fish Habitat\*
- NSTDB Mapped Watercourses outside PA
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Open Water
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter  
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Drawn By: EP Date: 2021-04-14  
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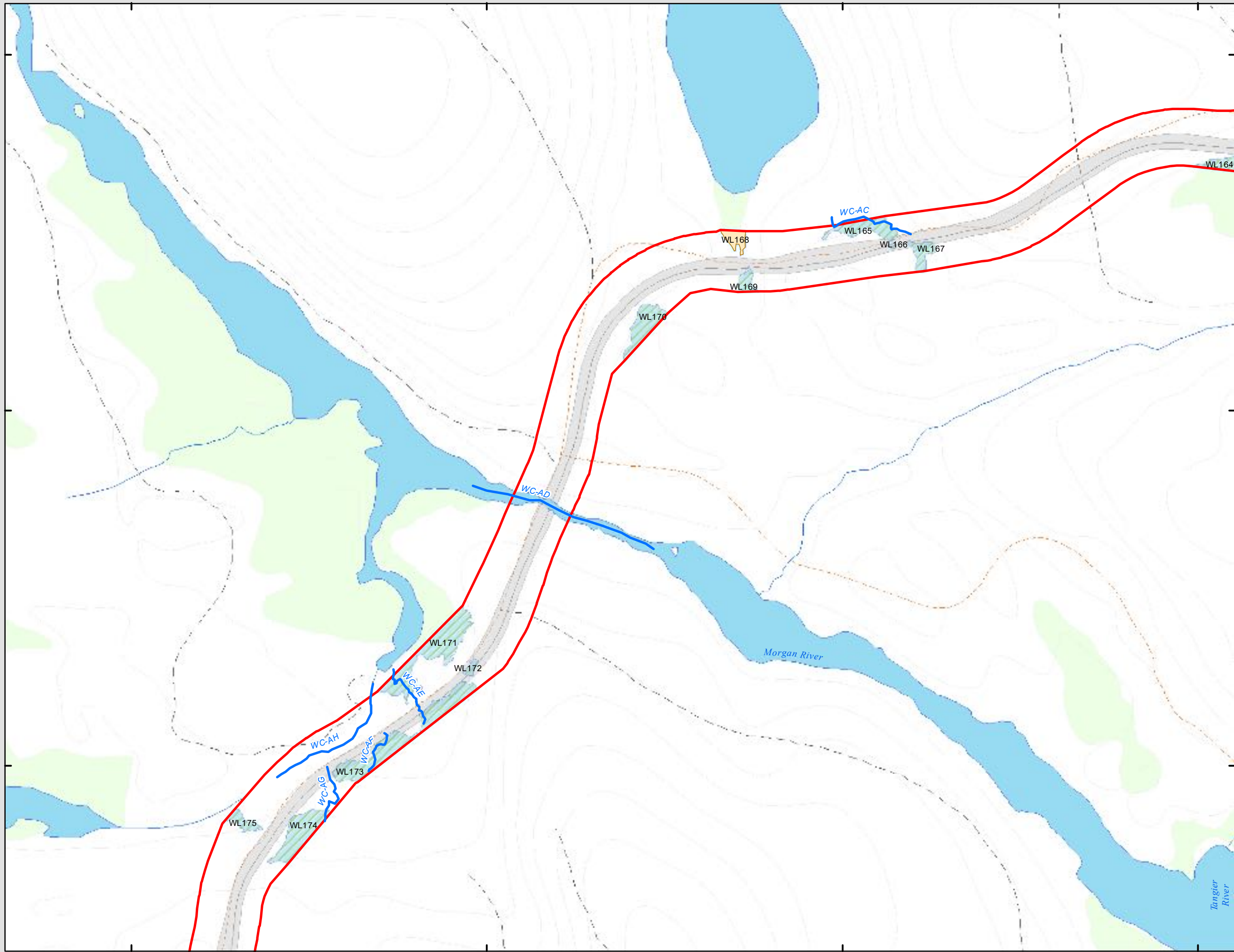
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FIGURE J.4-3Q

Beaver Dam Mine Project  
Fisheries Resources



- Fisheries Resources
- Wetland Providing Fish Habitat\*
- NSTDB Mapped Watercourses outside PA
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter  
 0 50 100 200 m  
 1:5,000 Scale when printed @ 11" x 17"

Drawn By: EP  
Reviewed By: XX  
Date: 2021-04-14

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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FIGURE J.4-3R

Beaver Dam Mine Project  
Fisheries Resources

- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area (used for assessment along Haul Road)

\*NOTE: Fish habitat provided in surface water features within these wetland boundaries only



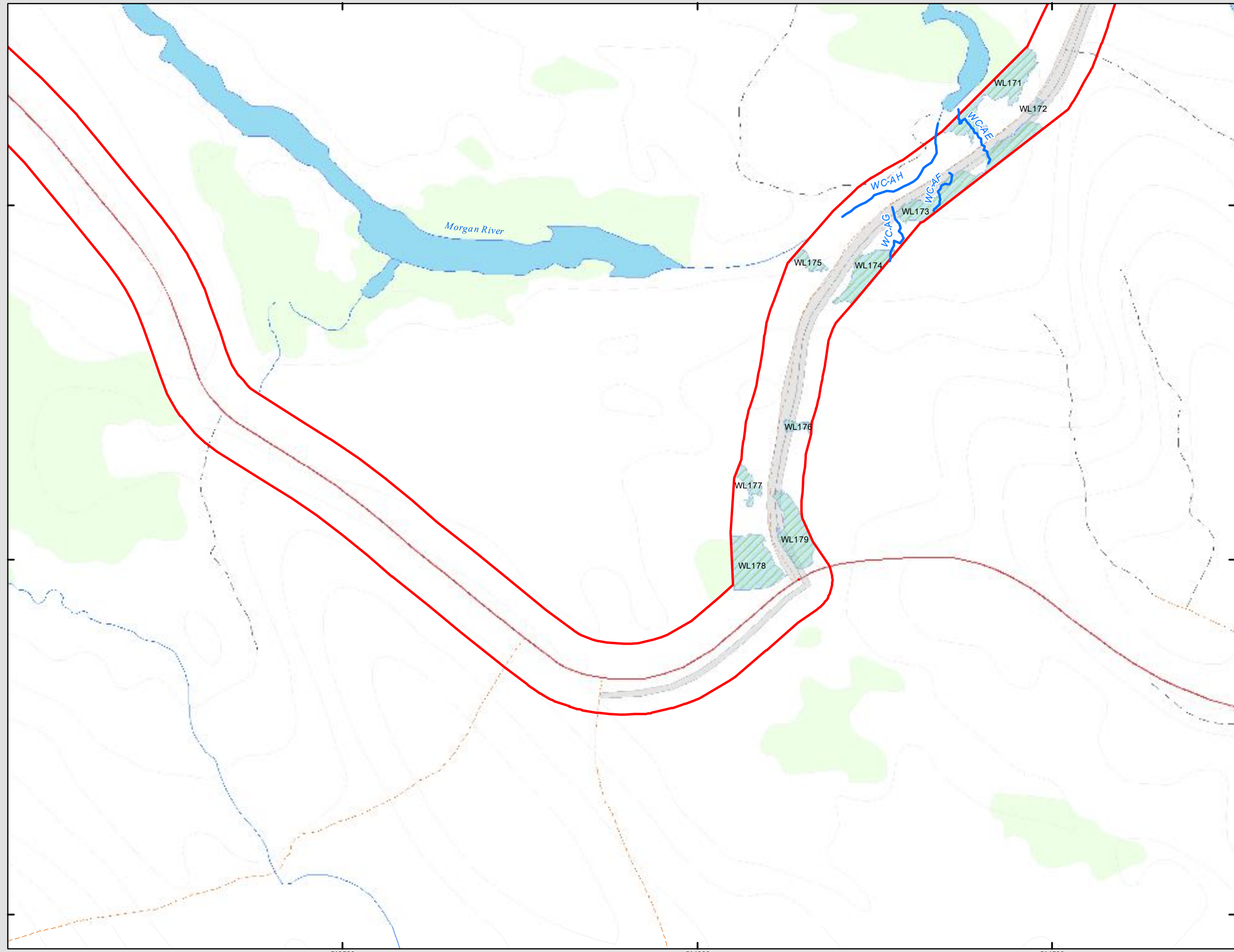
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Drawn By: EP  
Reviewed By: XX  
Date: 2021-04-14

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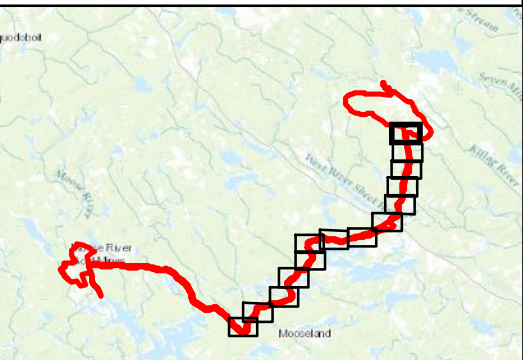
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FIGURE J.4-4A

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road

- Buried Culvert
- Crushed Culvert
- Functioning Culvert
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Planned Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
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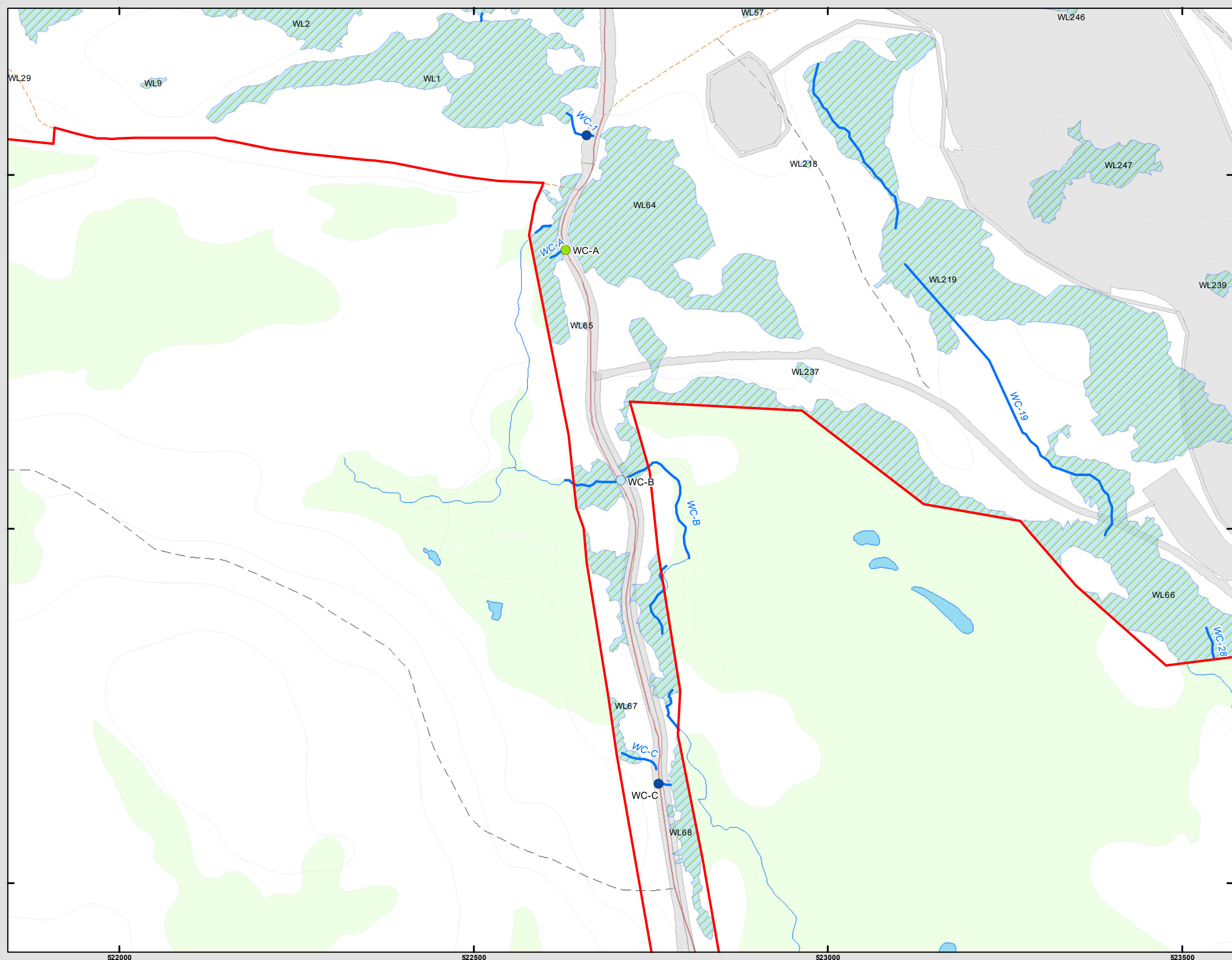
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FIGURE J.4-4 B

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road

- Blocked Culvert
- Functioning Culvert
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
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 Units: Meter

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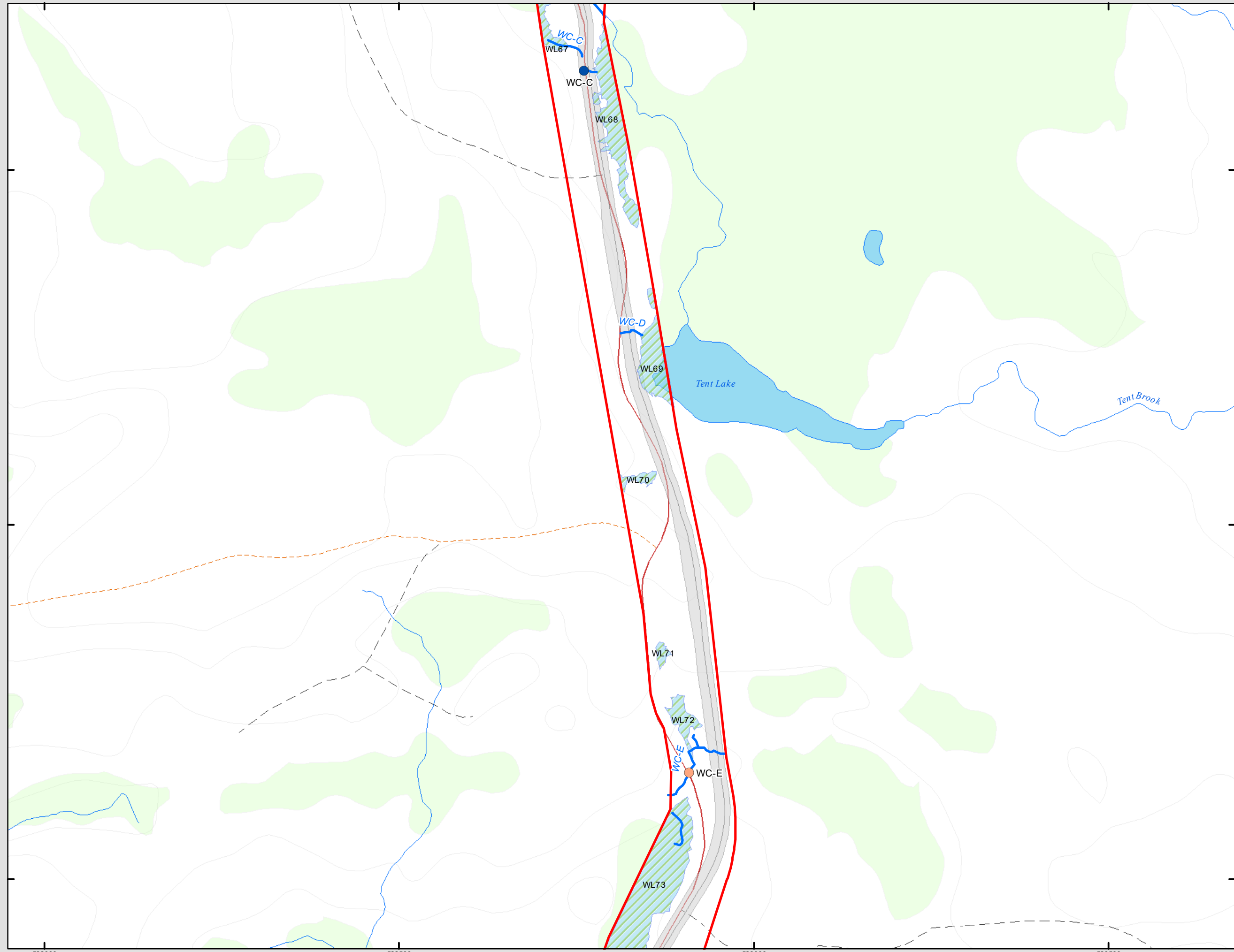
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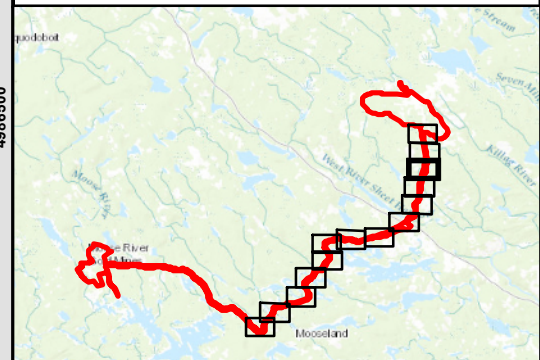
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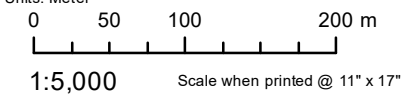
FIGURE J.4-4 C

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road

- Blocked Culvert
- Crushed Culvert
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
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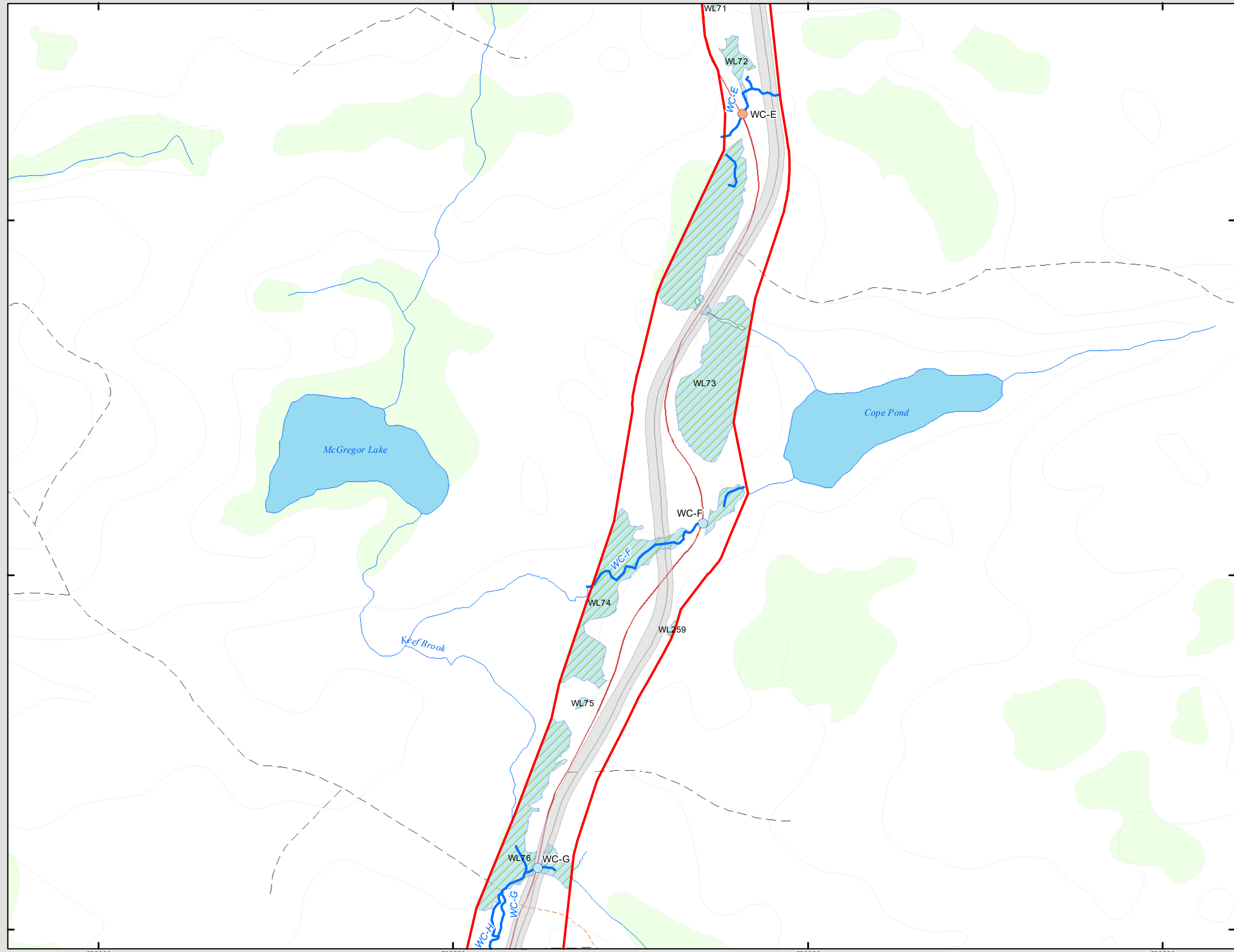


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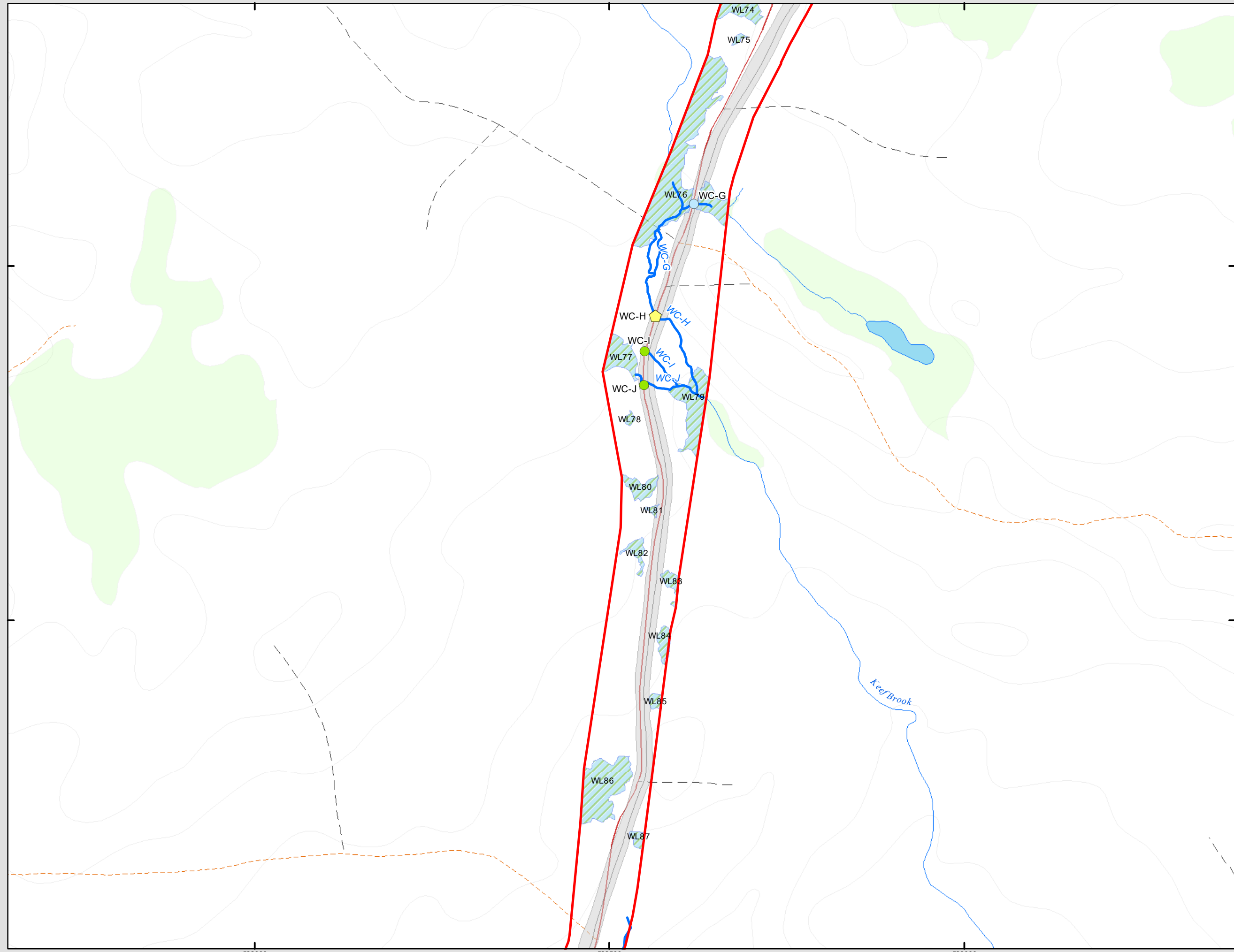


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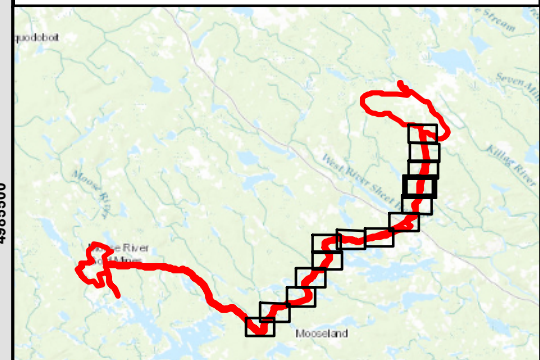


FIGURE J.4-4 D

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road



- Bridge - no barrier
- Buried Culvert
- Crushed Culvert
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

1:5,000 Scale when printed @ 11" x 17"

Drawn By: LP Date: 2021-04-14  
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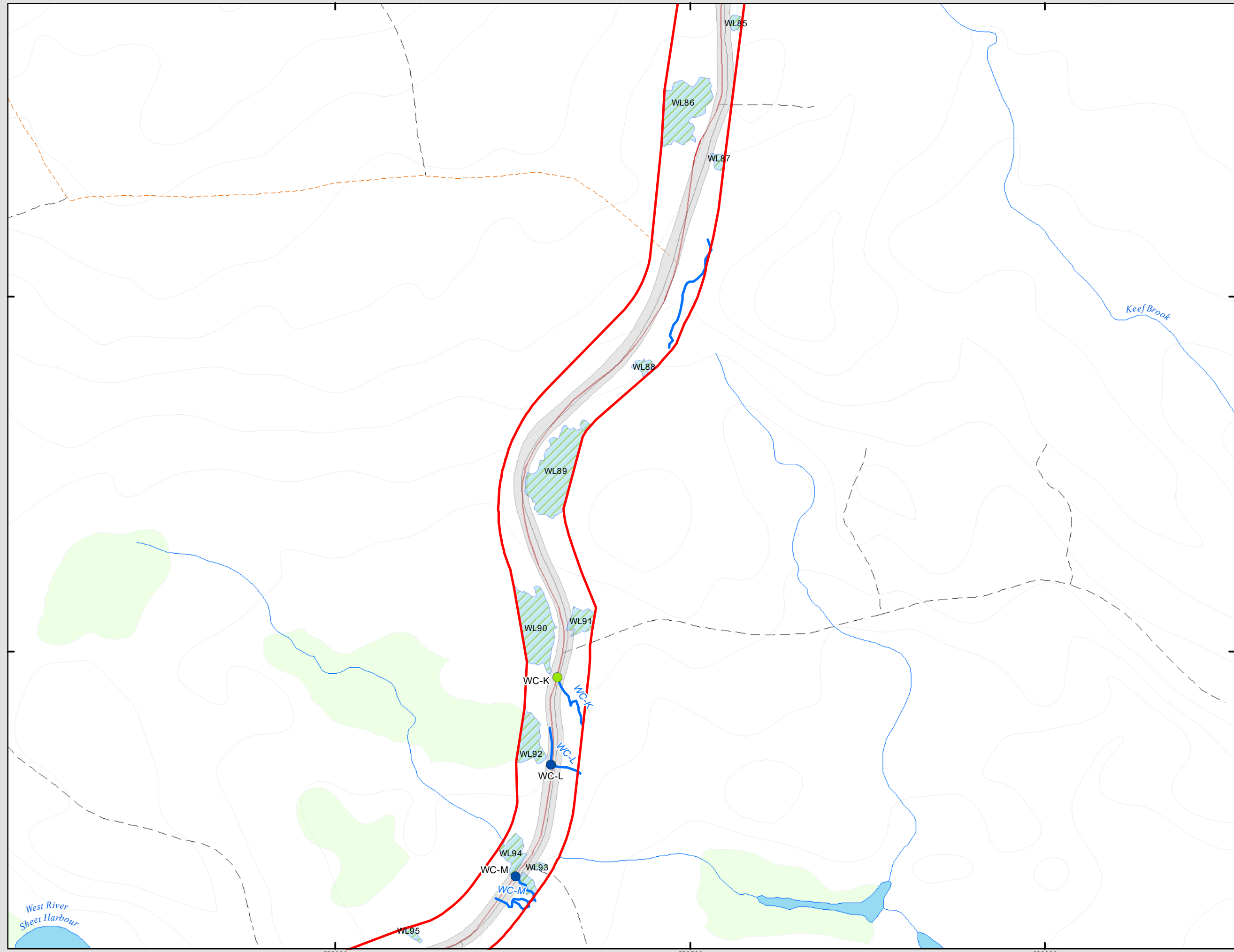


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FIGURE J.4-4E

Beaver Dam Mine Project  
FFish Habitat Evaluation  
Results: Haul Road



- Buried Culvert
- Functioning Culvert
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
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 Units: Meter

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1:5,000 Scale when printed @ 11" x 17"

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









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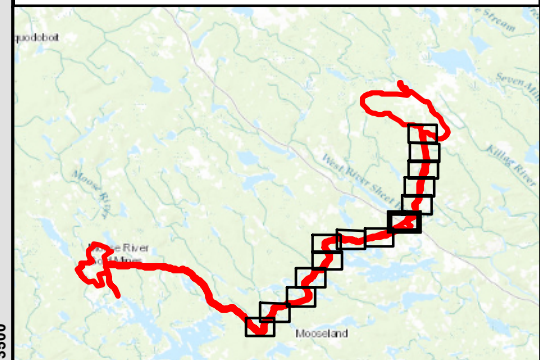


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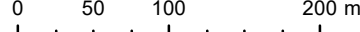
**FIGURE J.4-4 F**

**Beaver Dam Mine Project  
 Fish Habitat Evaluation  
 Results: Haul Road**

-  Bridge - no barrier
-  Buried Culvert
-  Functioning Culvert
-  Collector Road
-  Local Road
-  Dry Weather / Seasonal Road
-  Diveways (>300 m)
-  Track
-  Topo Contours (5 m)
-  Field Delineated Watercourses within PA
-  NSTDB Mapped Watercourses outside PA
-  Lake
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Project Area



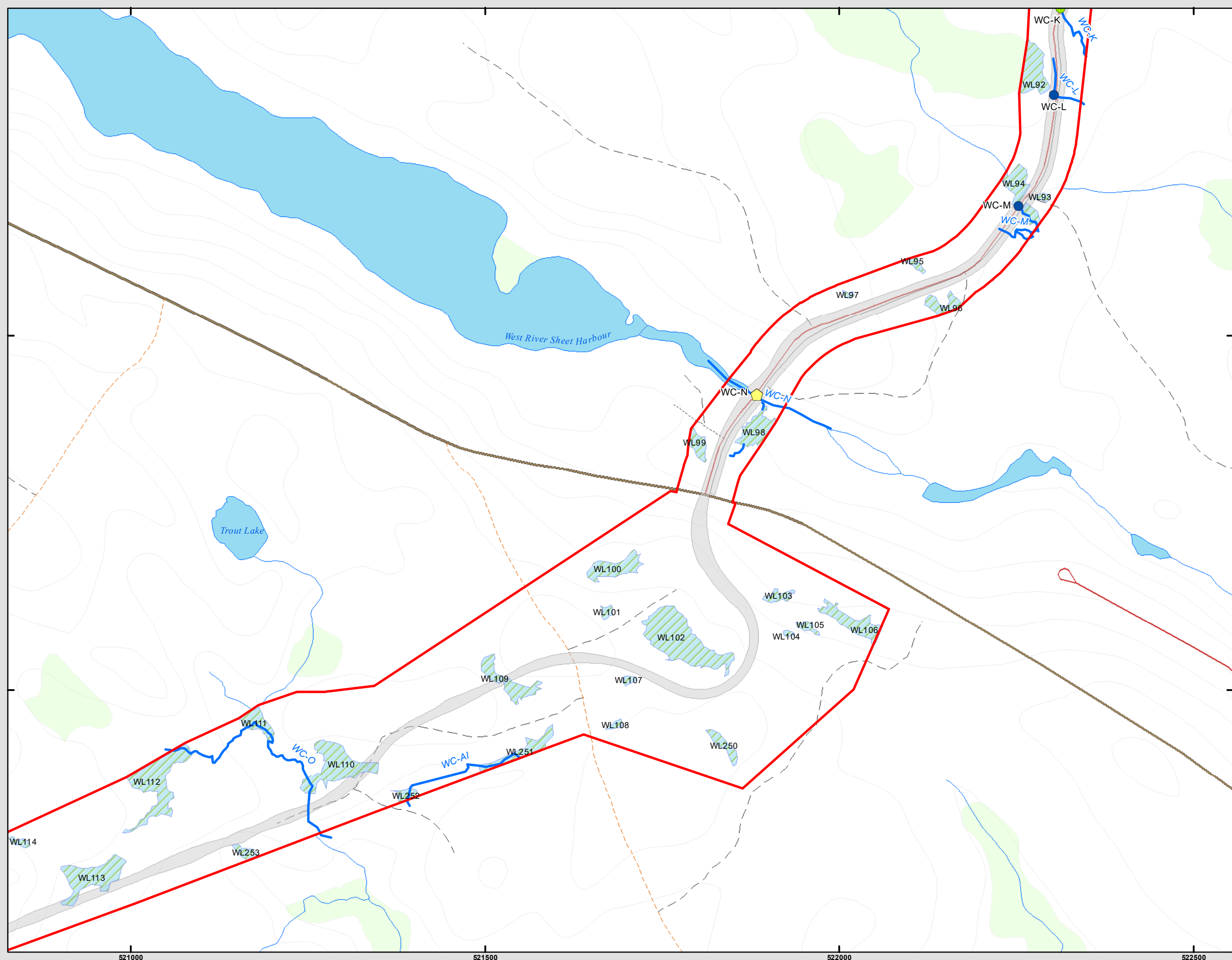
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 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

**1:5,000** Scale when printed @ 11" x 17"

Drawn By: LP Date: 2021-04-14  
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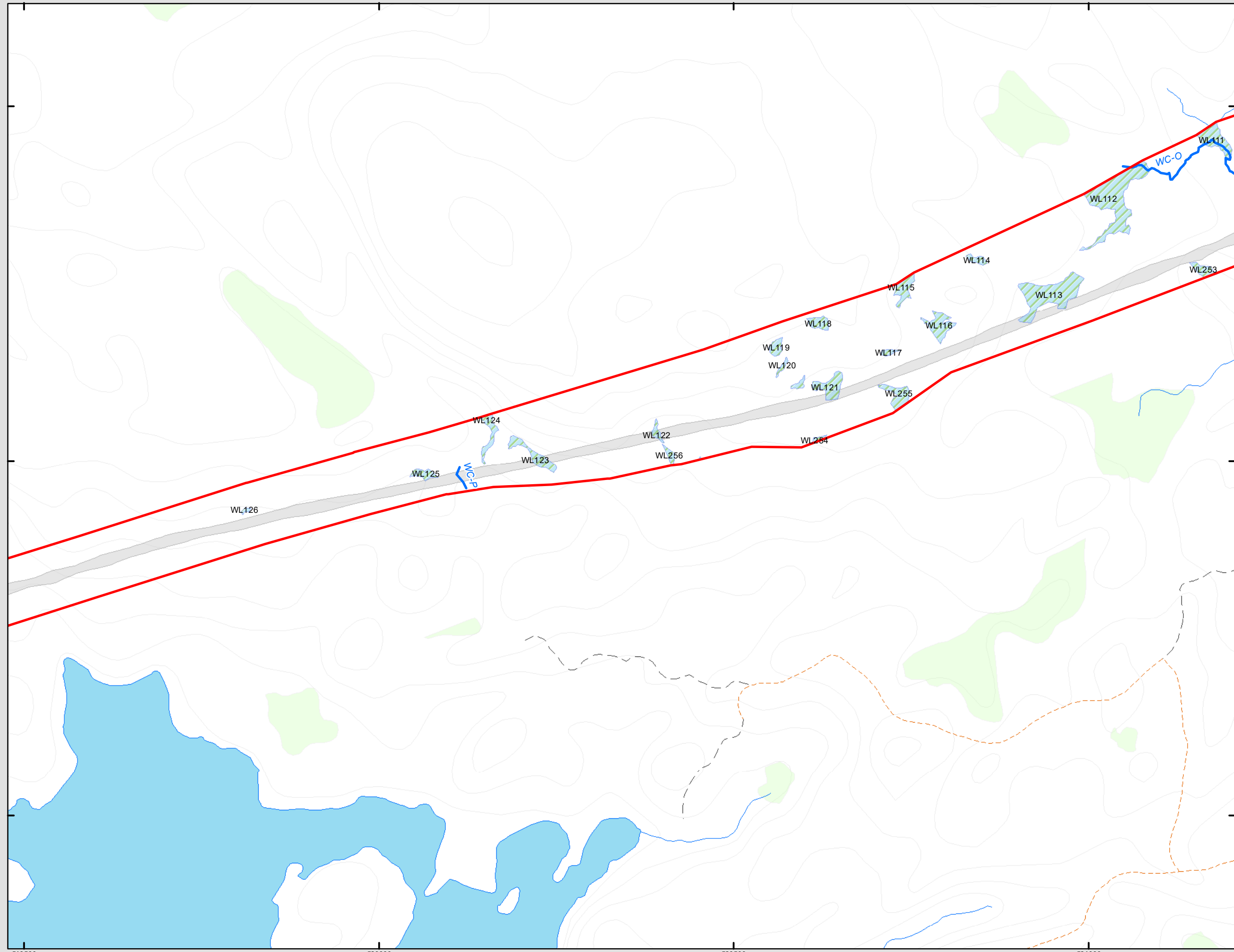


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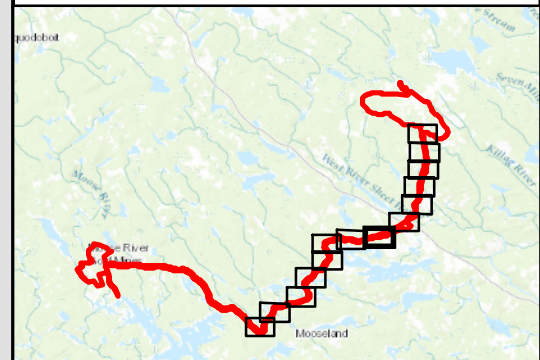


FIGURE J.4-4G

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road



- Dry Weather / Seasonal Road
- - - Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

1:5,000 Scale when printed @ 11" x 17"

Drawn By: LP Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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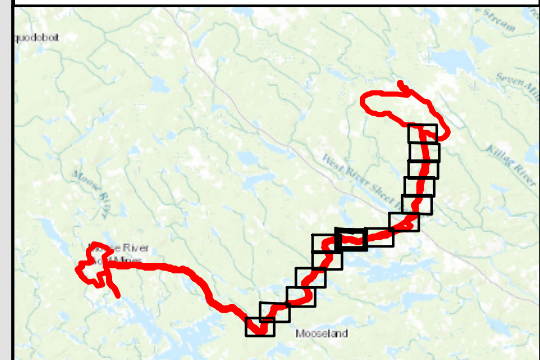
Prepared For:



FIGURE J.4-4 H

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road

- Hung Culvert
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
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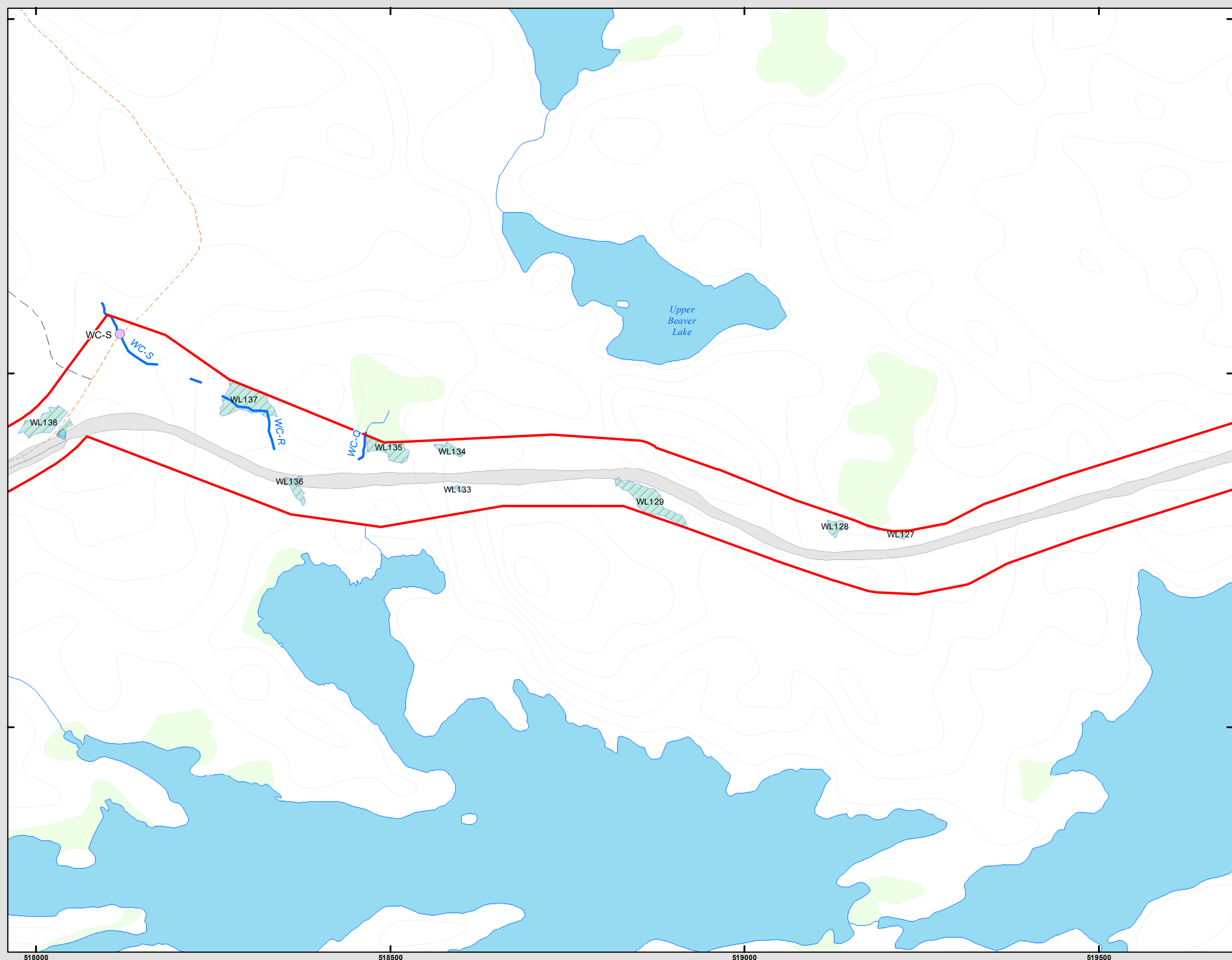
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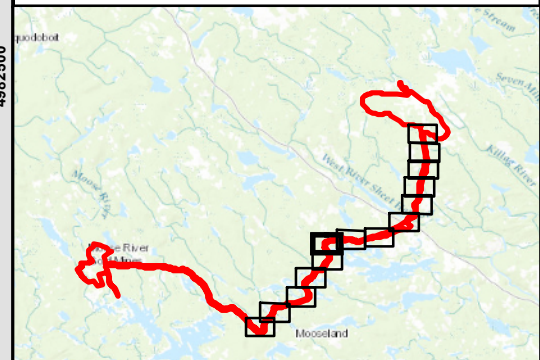
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FIGURE J.4-4 I

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road

- Buried Culvert
- Functioning Culvert
- Hung Culvert
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

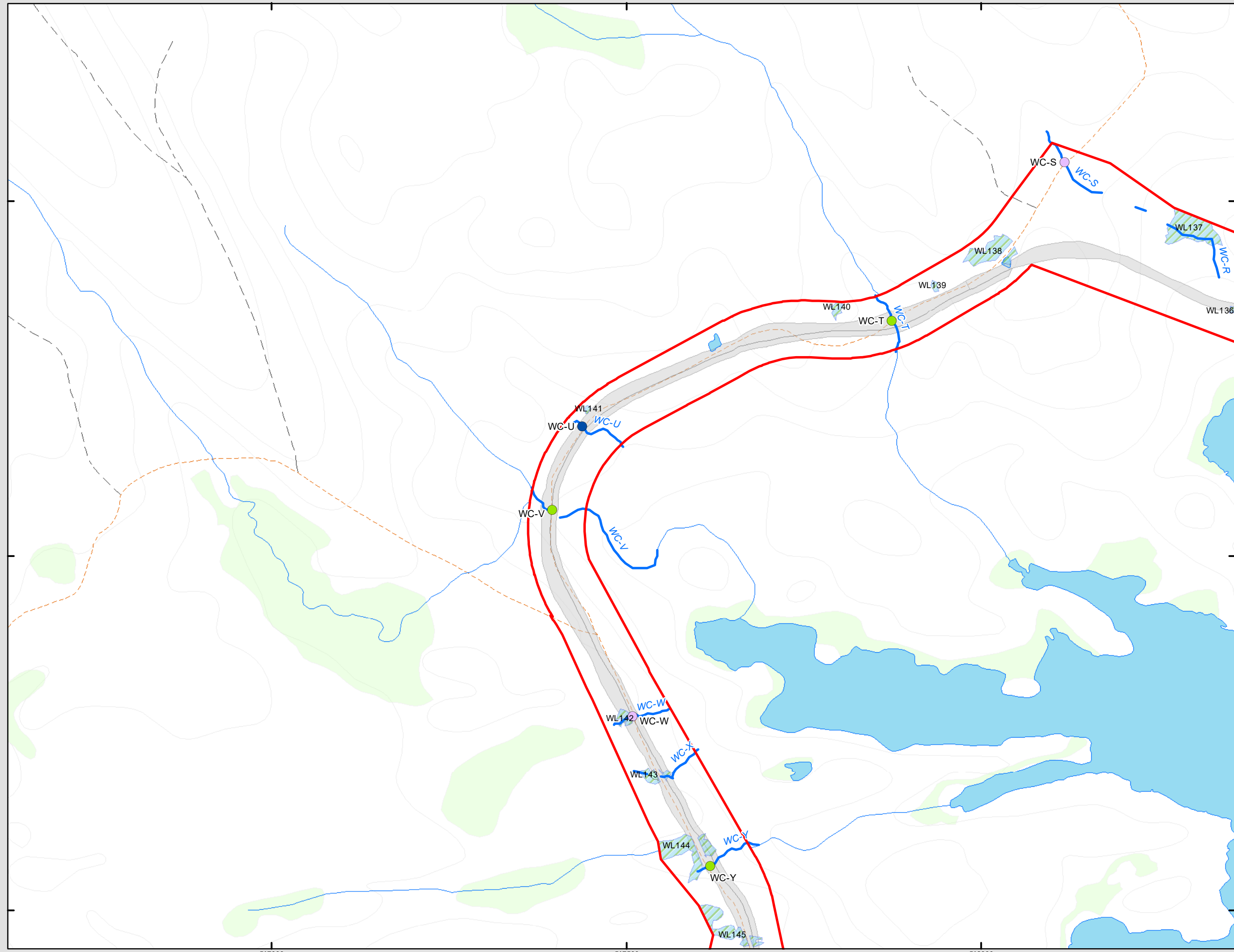
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Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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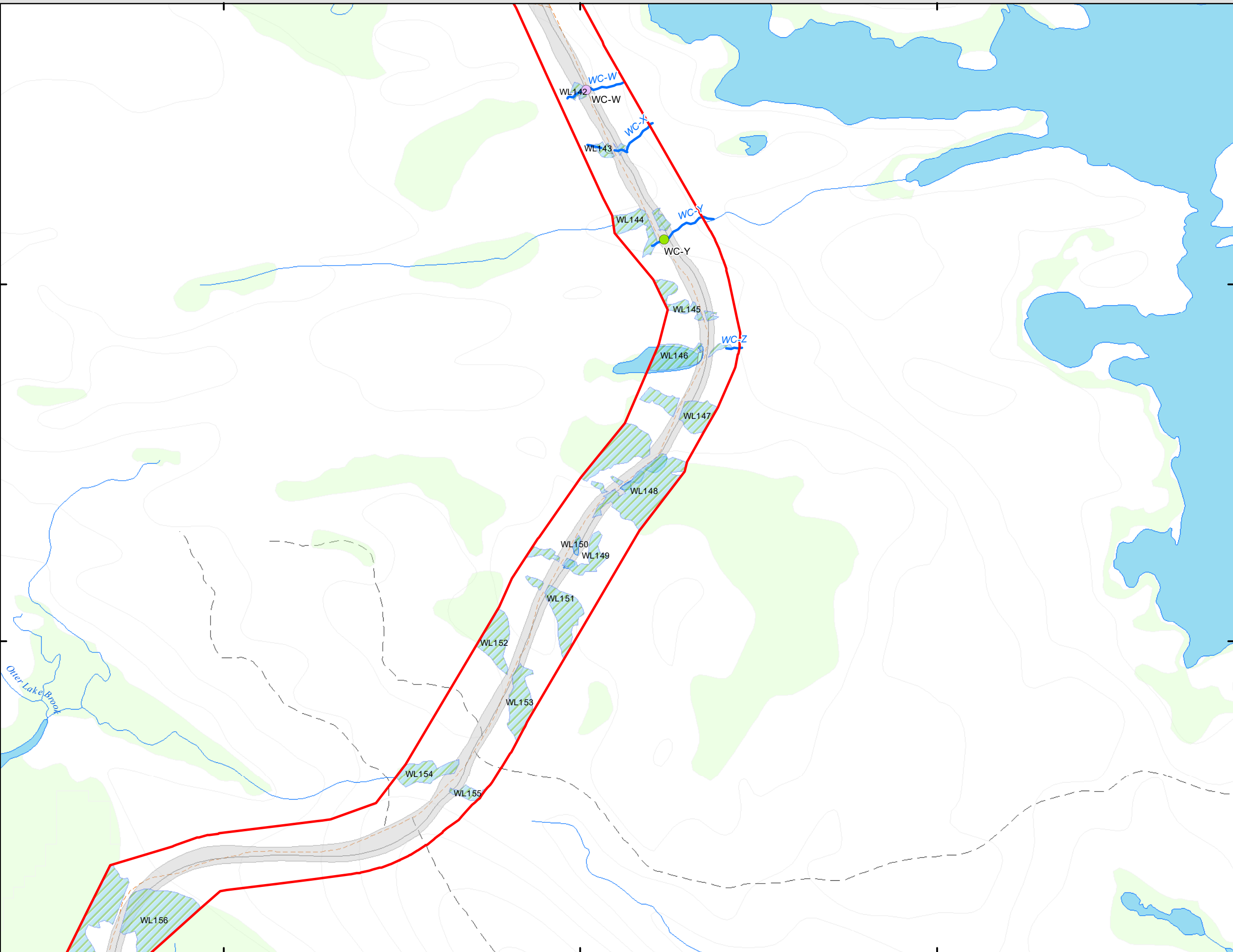


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FIGURE J.4-4 J

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road



- Buried Culvert
- Hung Culvert
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

1:5,000 Scale when printed @ 11" x 17"

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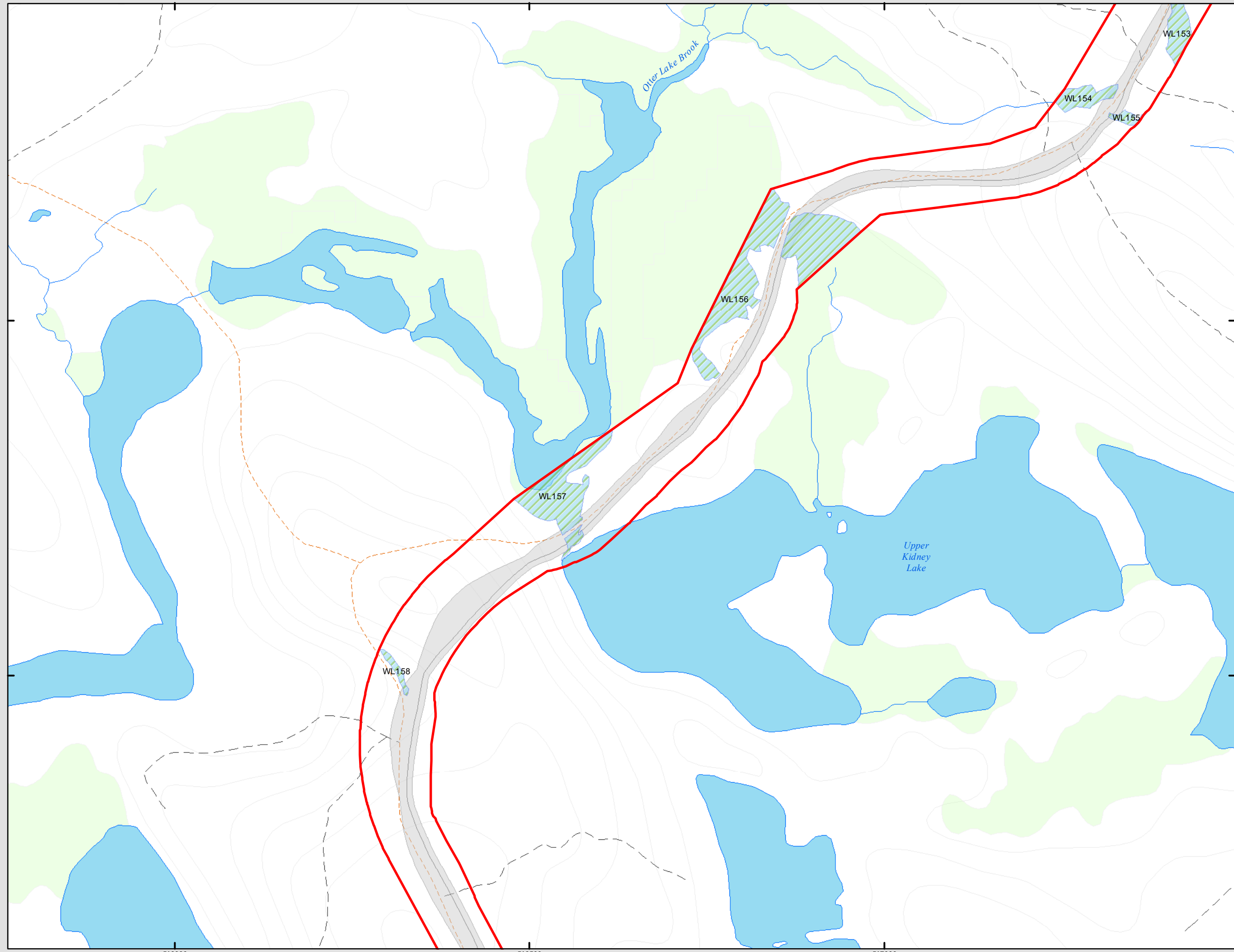
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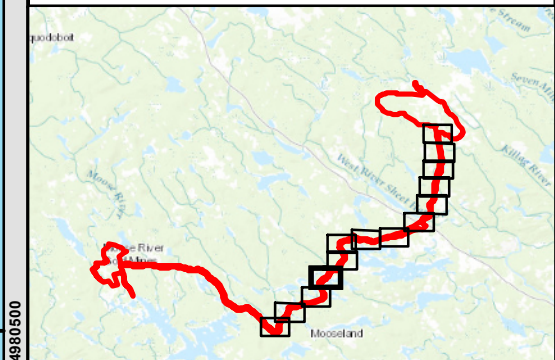


FIGURE J.4-4 K

Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road



- Dry Weather / Seasonal Road
- - - Track
- Topo Contours (5 m)
- NSTDB Mapped Watercourses outside PA
- Lake
- ▨ Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

1:5,000 Scale when printed @ 11" x 17"

Drawn By: LP Date: 2021-04-14  
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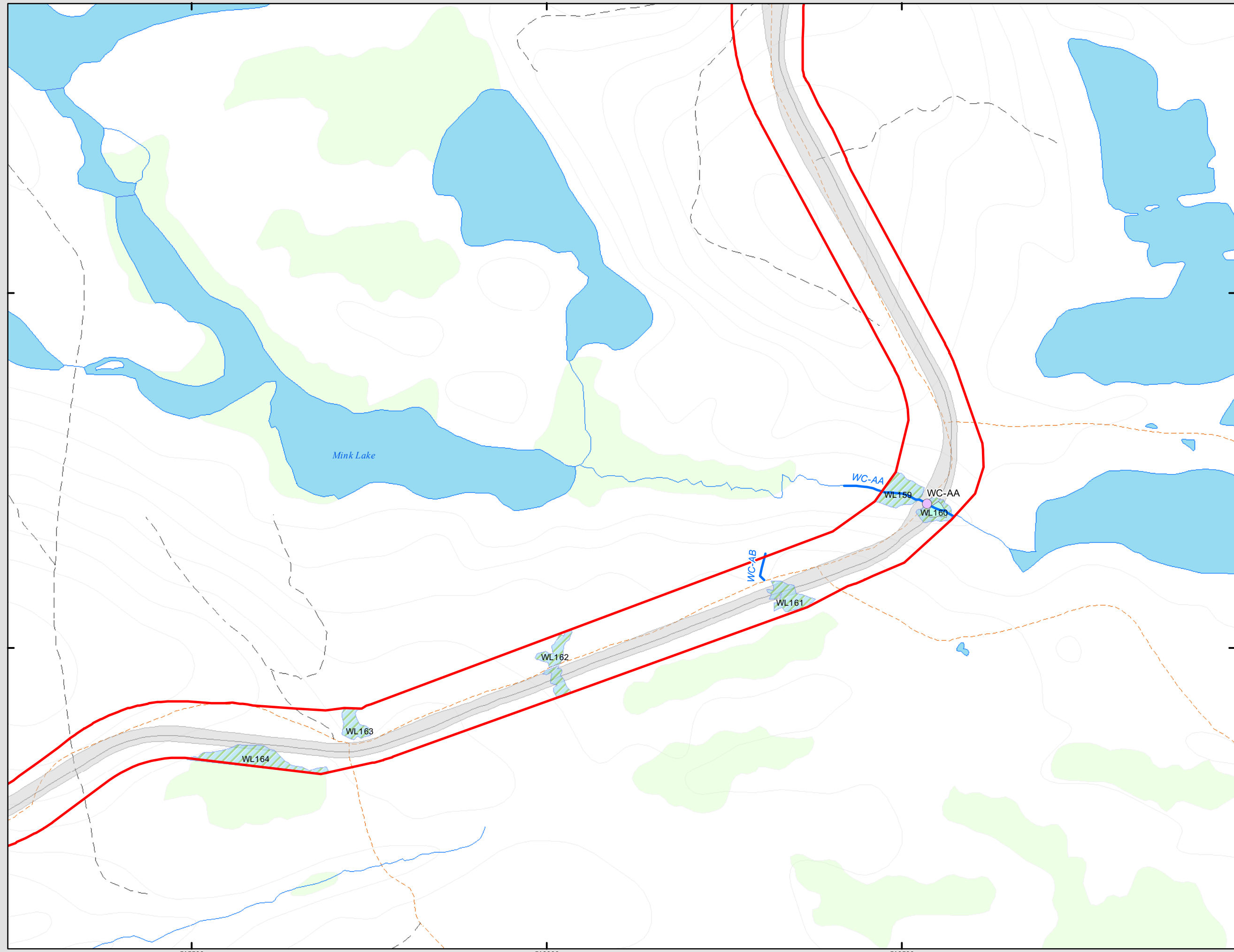
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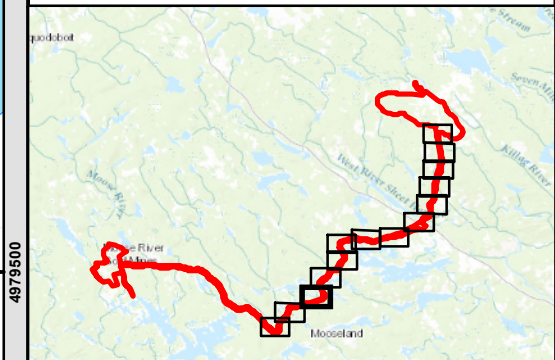


FIGURE J.4-4 L

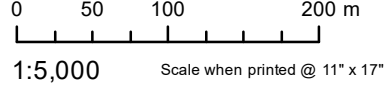
**Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road**



- Hung Culvert
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter



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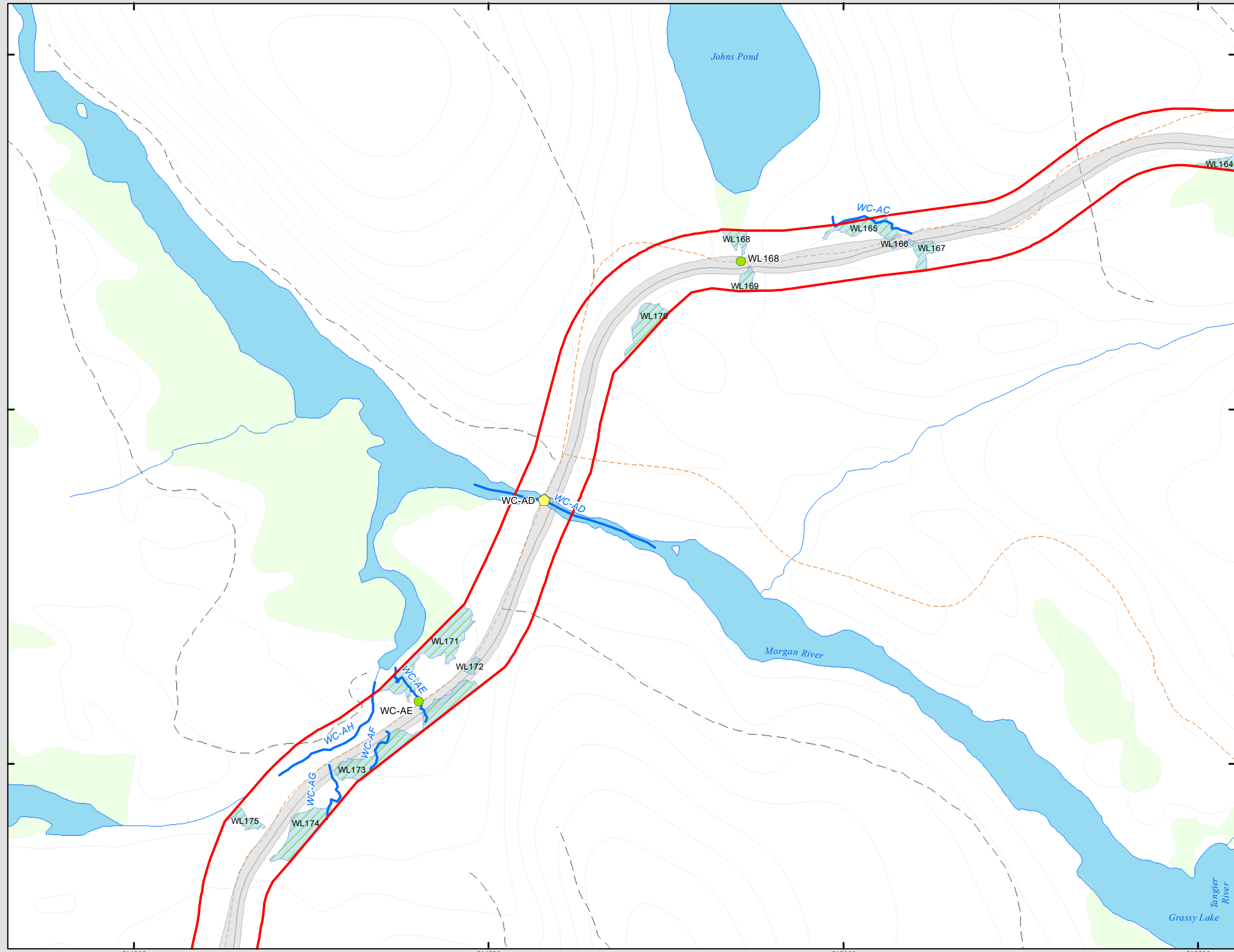


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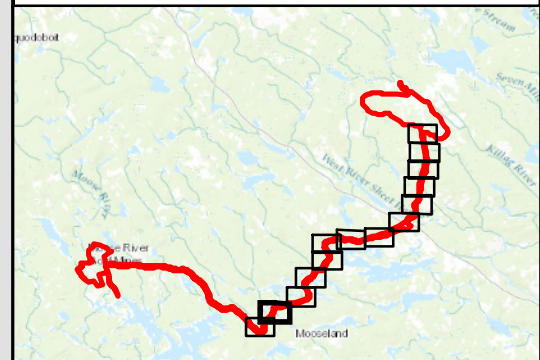


### FIGURE J.4-4 M

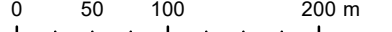
## Beaver Dam Mine Project Fish Habitat Evaluation Results: Haul Road



- Bridge - no barrier
- Buried Culvert
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
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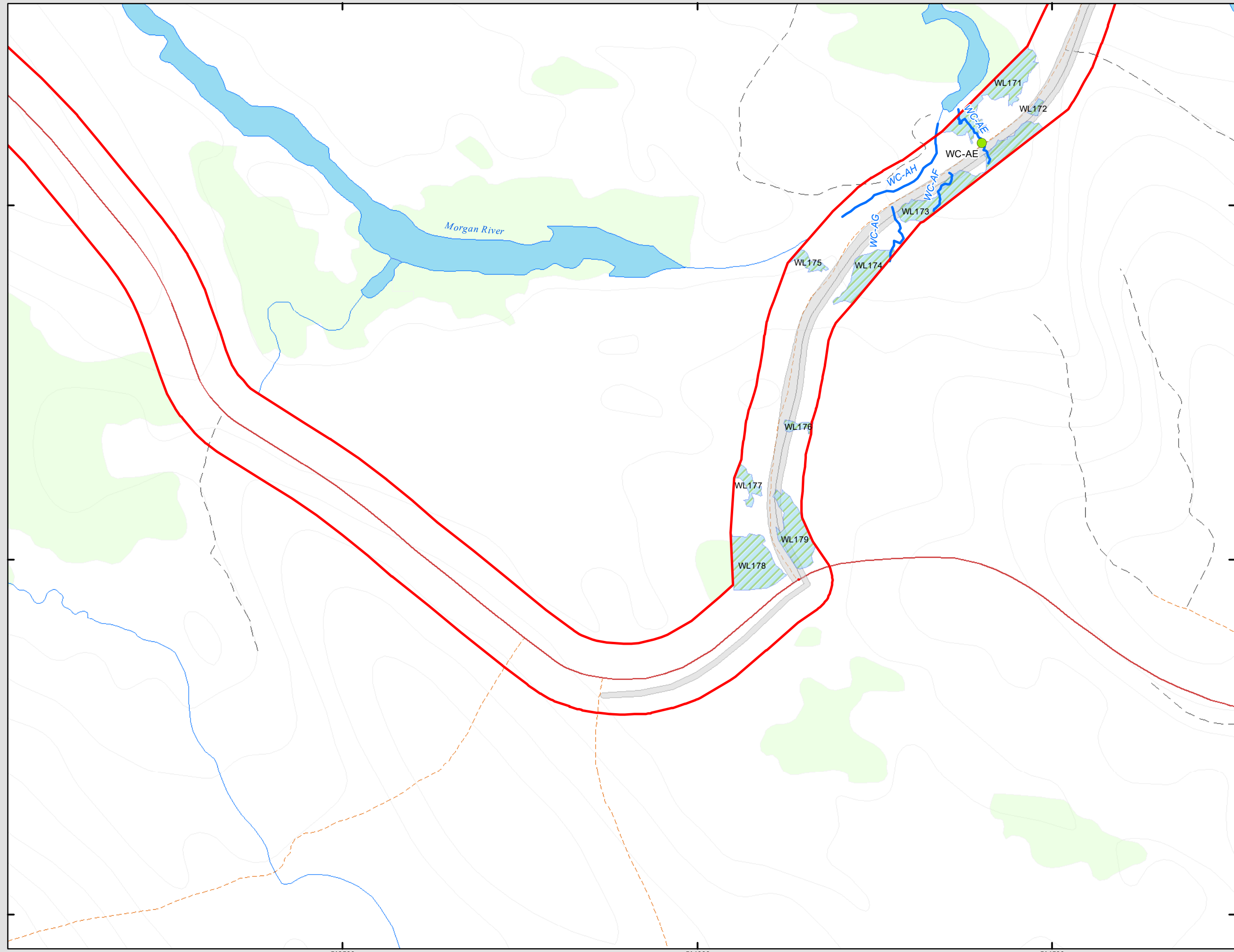
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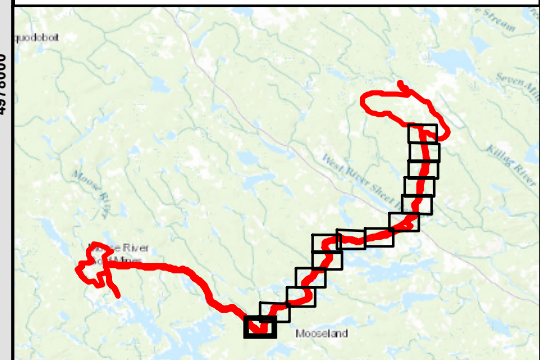


FIGURE J.4-4 N

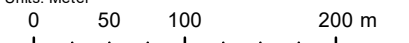
Beaver Dam Mine Project  
Fish Habitat Evaluation  
Results: Haul Road



- Buried Culvert
- Local Road
- - - Dry Weather / Seasonal Road
- - - Track
- Topo Contours (5 m)
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Lake
- ▨ Field Delineated Wetlands within PA
- ▨ NSE Mapped Wetlands outside PA
- ▭ Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
Projection: Transverse Mercator  
Datum: North American 1983 CSRS  
Units: Meter



1:5,000 Scale when printed @ 11" x 17"

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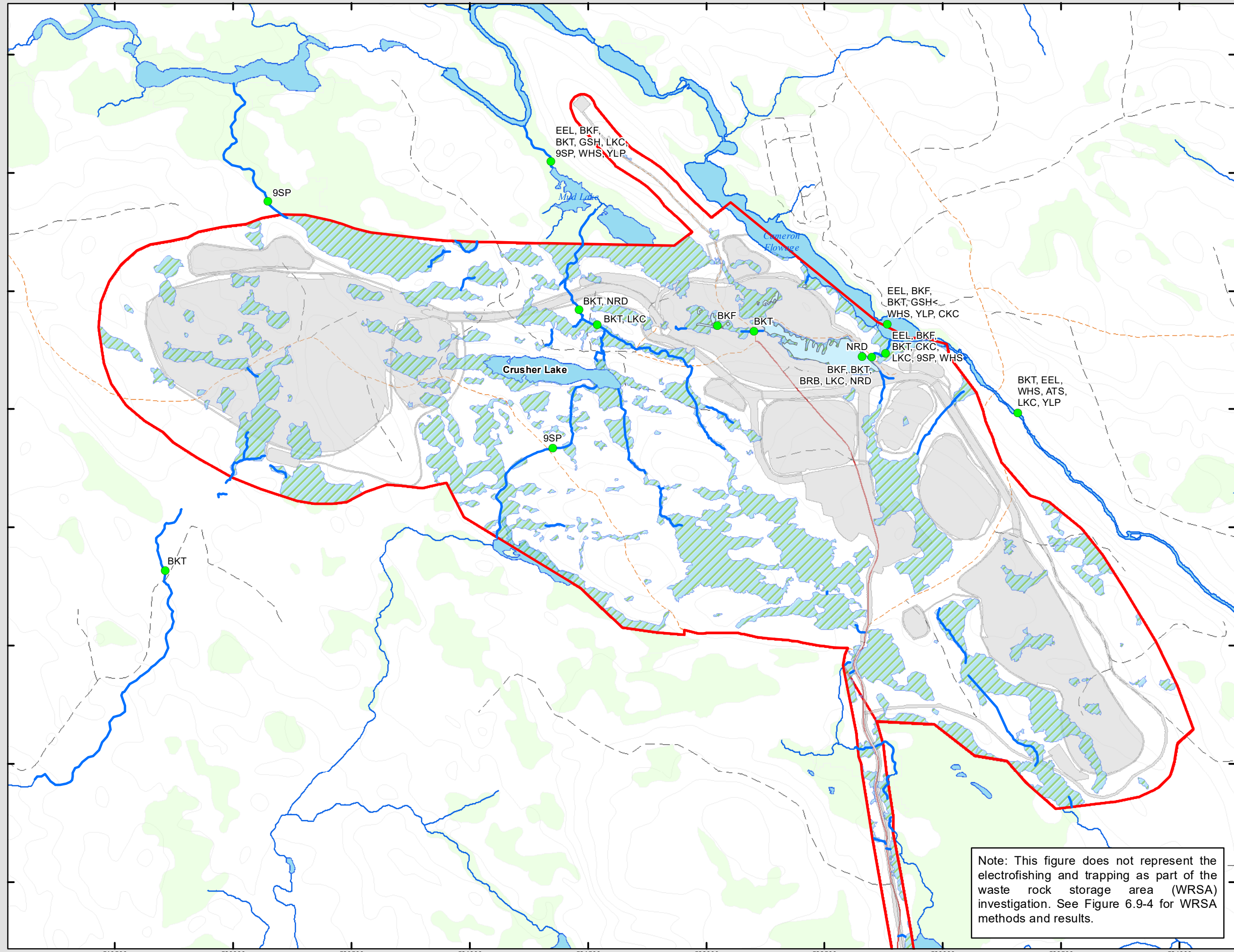


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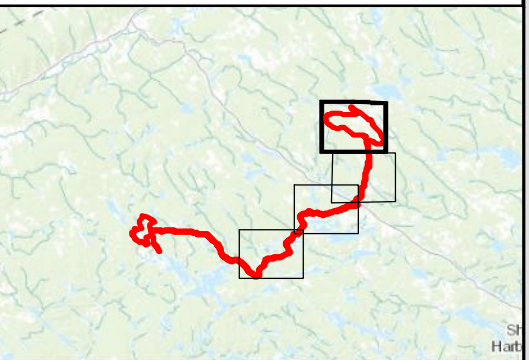
**FIGURE J.4-5A**

**Beaver Dam Mine Project**

**Fish Capture Results**



- Fish Capture Results
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Local Road
- - - Dry Weather / Seasonal Road
- - - Track
- Topo Contours (5 m)
- Open Water
- Lake
- ▨ Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 190 380 760 m

1:15,000 Scale when printed @ 11" x 17"

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Note: This figure does not represent the electrofishing and trapping as part of the waste rock storage area (WRSA) investigation. See Figure 6.9-4 for WRSA methods and results.

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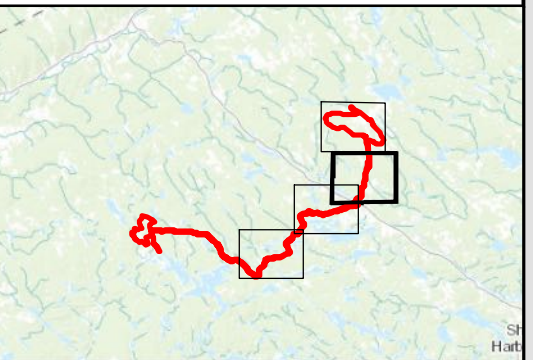


**FIGURE J.4-5 B**

**Beaver Dam Mine Project**

**Fish Capture Results**

- Fish Capture Results
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Collector Road
- Local Road
- - - Dry Weather / Seasonal Road
- - - Diveways (>300 m)
- - - Track
- Topo Contours (5 m)
- Open Water
- Lake
- ▨ Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

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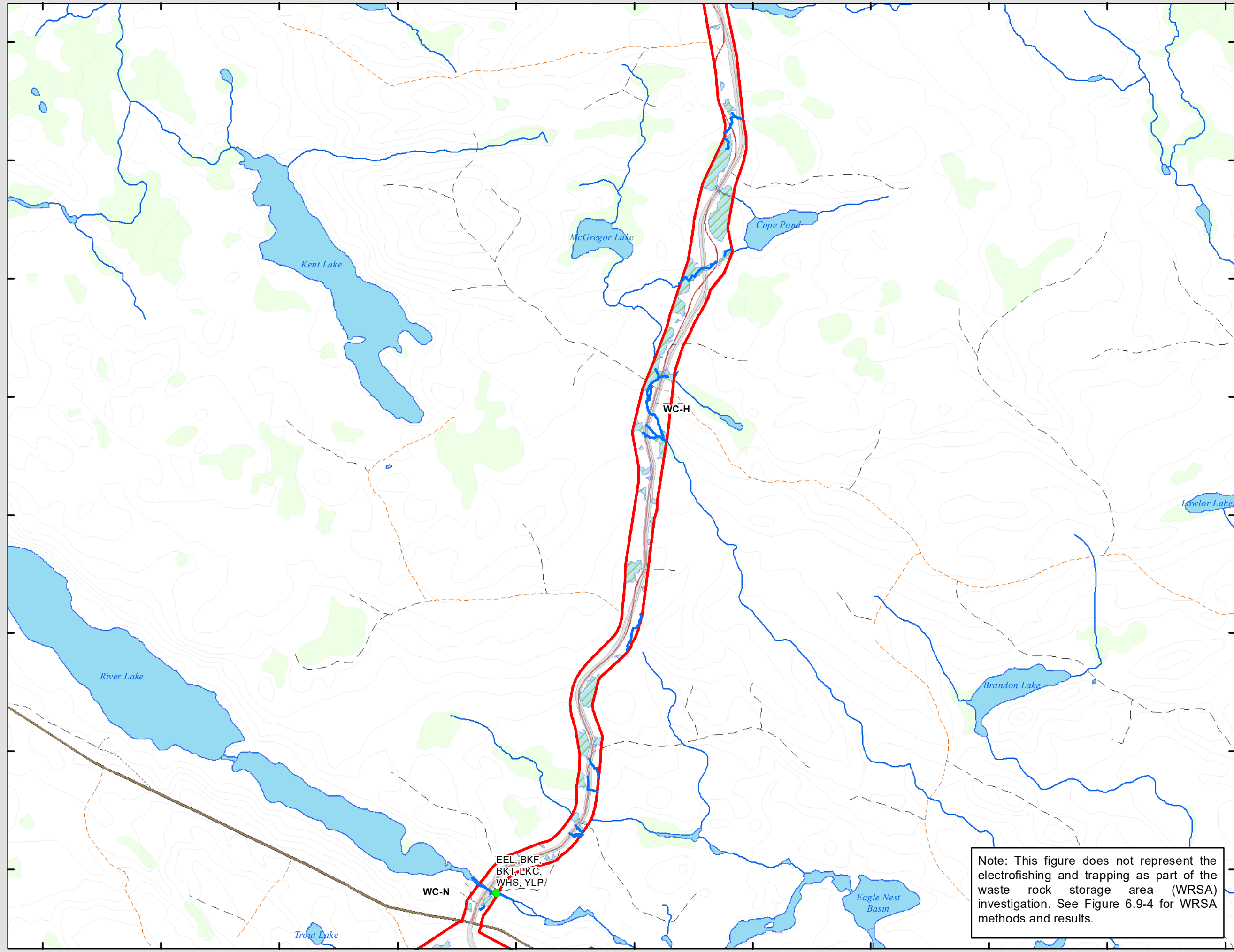
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Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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Note: This figure does not represent the electrofishing and trapping as part of the waste rock storage area (WRSA) investigation. See Figure 6.9-4 for WRSA methods and results.

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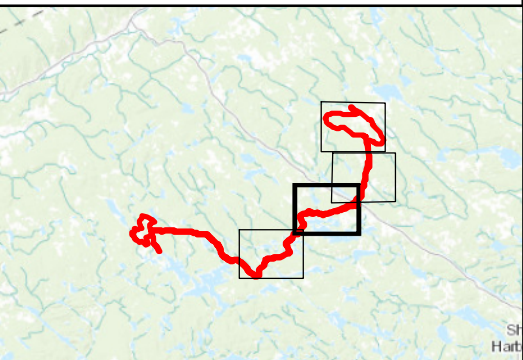
**Atlantic Gold**

**FIGURE J.4-5 C**

**Beaver Dam Mine Project**

**Fish Capture Results**

- Fish Capture Results
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Collector Road
- Local Road
- - - Dry Weather / Seasonal Road
- - - Diveways (>300 m)
- - - Track
- Topo Contours (5 m)
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

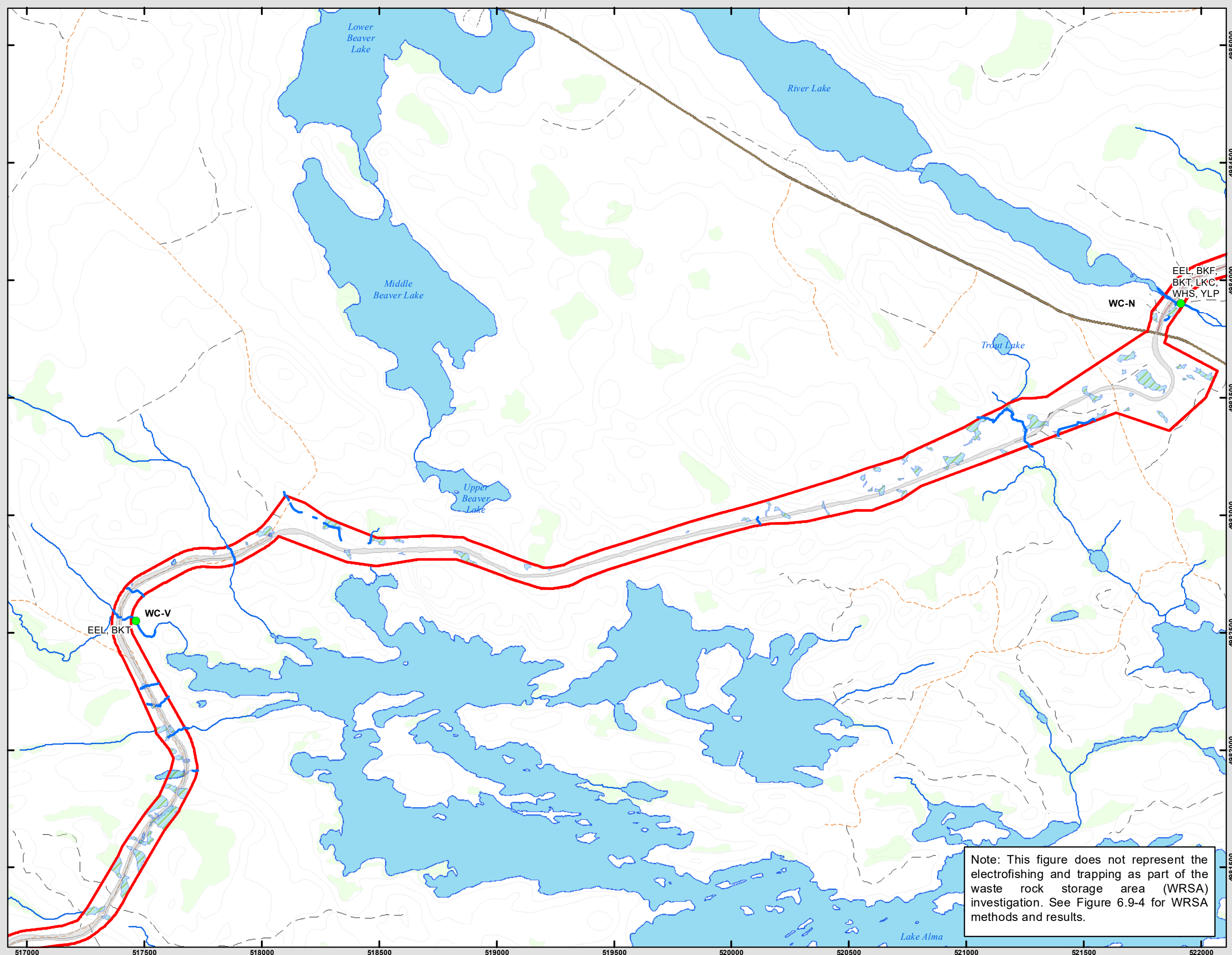
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Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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Note: This figure does not represent the electrofishing and trapping as part of the waste rock storage area (WRSA) investigation. See Figure 6.9-4 for WRSA methods and results.

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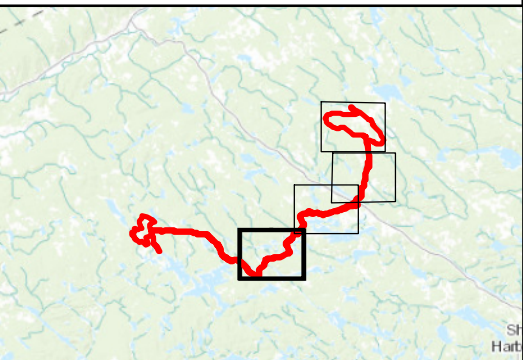
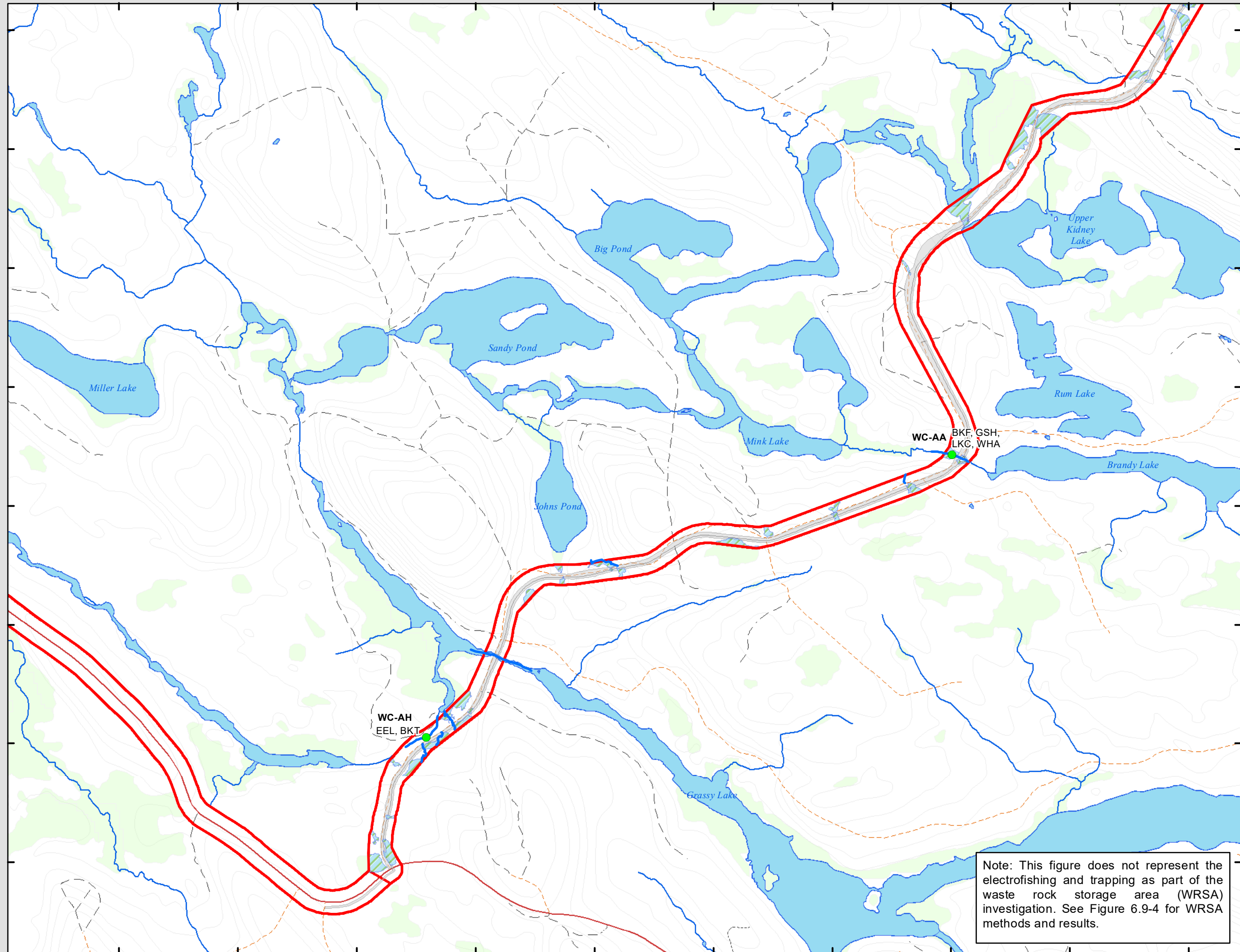
**Atlantic Gold**

**FIGURE J.4-5 D**

**Beaver Dam Mine Project**

**Fish Capture Results**

- Fish Capture Results
- Field Delineated Watercourses within PA
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Diveways (>300 m)
- Track
- Topo Contours (5 m)
- Open Water
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 190 380 760 m

1:15,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2021-04-14  
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Note: This figure does not represent the electrofishing and trapping as part of the waste rock storage area (WRSA) investigation. See Figure 6.9-4 for WRSA methods and results.

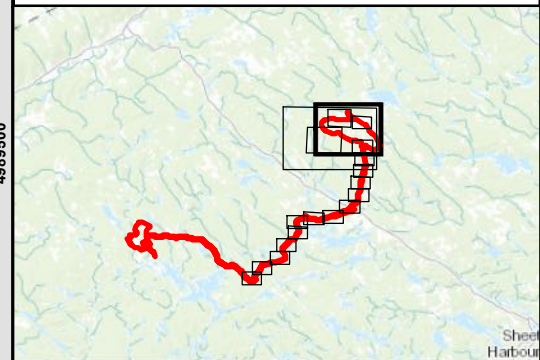
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FIGURE J.4-6 A

# Beaver Dam Mine Project Anticipated Fish Habitat Impact Areas by Type

- Buried Culvert
- Crushed Culvert
- Functioning Culvert
- Direct Impact: Watercourses
- Indirect Impact: Surface Flow Reduction
- Fisheries Resources
- Provincially Regulated Watercourses
- NSTDB Mapped Watercourses outside PA
- Direct Impact: Wetland Fish Habitat
- Local Road
- - - Dry Weather / Seasonal Road
- - - Track
- Topo Contours (5 m)
- Lake
- ▨ Field Delineated Wetlands within PA
- ▨ NSE Mapped Wetlands outside PA
- ▨ Proposed Infrastructure
- ▭ Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 200 400 800 m

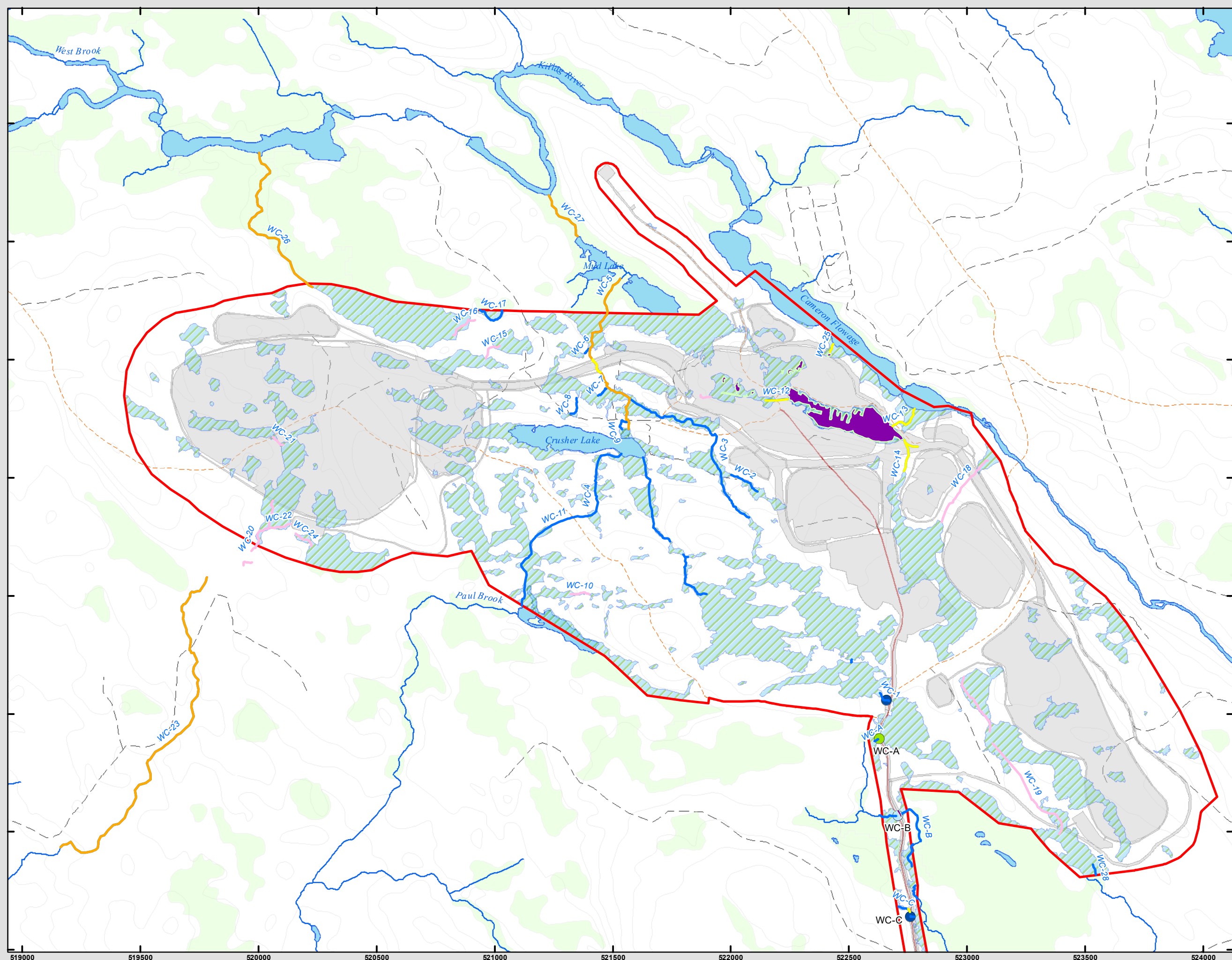
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





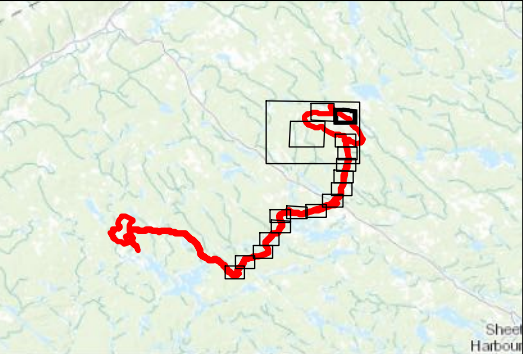
**Atlantic Gold**

**FIGURE J.4-6 B**



**Beaver Dam Mine Project**

**Anticipated Fish Habitat Impact Areas by Type**

-  Fisheries Resources
-  Provincially Regulated Watercourses
-  NSTDB Mapped Watercourses outside PA
-  Local Road
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Lake
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Proposed Infrastructure
-  Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

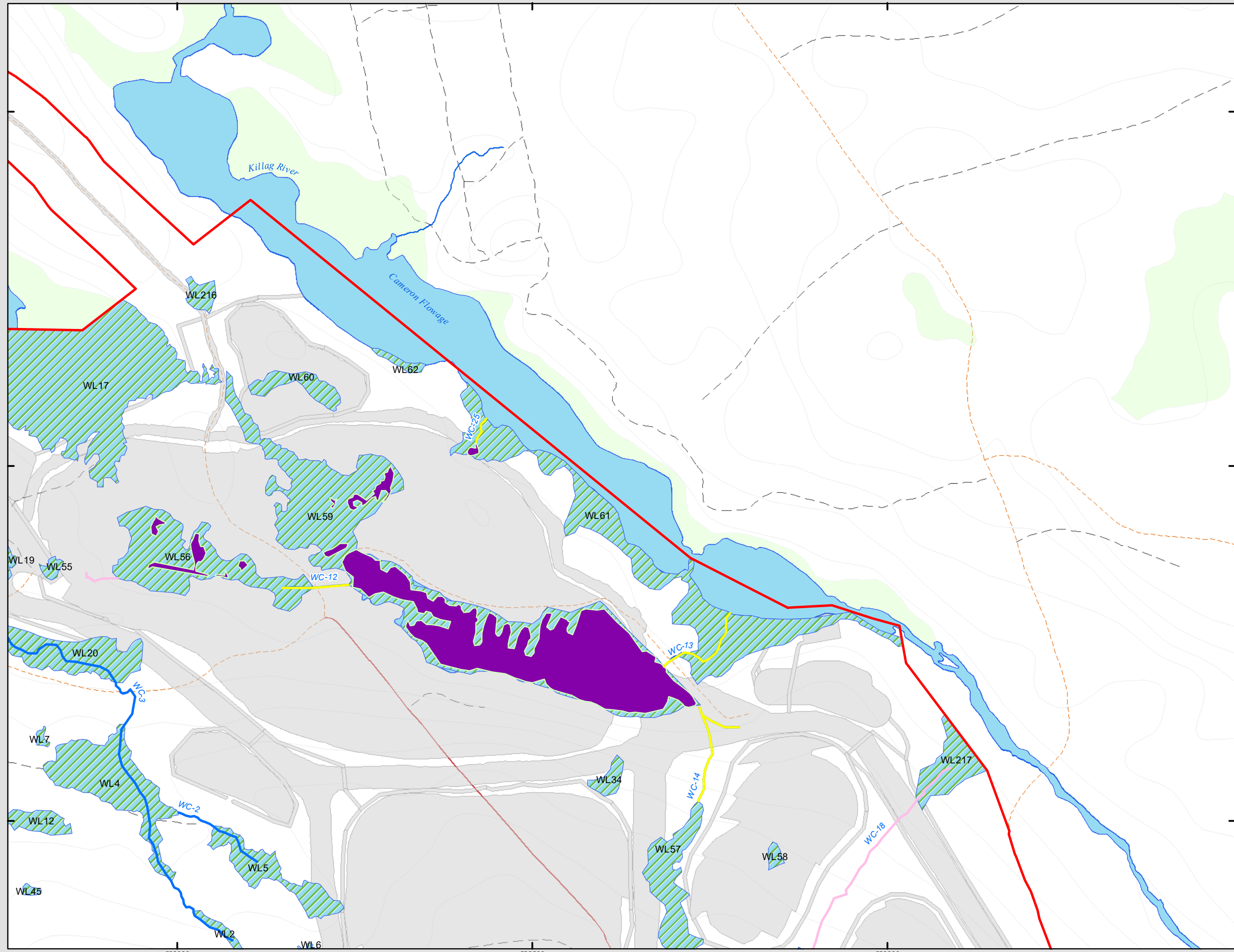
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Drawn By: AS Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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




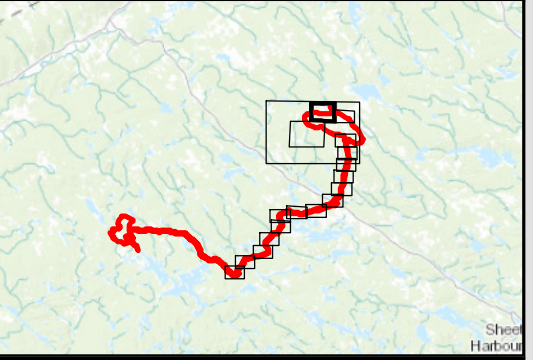
**Atlantic Gold**

**FIGURE J.4-6C**

**Beaver Dam Mine Project**

**Anticipated Fish Habitat Impact Areas by Type**

-  Indirect Impact: Surface Flow Reduction
-  Fisheries Resources
-  Provincially Regulated Watercourses
-  NSTDB Mapped Watercourses outside PA
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Lake
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Proposed Infrastructure
-  Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter



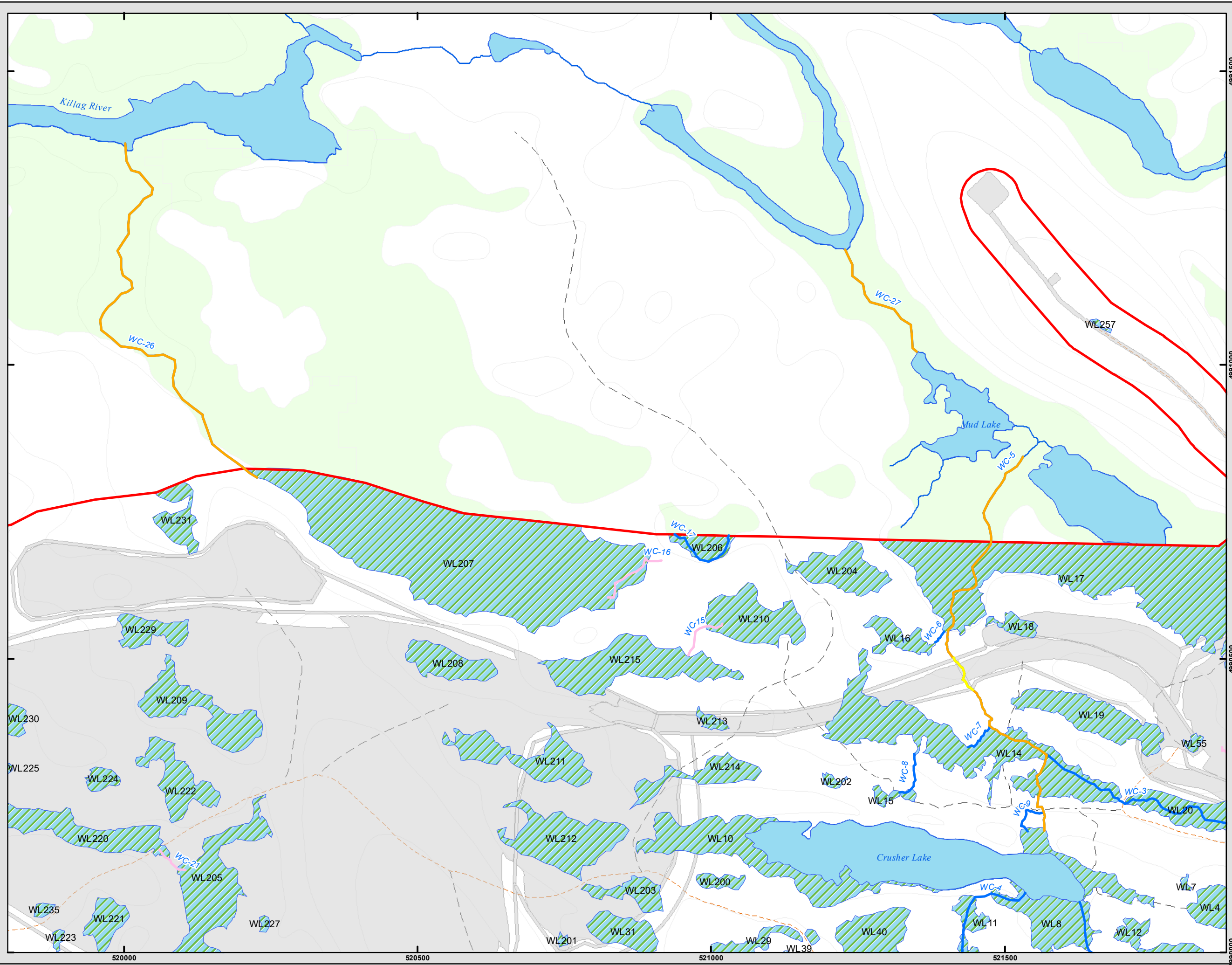
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







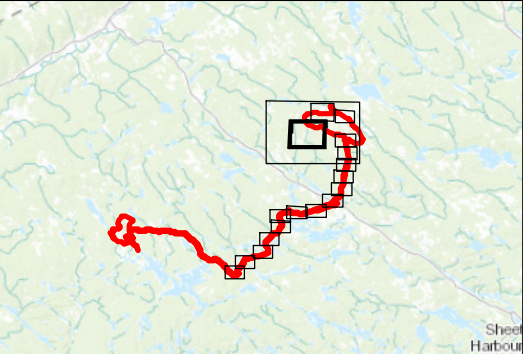
**Atlantic Gold**

**FIGURE J.4-6 D**


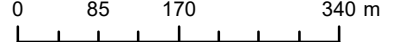
**Beaver Dam Mine Project**

**Anticipated Fish Habitat Impact Areas by Type**

-  Indirect Impact: Surface Flow Reduction
-  Fisheries Resources
-  Provincially Regulated Watercourses
-  NSTDB Mapped Watercourses outside PA
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Lake
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Proposed Infrastructure
-  Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

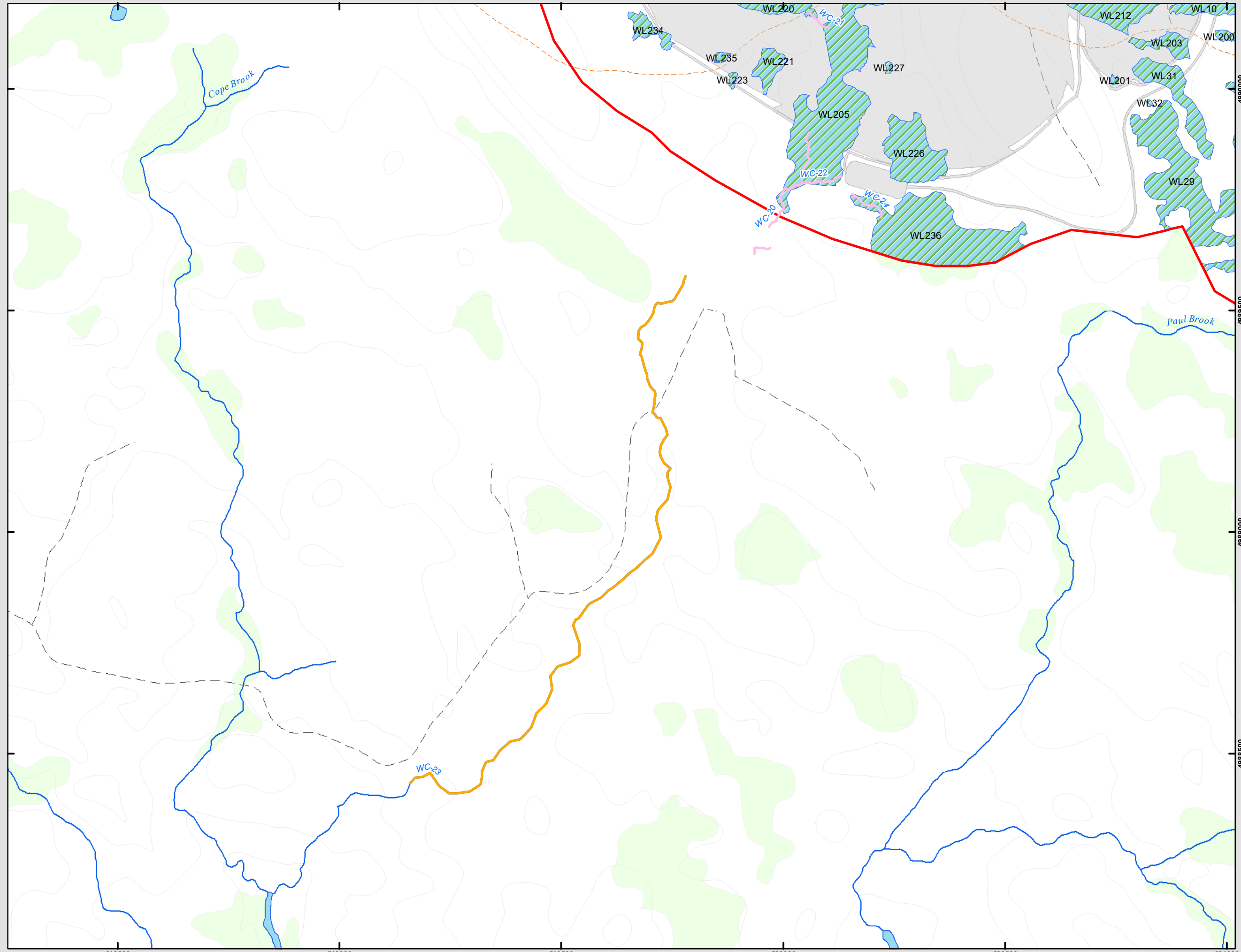
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 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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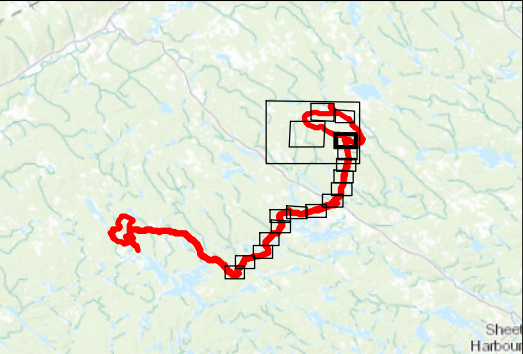
Prepared For:



FIGURE J.4-6 E

# Beaver Dam Mine Project Anticipated Fish Habitat Impact Areas by Type

- Buried Culvert
- Crushed Culvert
- Functioning Culvert
- Direct Impact: Watercourses
- Fisheries Resources
- Provincially Regulated Watercourses
- NSTDB Mapped Watercourses outside PA
- Direct Impact: Wetland Fish Habitat
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

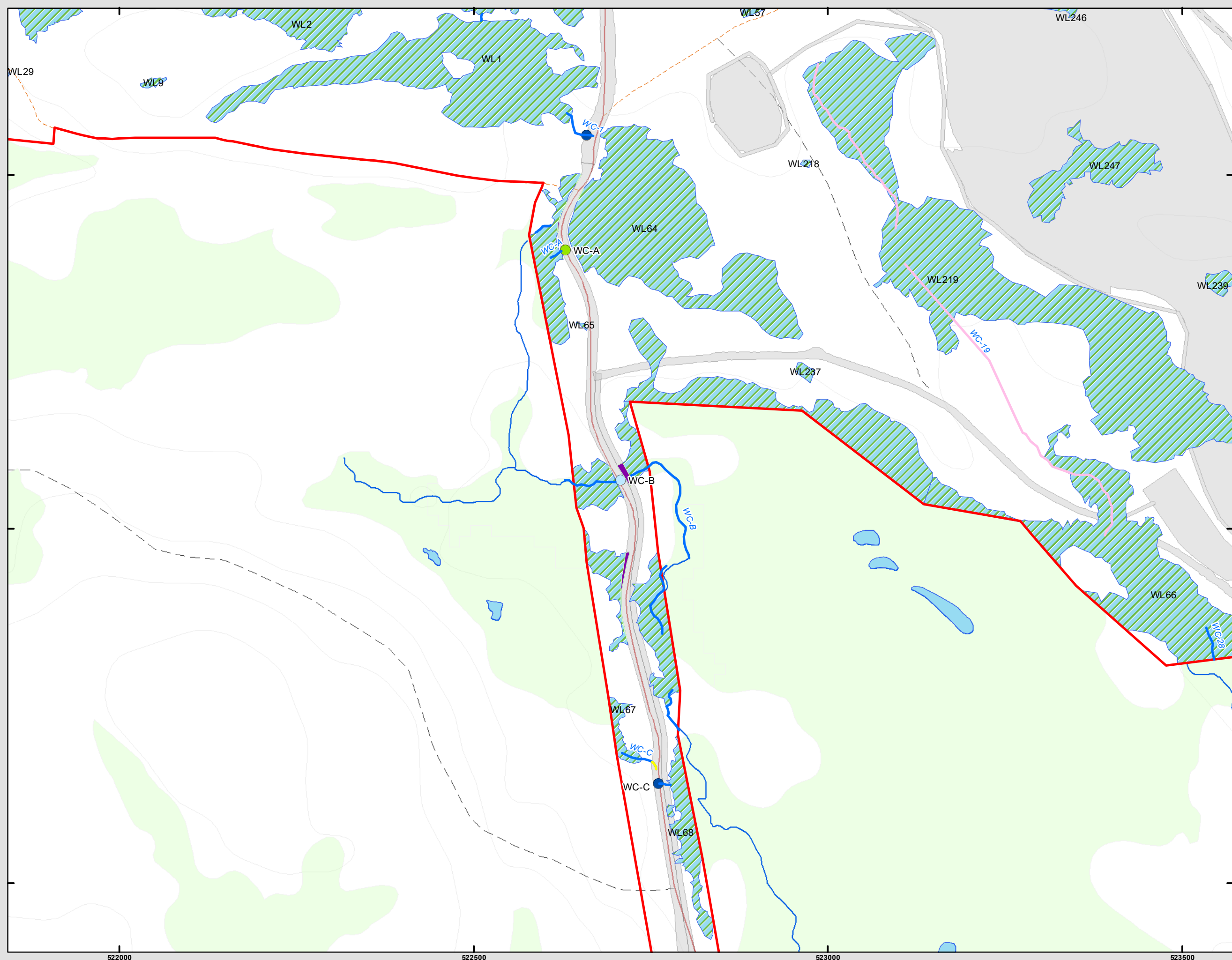
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Drawn By: AS Date: 2021-04-14  
 Reviewed By: XX

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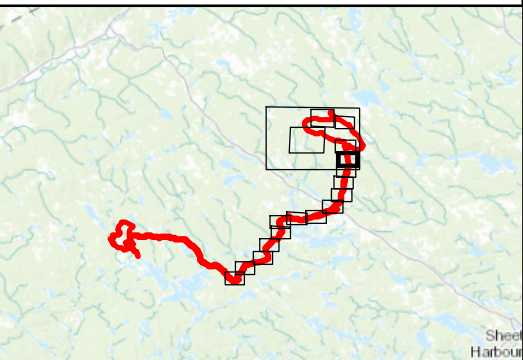
Prepared For:



FIGURE J.4-6 F

**Beaver Dam Mine Project**  
**Anticipated Fish Habitat Impact Areas by Type**

- Blocked Culvert
- Functioning Culvert
- Direct Impact: Watercourses
- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

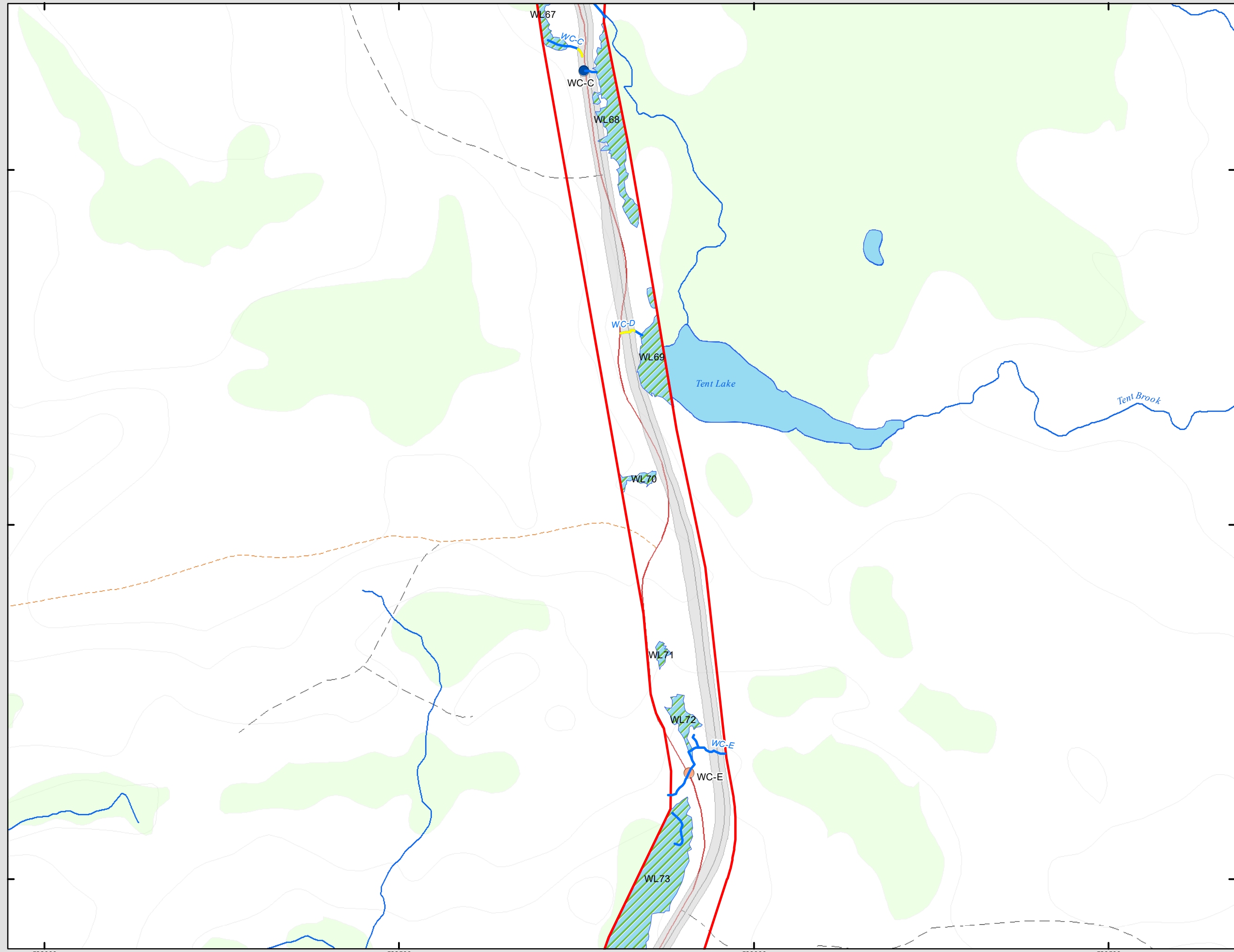
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





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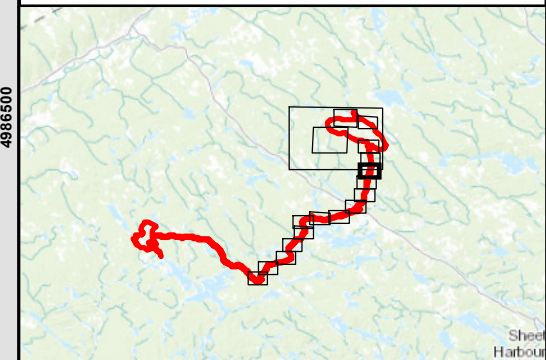


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**FIGURE J.4-6 G**

**Beaver Dam Mine Project**  
**Anticipated Fish Habitat Impact Areas by Type**

-  Blocked Culvert
-  Crushed Culvert
-  Fisheries Resources
-  NSTDB Mapped Watercourses outside PA
-  Direct Impact: Wetland Fish Habitat
-  Local Road
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Lake
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Proposed Infrastructure
-  Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

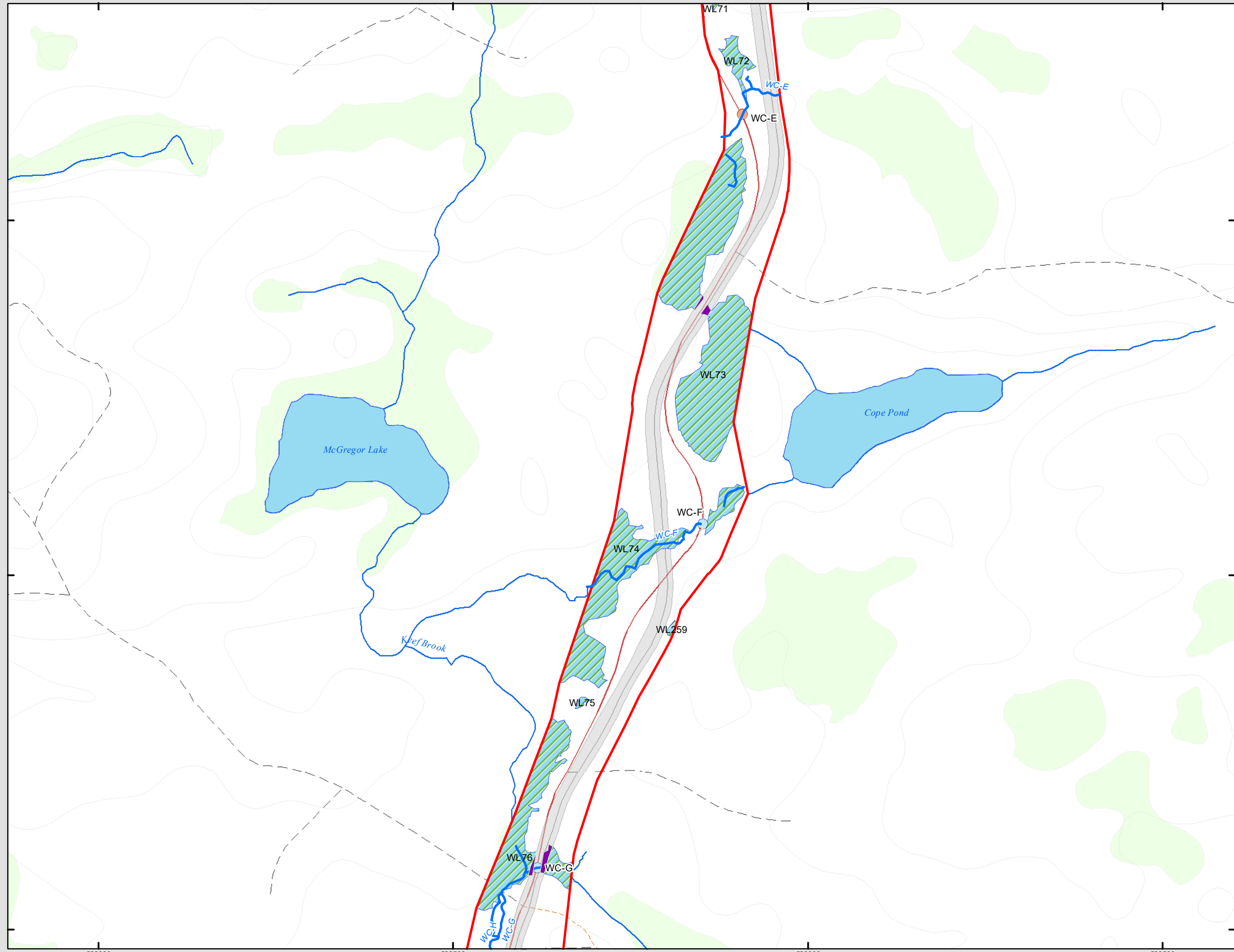
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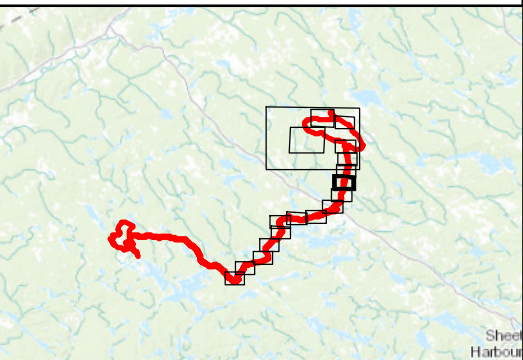


FIGURE J.4-6H

Beaver Dam Mine Project

Anticipated Fish Habitat Impact Areas by Type

- Bridge - no barrier
- Buried Culvert
- Crushed Culvert
- Direct Impact: Watercourses
- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Direct Impact: Wetland Fish Habitat
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

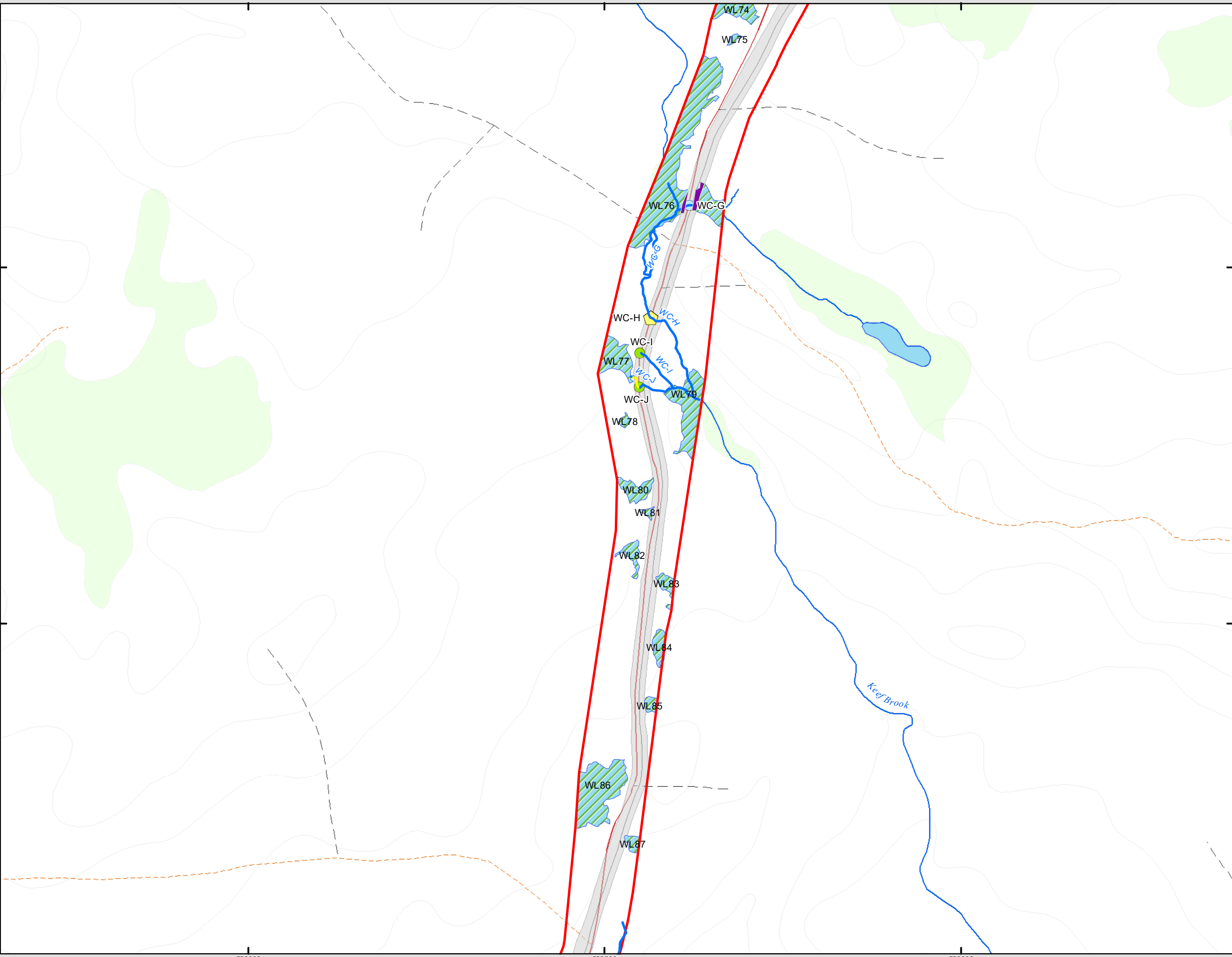
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Drawn By: AS Date: 2021-04-14  
 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors,



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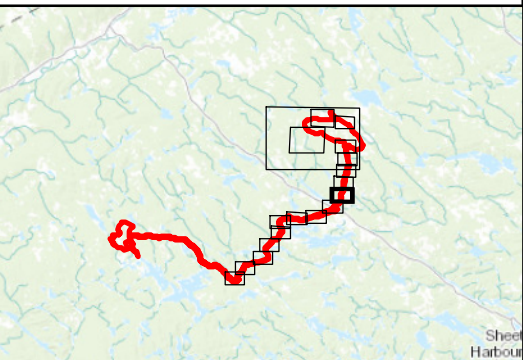
Prepared For:



FIGURE J.4-6I

### Beaver Dam Mine Project Anticipated Fish Habitat Impact Areas by Type

- Buried Culvert
- Functioning Culvert
- Direct Impact: Watercourses
- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

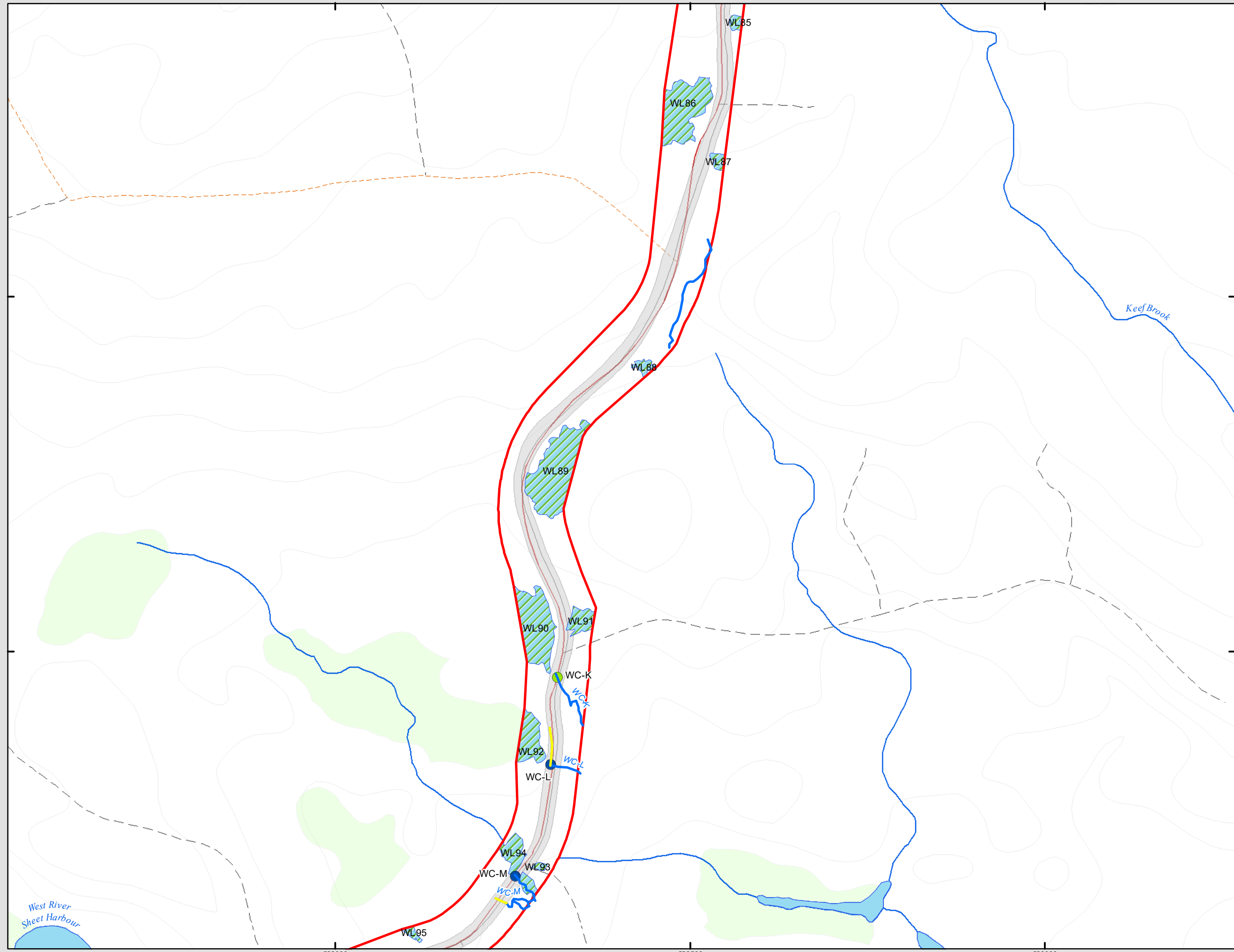
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Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.




















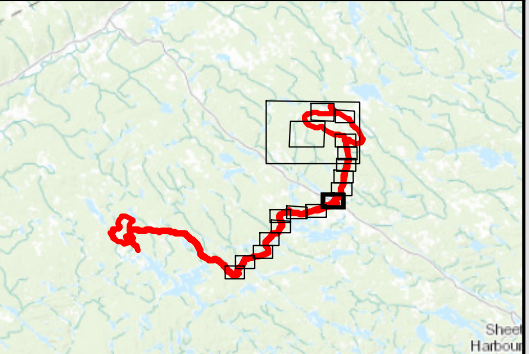
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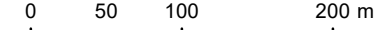
**FIGURE J.4-6 J**

**Beaver Dam Mine Project**  
**Anticipated Fish Habitat Impact Areas by Type**

-  Bridge - no barrier
-  Buried Culvert
-  Functioning Culvert
-  Direct Impact: Watercourses
-  Fisheries Resources
-  NSTDB Mapped Watercourses outside PA
-  Collector Road
-  Local Road
-  Dry Weather / Seasonal Road
-  Diveways (>300 m)
-  Track
-  Topo Contours (5 m)
-  Lake
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Proposed Infrastructure
-  Project Area



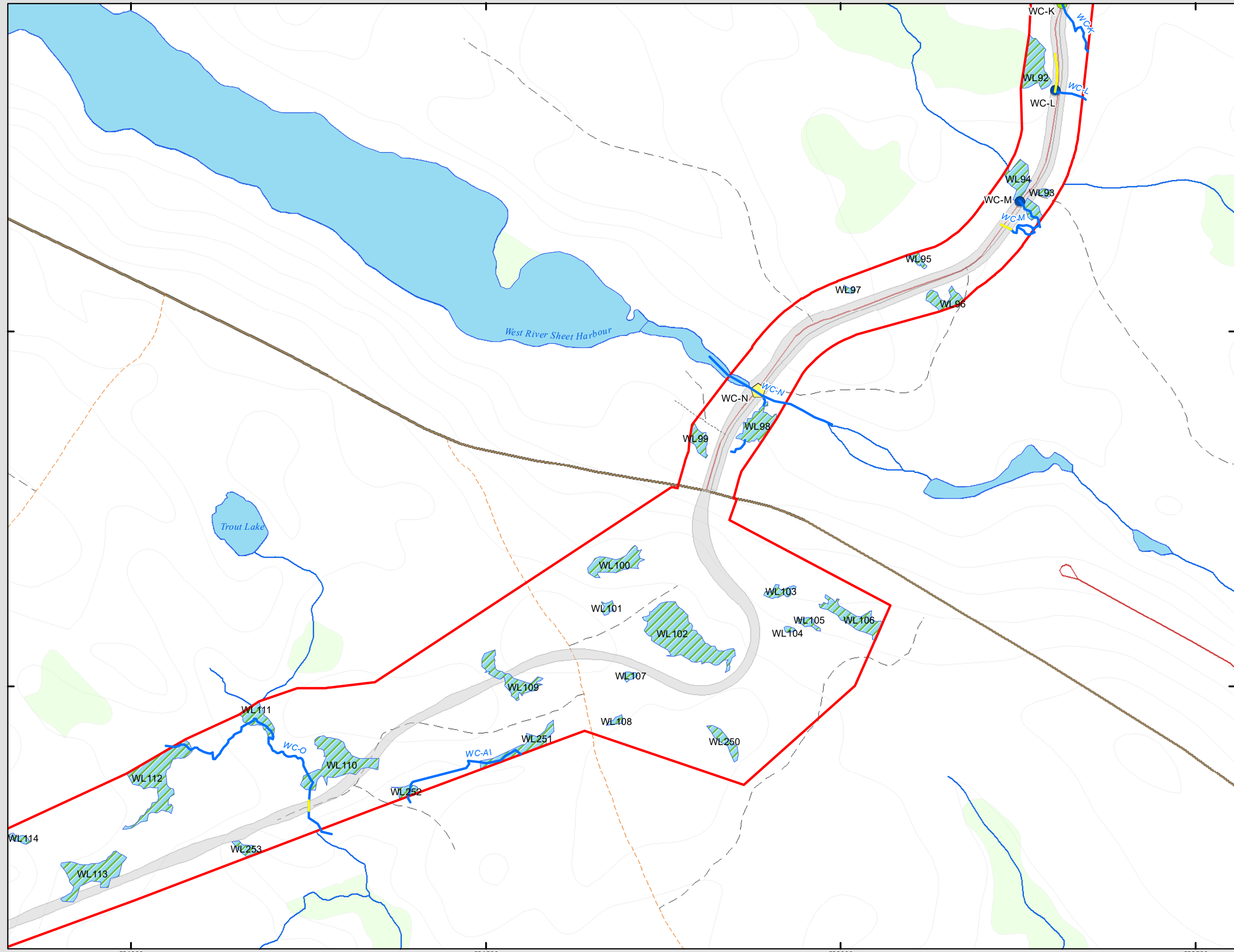
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 Datum: North American 1983 CSRS  
 Units: Meter

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Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.





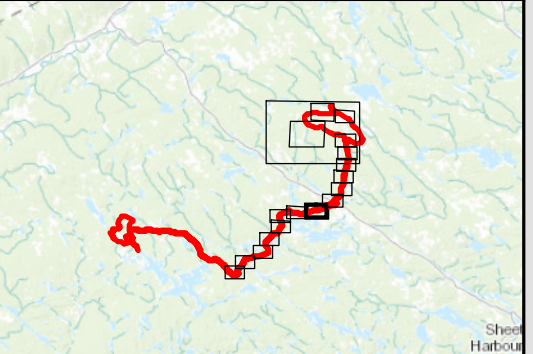
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FIGURE J.4-6 K

**Beaver Dam Mine Project**  
**Anticipated Fish Habitat Impact Areas by Type**

- Direct Impact: Watercourses
- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

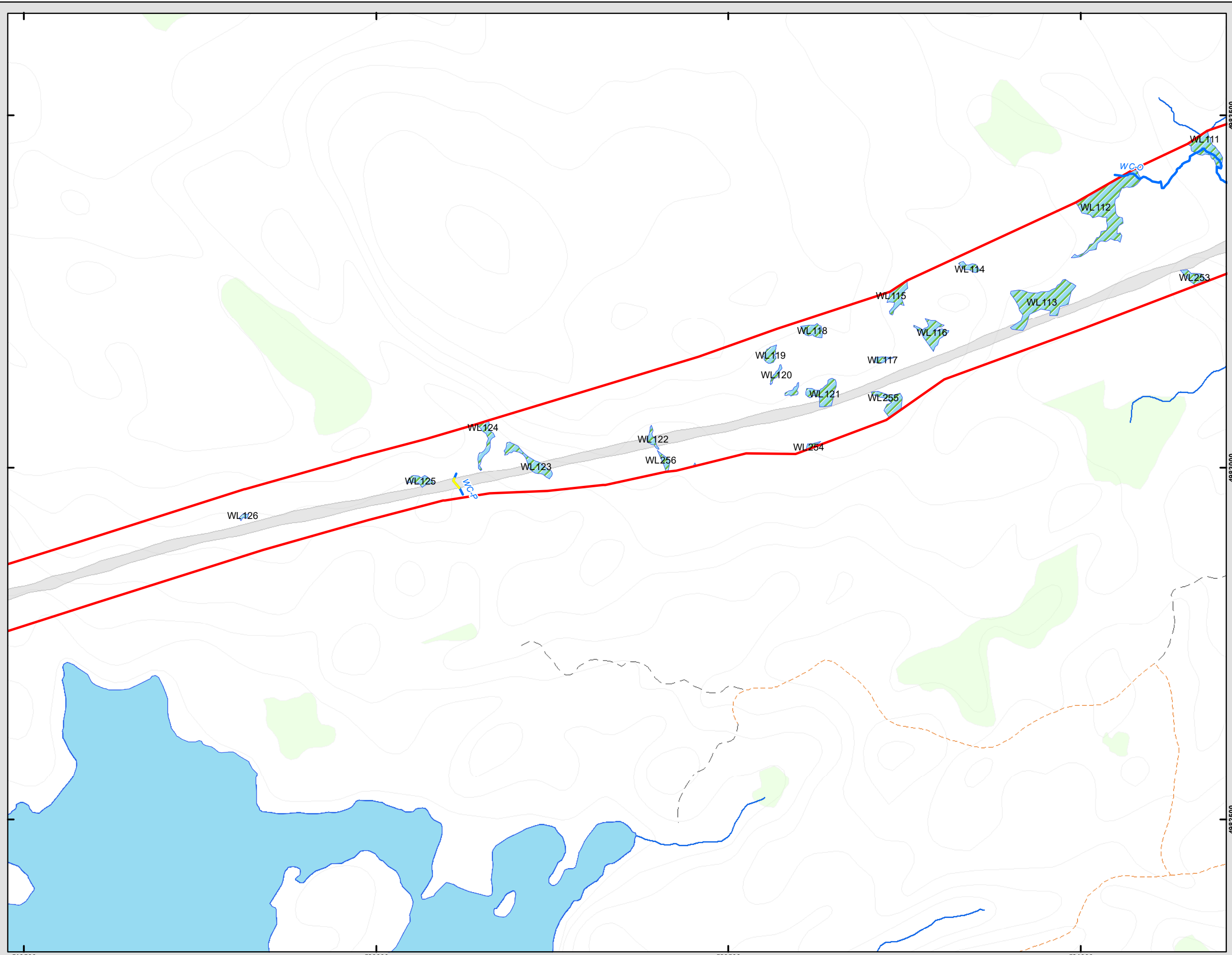
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Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors,



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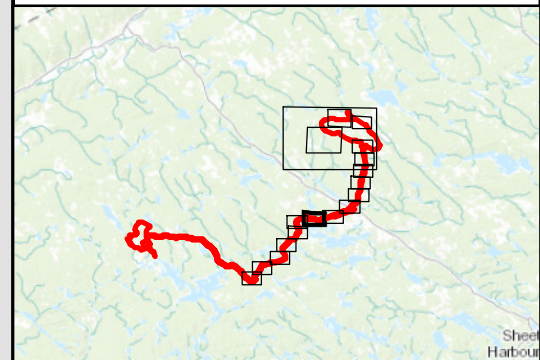


FIGURE J.4-6L

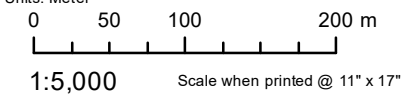
Beaver Dam Mine Project

Anticipated Fish Habitat Impact Areas by Type

- Hung Culvert
- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

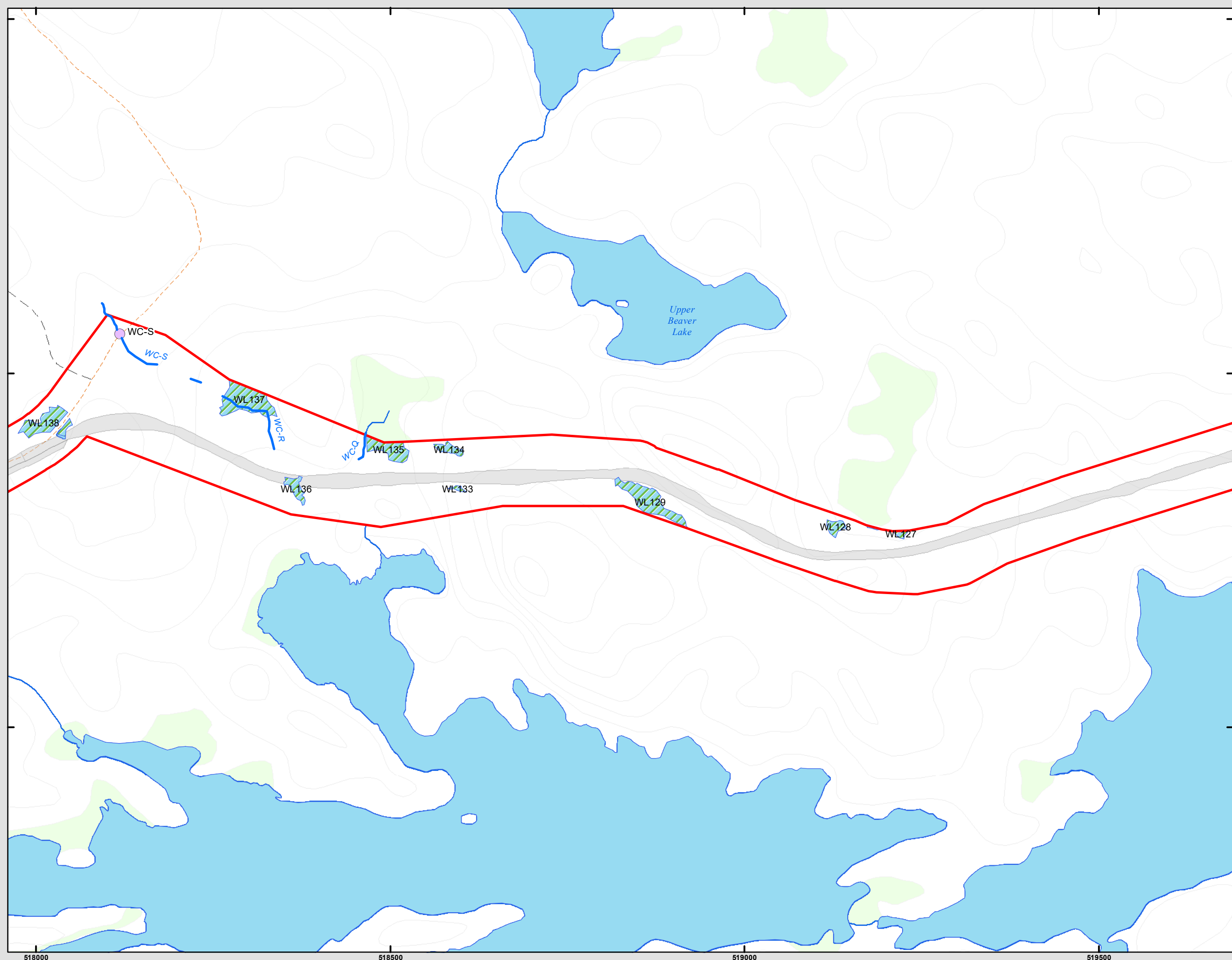


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 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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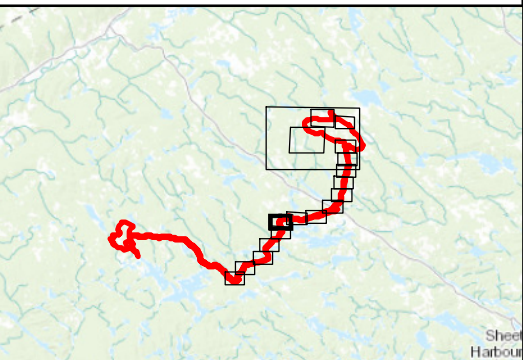
Prepared For:



FIGURE J.4-6 M

### Beaver Dam Mine Project Anticipated Fish Habitat Impact Areas by Type

- Buried Culvert
- Functioning Culvert
- Hung Culvert
- Direct Impact: Watercourses
- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

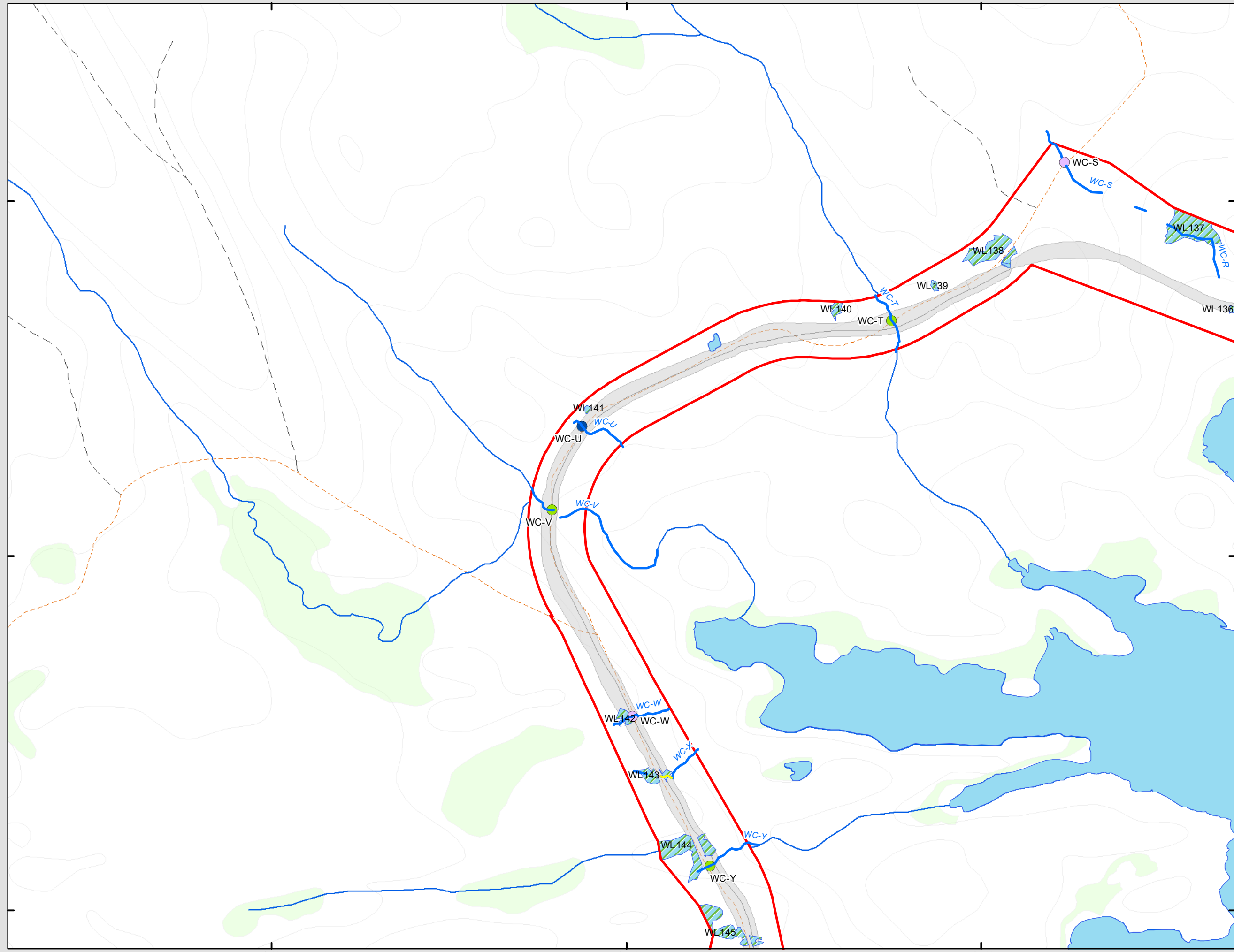
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Drawn By: AS Date: 2021-04-14  
 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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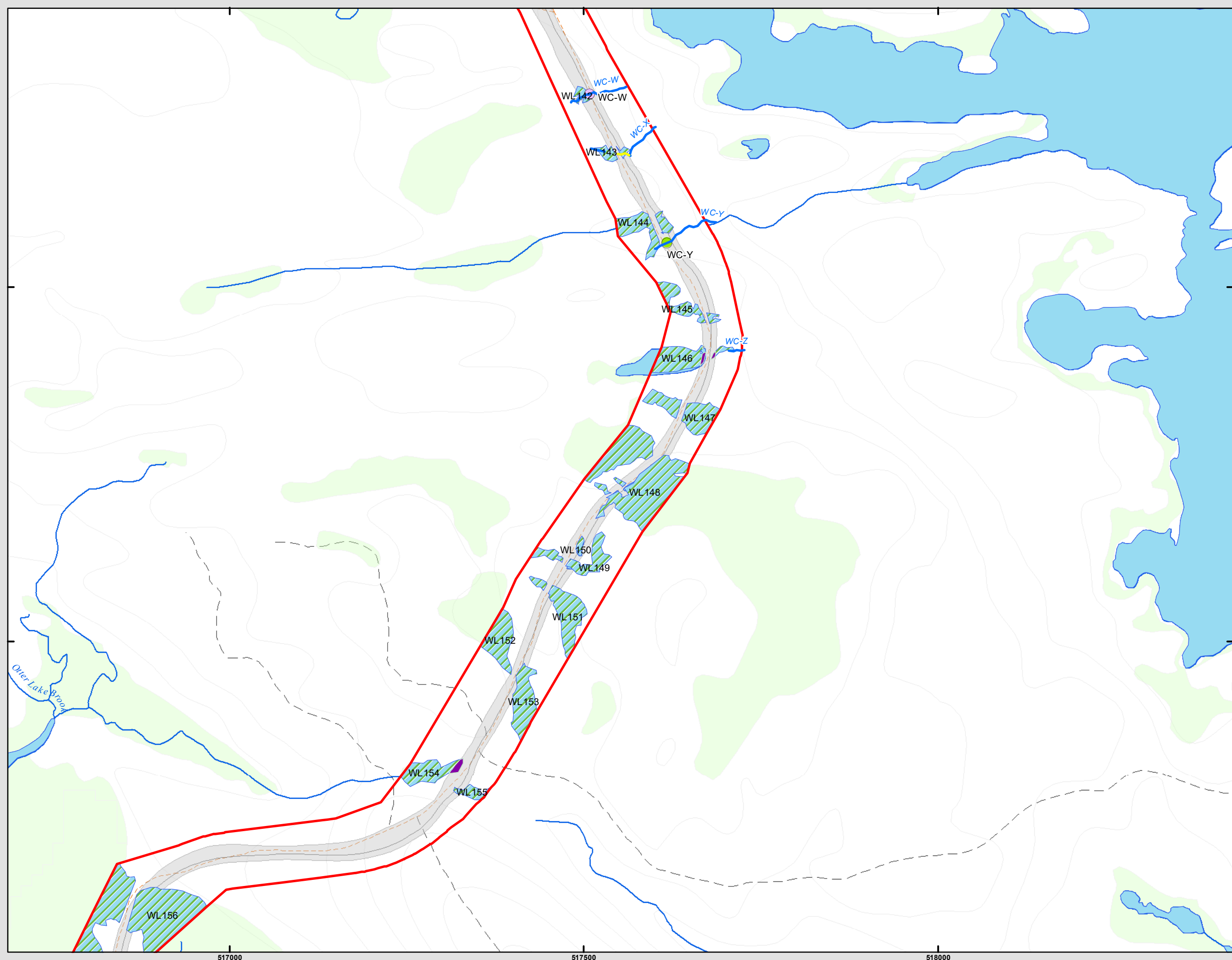
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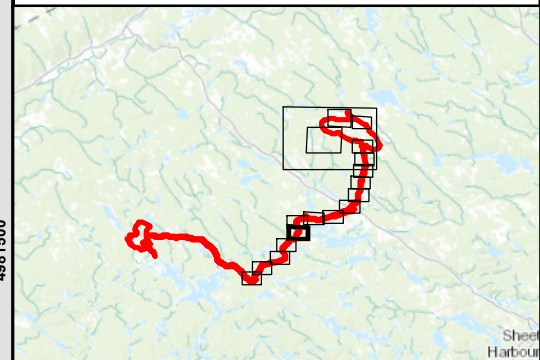
FIGURE J.4-6 N

Beaver Dam Mine Project

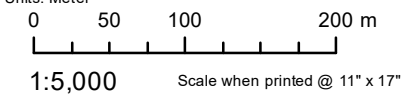
Anticipated Fish Habitat Impact Areas by Type



- Buried Culvert
- Hung Culvert
- Direct Impact: Watercourses
- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Direct Impact: Wetland Fish Habitat
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter



Drawn By: AS Date: 2021-04-14  
 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Gamin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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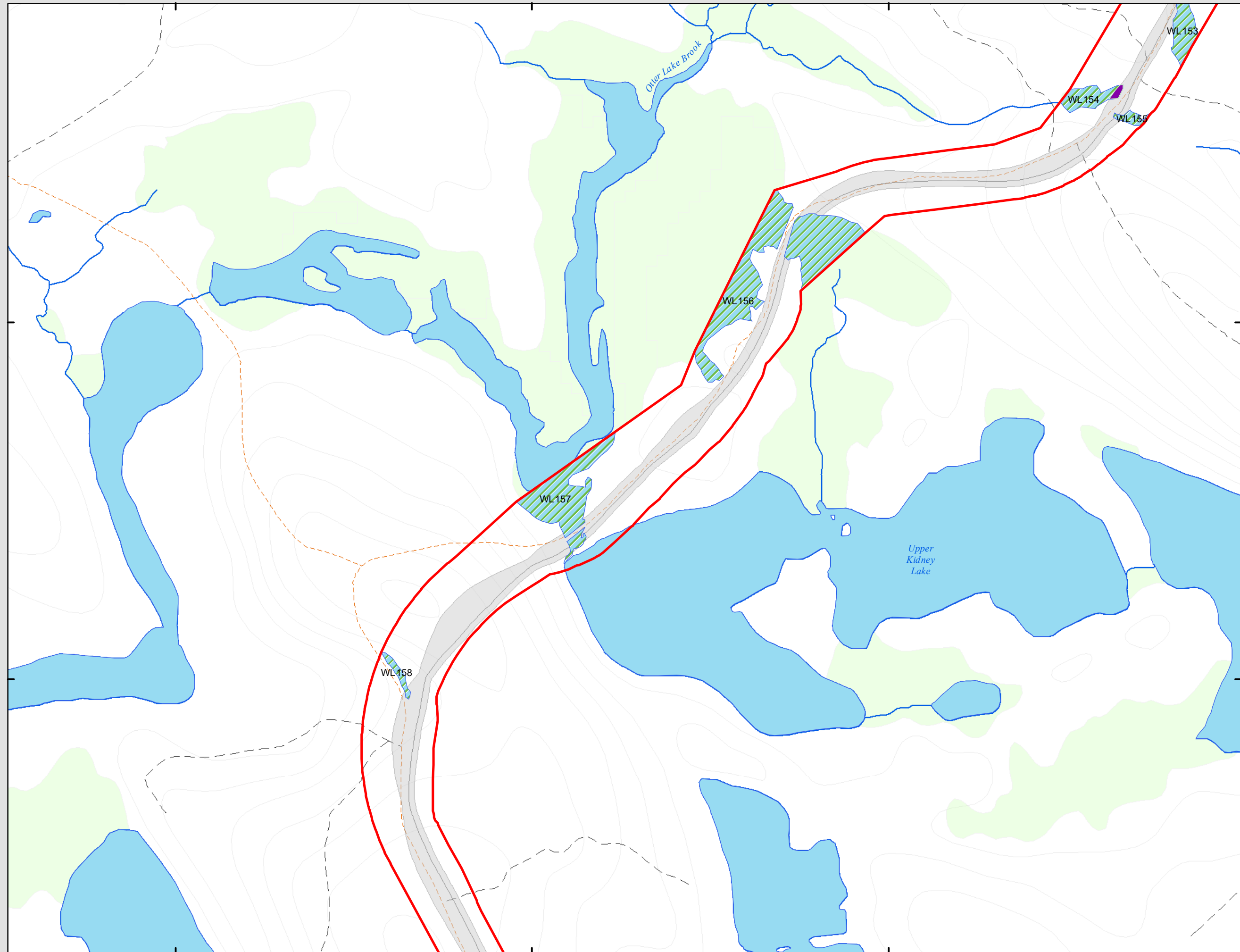
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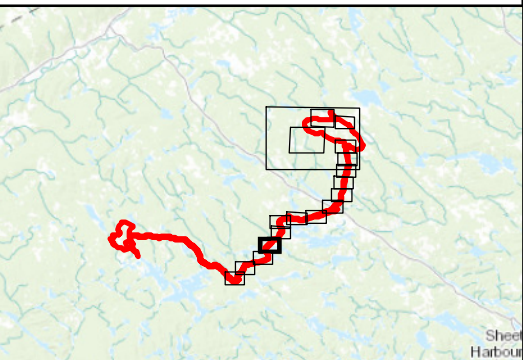
FIGURE J.4-6 O

Beaver Dam Mine Project

Anticipated Fish Habitat Impact Areas by Type



- NSTDB Mapped Watercourses outside PA
- Direct Impact: Wetland Fish Habitat
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

1:5,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2021-04-14  
Reviewed By: XX

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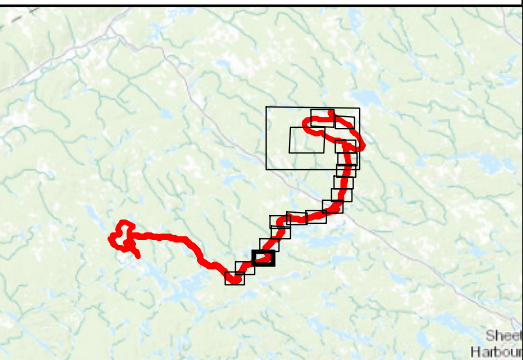
**Atlantic Gold**

**FIGURE J.4-6 P**

**Beaver Dam Mine Project**

**Anticipated Fish Habitat Impact Areas by Type**

- Hung Culvert
- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Direct Impact: Wetland Fish Habitat
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

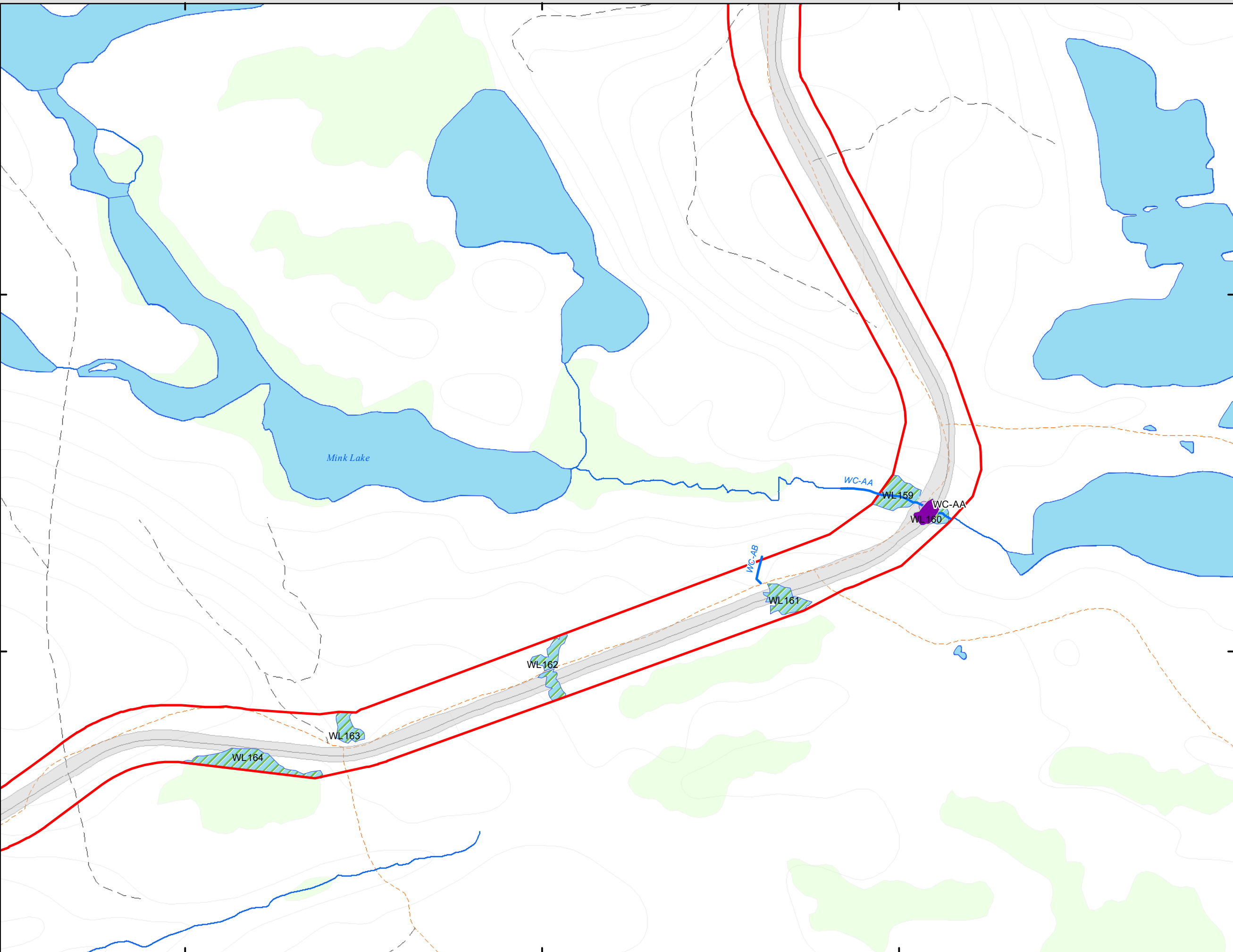
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Drawn By: AS Date: 2021-04-14  
 Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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








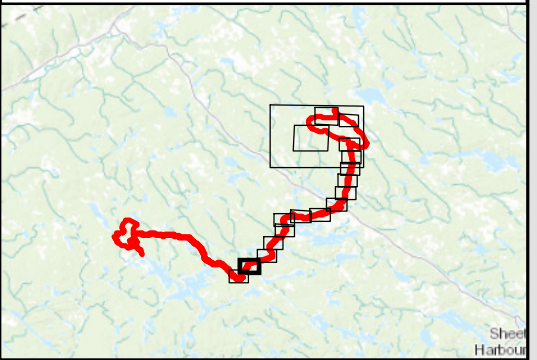
**Atlantic Gold**

**FIGURE J.4-6 Q**

**Beaver Dam Mine Project**

**Anticipated Fish Habitat Impact Areas by Type**

-  Bridge - no barrier
-  Buried Culvert
-  Direct Impact: Watercourses
-  Fisheries Resources
-  NSTDB Mapped Watercourses outside PA
-  Dry Weather / Seasonal Road
-  Track
-  Topo Contours (5 m)
-  Lake
-  Field Delineated Wetlands within PA
-  NSE Mapped Wetlands outside PA
-  Proposed Infrastructure
-  Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
Projection: Transverse Mercator  
Datum: North American 1983 CSRS  
Units: Meter



0 50 100 200 m

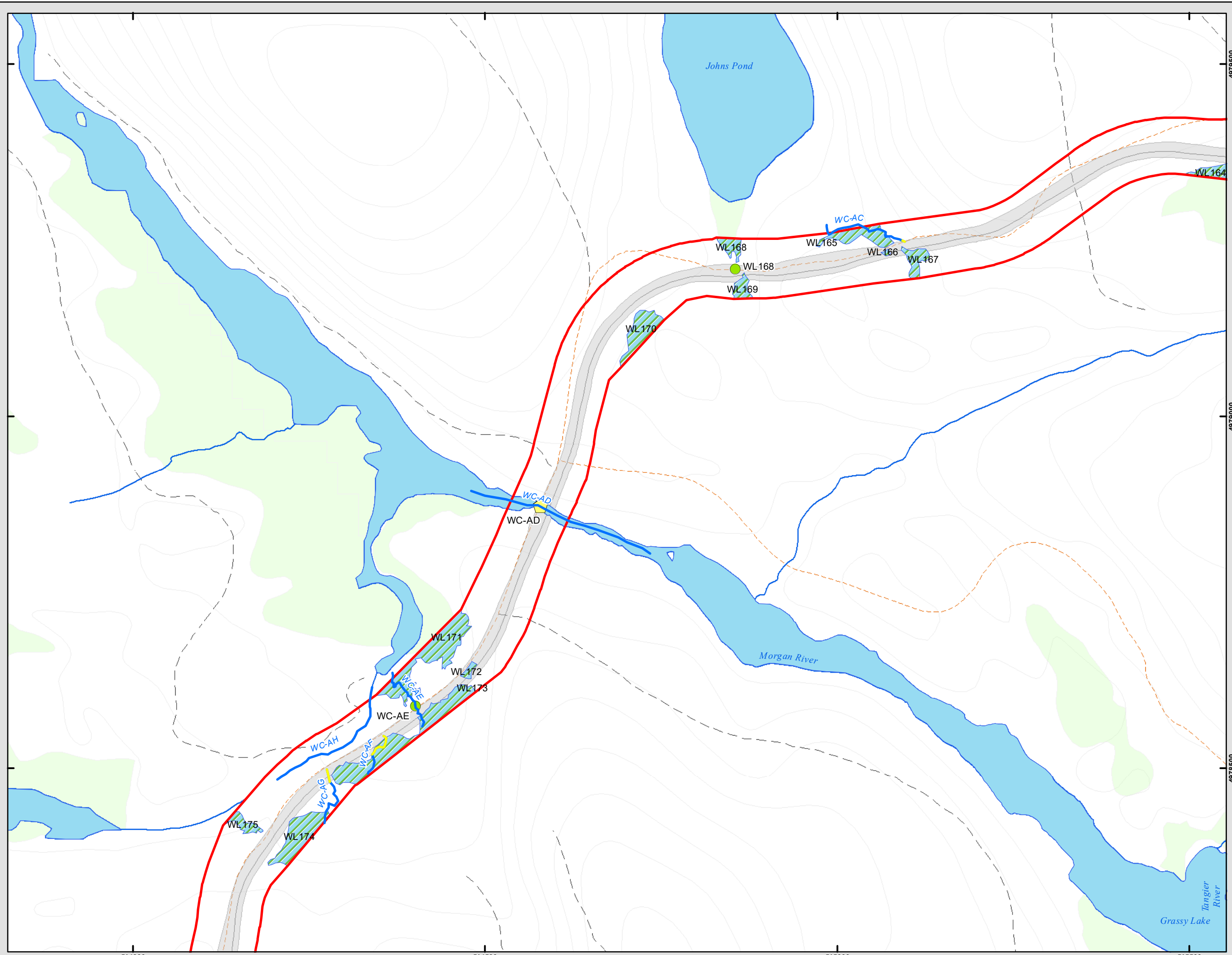
1:5,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2021-04-14  
Reviewed By: XX

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors.



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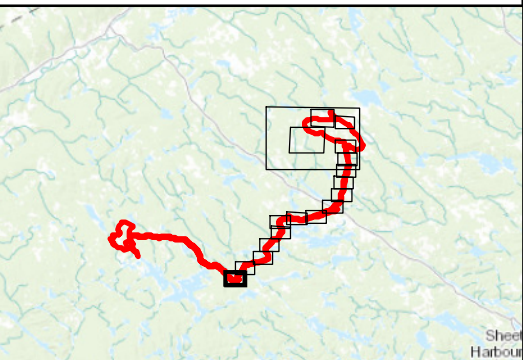
Prepared For:



FIGURE J.4-6 R

### Beaver Dam Mine Project Anticipated Fish Habitat Impact Areas by Type

- Buried Culvert
- Direct Impact: Watercourses
- Fisheries Resources
- NSTDB Mapped Watercourses outside PA
- Local Road
- Dry Weather / Seasonal Road
- Track
- Topo Contours (5 m)
- Lake
- Field Delineated Wetlands within PA
- NSE Mapped Wetlands outside PA
- Proposed Infrastructure
- Project Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N  
 Projection: Transverse Mercator  
 Datum: North American 1983 CSRS  
 Units: Meter

0 50 100 200 m

1:5,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2021-04-14  
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