

Figure No. **KR-0.5CC-01** Sheet 01 of 41

Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
for Climate Change**

Client/Project:  
Government of Yukon  
Department of Environment  
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon

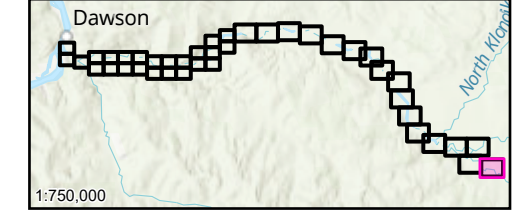
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number
- Bridge
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Limit of Floodplain Mapping
- Tr'ondék Hwëch'in Settlement Land
- Inundation Under Modelled Open Water Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

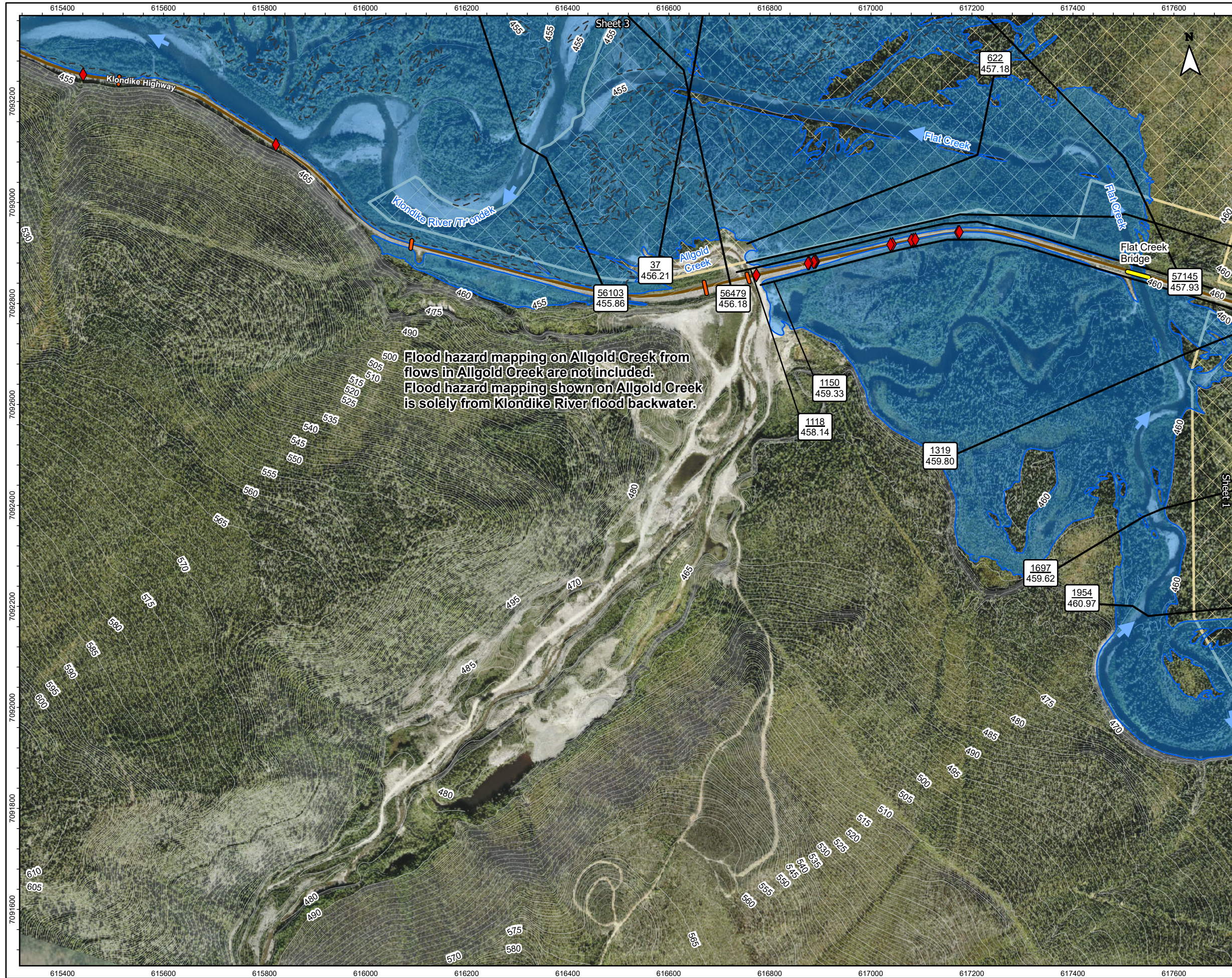
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- Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
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Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon

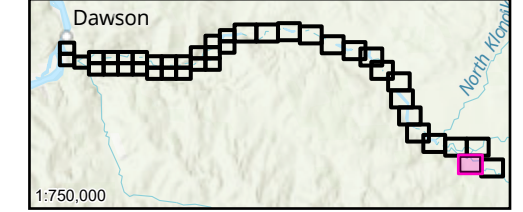
Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Bridge
- Highway
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

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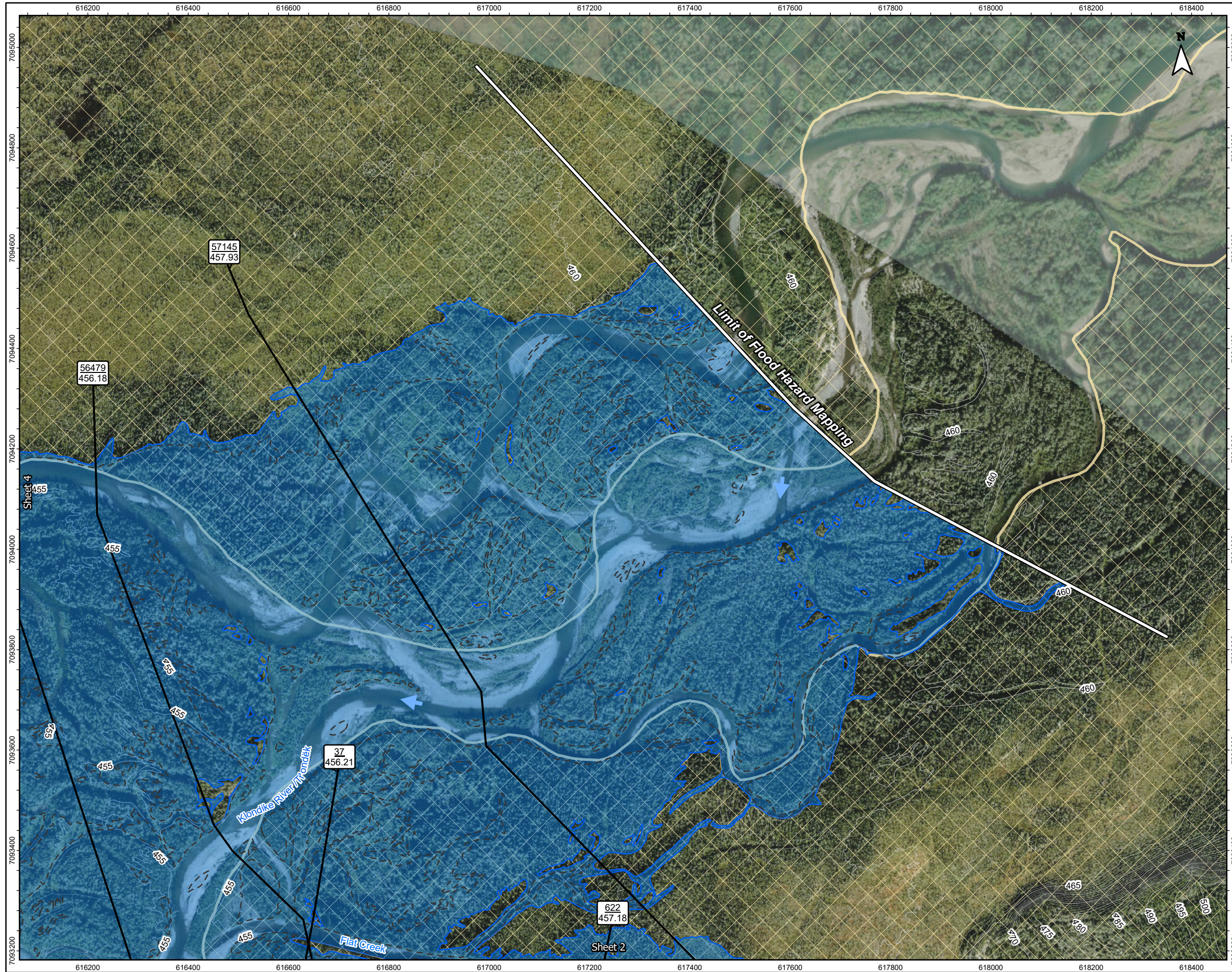


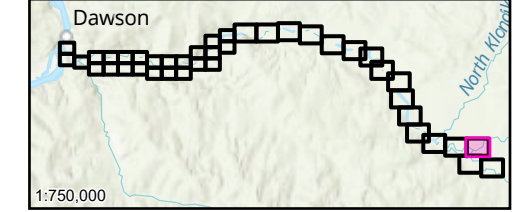
Figure No. **KR-0.5CC-03** Sheet 03 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Highway Kilometer Post
- Cross-Section Number
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Limit of Floodplain Mapping
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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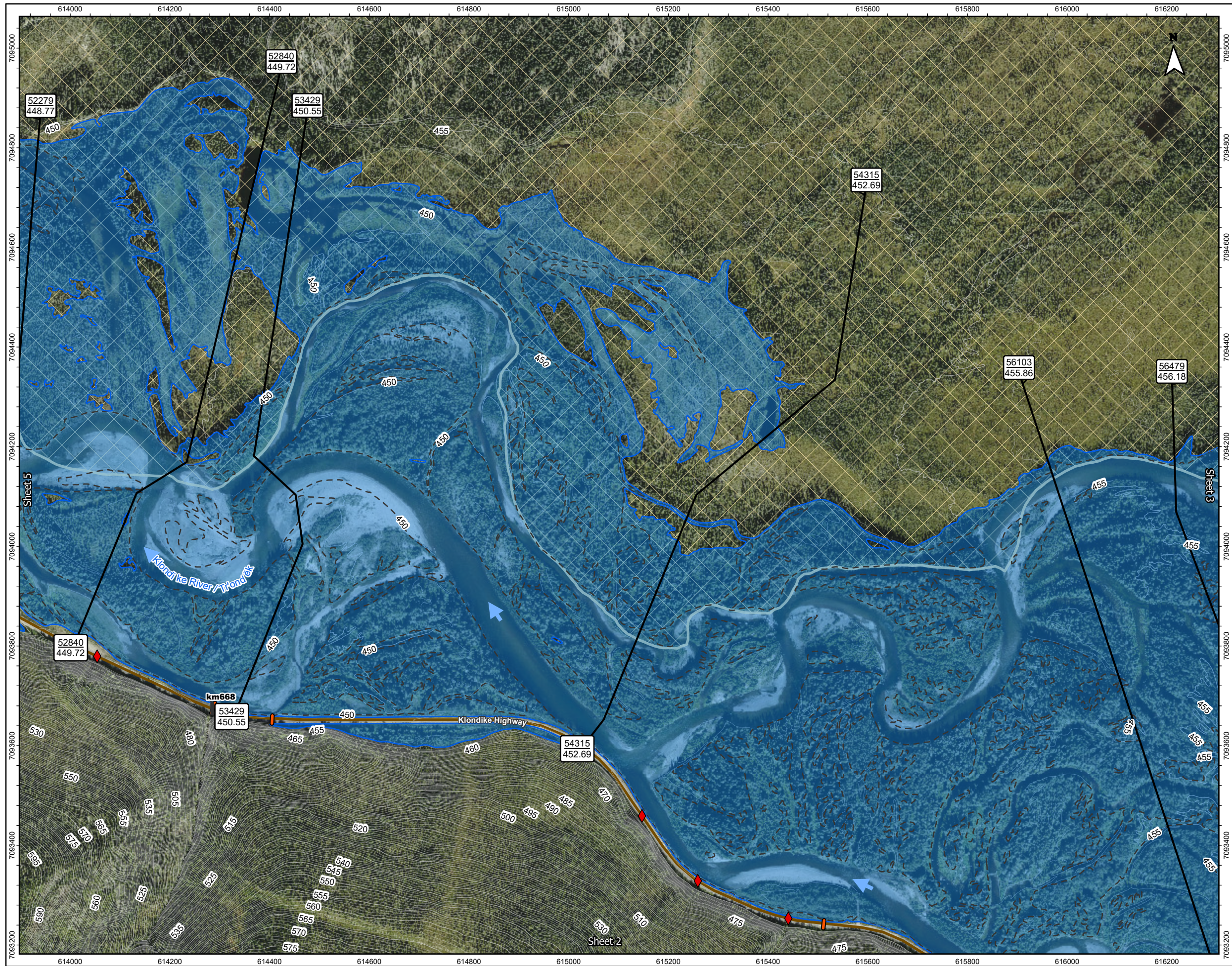


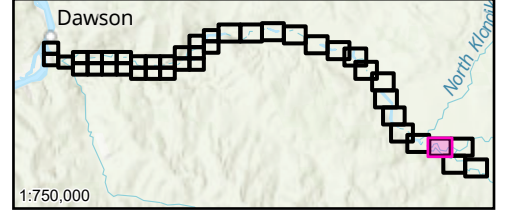
Figure No. **KR-0.5CC-04** Sheet 04 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study  
 Composite Flood Hazard Map - Klondike River  
 0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
 for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Cross-Section Number  
WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Highway
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

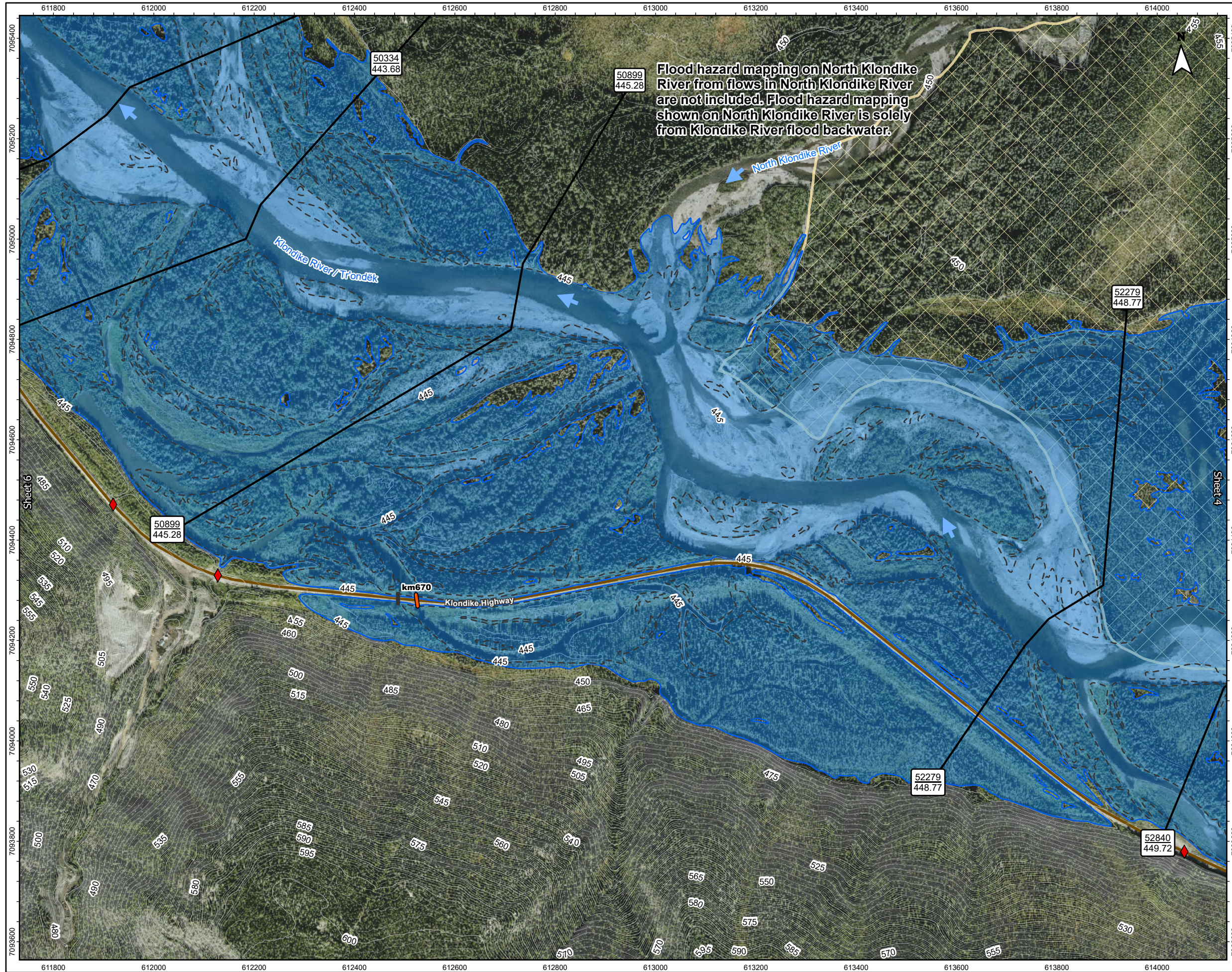
Map Publication Date: 03/06/2026  
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Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
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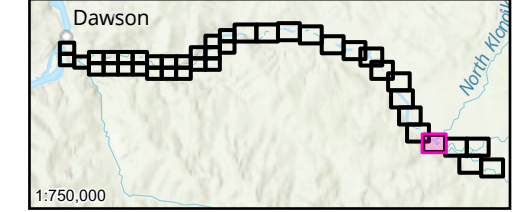
Client/Project:  
Government of Yukon  
Department of Environment  
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Highway
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

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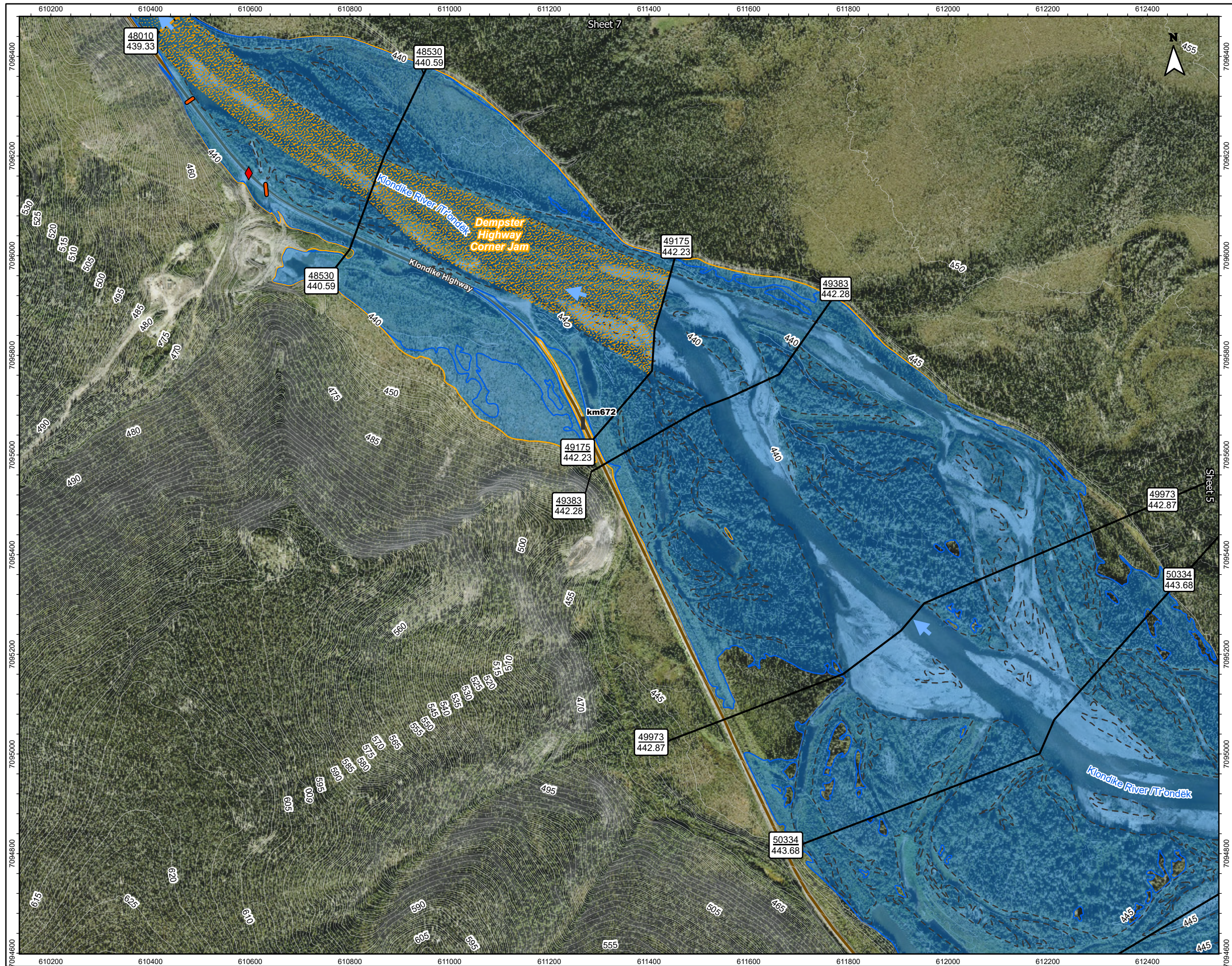


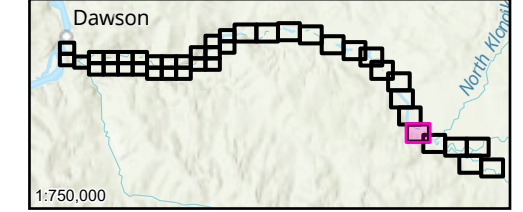
Figure No. **KR-0.5CC-06** Sheet 06 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Highway
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Toe of Ice Jam
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

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Figure No. **KR-0.5CC-07** Sheet 07 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study  
 Composite Flood Hazard Map - Klondike River  
 0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
 for Climate Change**

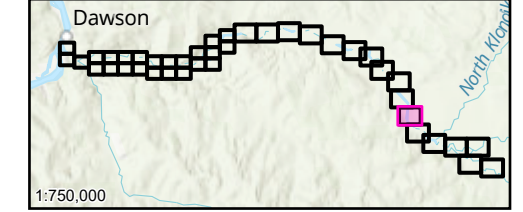
Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Toe of Ice Jam
- Highway Kilometer Post
- Tr'ondék Hwëch'in Settlement Land
- Cross-Section Number  
WSE (m) Along Cross-Section
- Approximate 50% AEP Open Water Flood Inundation
- Surveyed Culvert Location
- Inundation Under Modelled Open Water Runs
- Bridge
- Inundation Under Modelled Breakup Ice Jam Runs
- Highway
- Inundation Extent From Subsurface Seepage
- Local Road
- Composite Open Water and Ice Jam Inundation Extent
- Major Contour (5m)
- Potential Presence of Ice Debris During Jam Scenario
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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**Notes**

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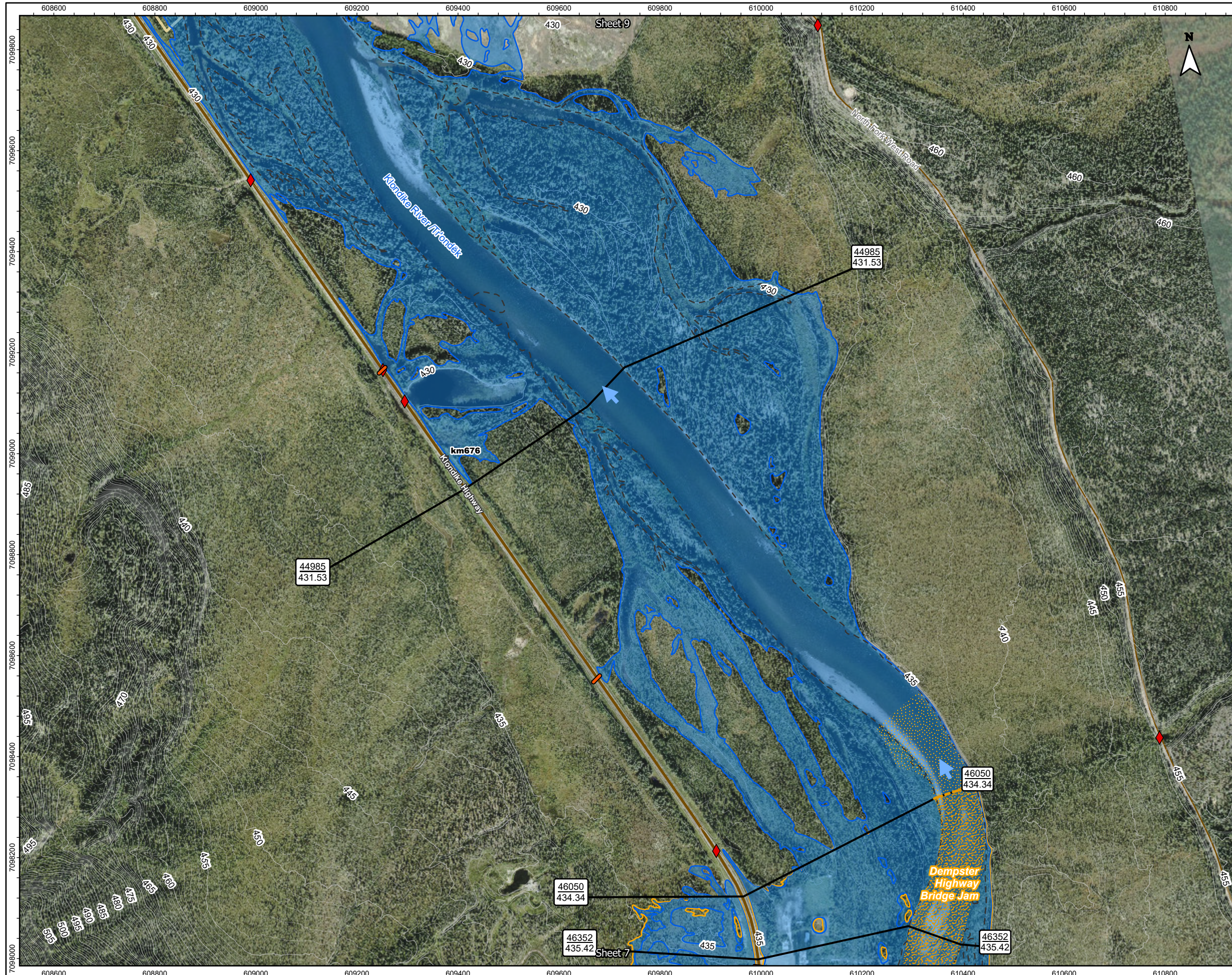


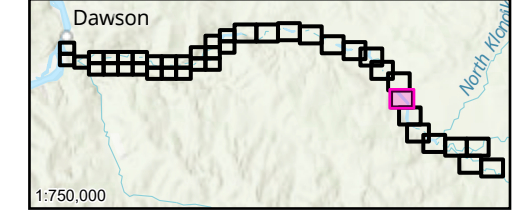
Figure No. **KR-0.5CC-08** Sheet 08 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
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- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number WSE (m) Along Cross-Section
- Surveyed Culvert Location
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- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
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- Approximate 50% AEP Open Water Flood Inundation
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- Inundation Under Modelled Breakup Ice Jam Runs
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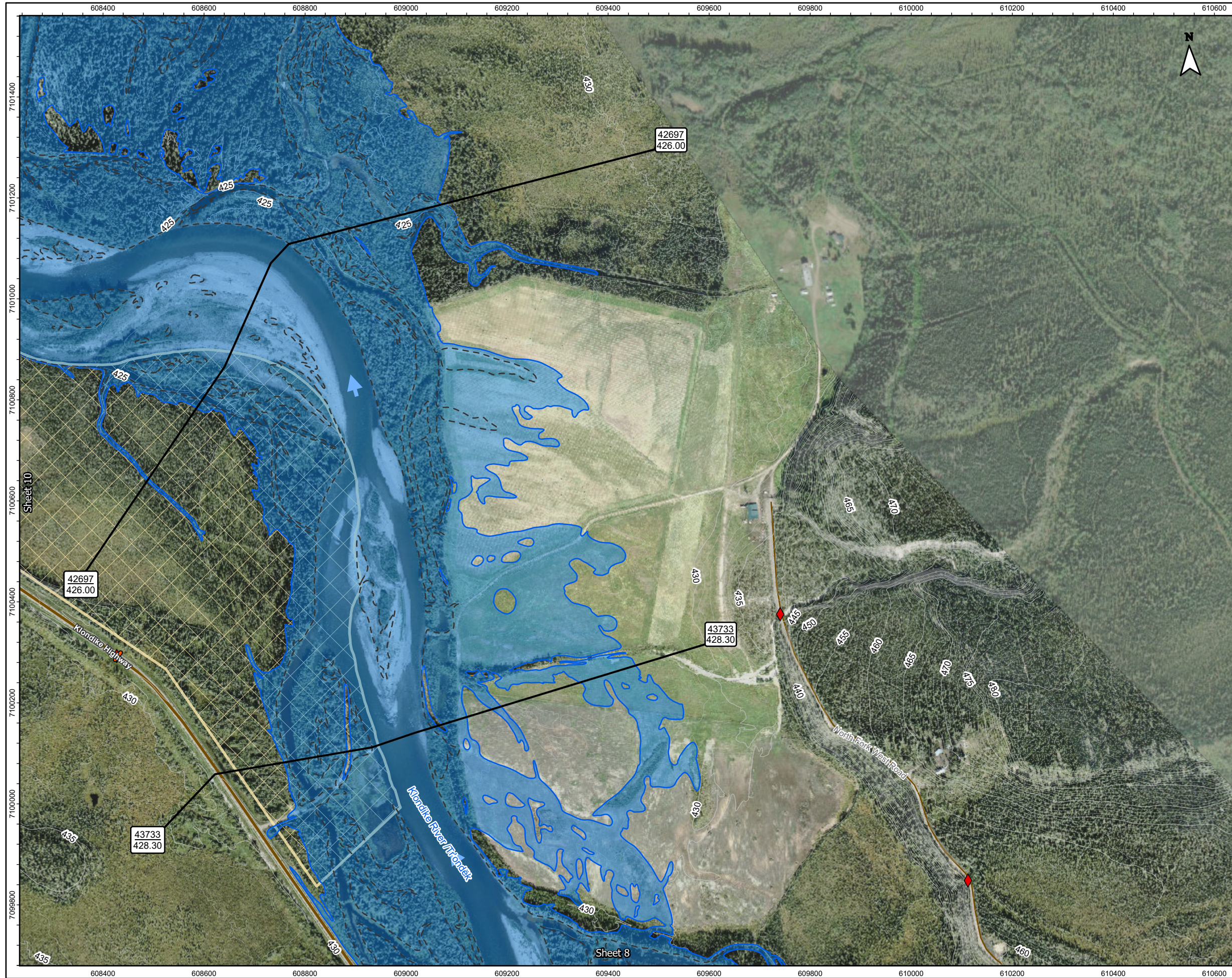


Figure No. **KR-0.5CC-09** Sheet 09 of 41

Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
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Client/Project:  
Government of Yukon  
Department of Environment  
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon

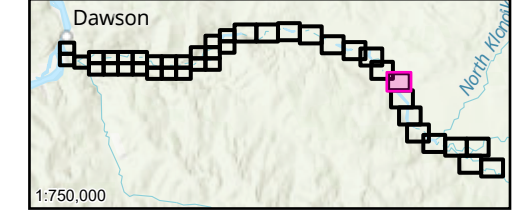
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Water Flood Inundation
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Map Publication Date: 03/06/2026

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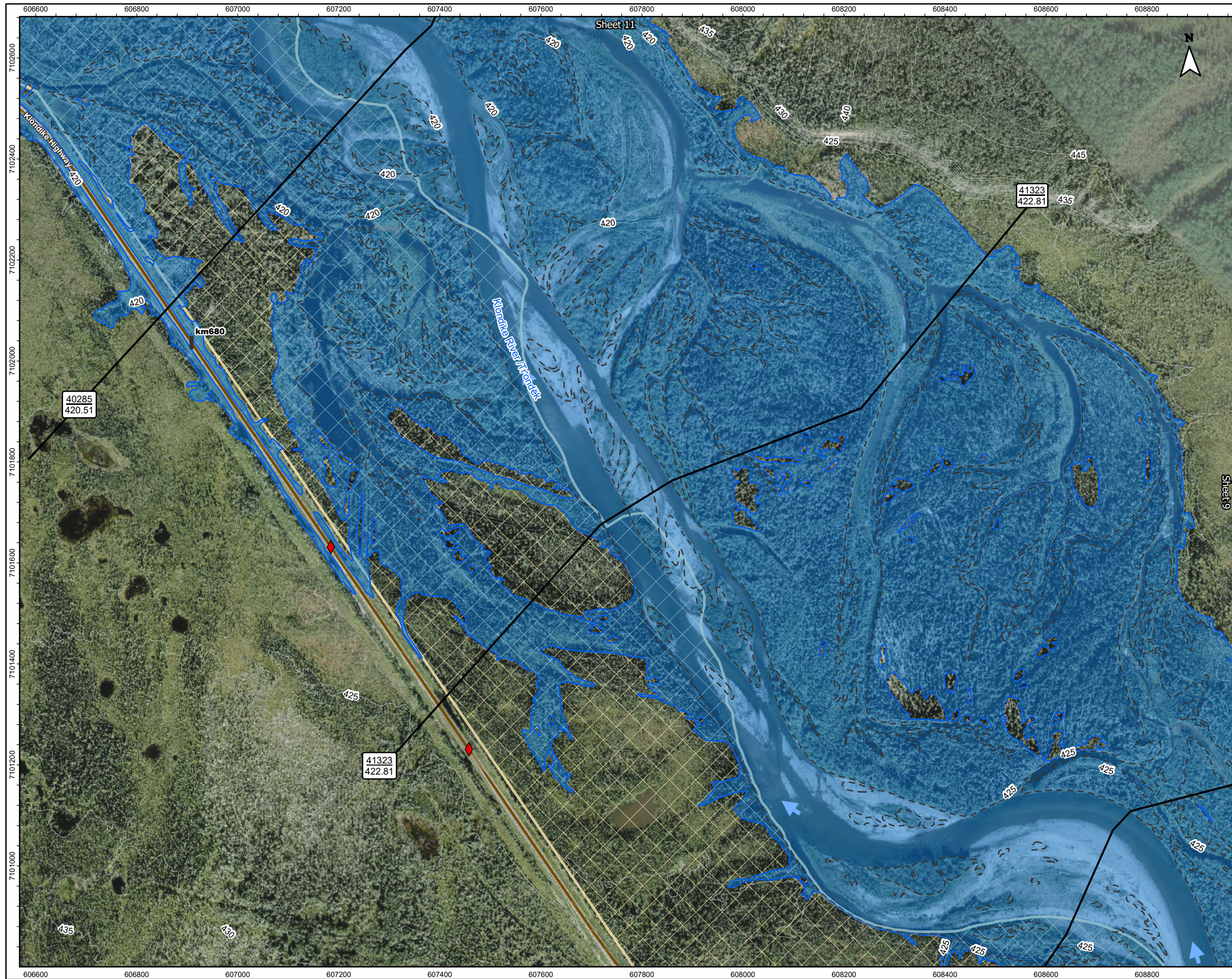


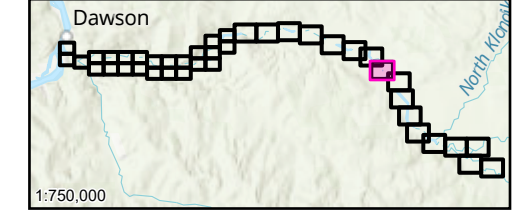
Figure No. **KR-0.5CC-10** Sheet 10 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study  
 Composite Flood Hazard Map - Klondike River  
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 for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
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Breakup Ice Jam Runs
- Inundation Extent From  
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 2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC  
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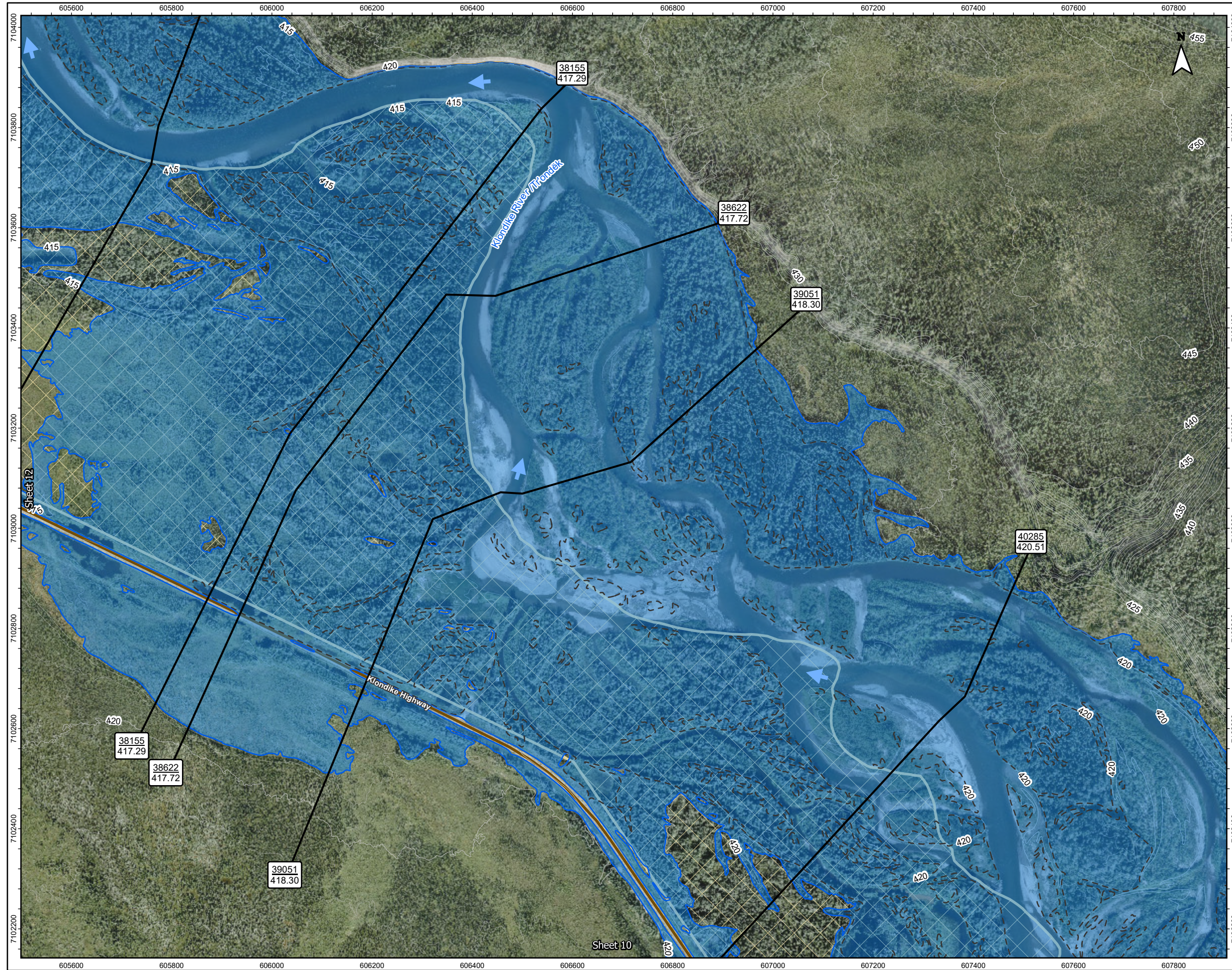
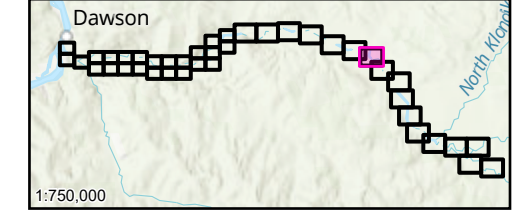


Figure No. **KR-0.5CC-11** Sheet 11 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study  
 Composite Flood Hazard Map - Klondike River  
 0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
 for Climate Change**  
 Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch  
 Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

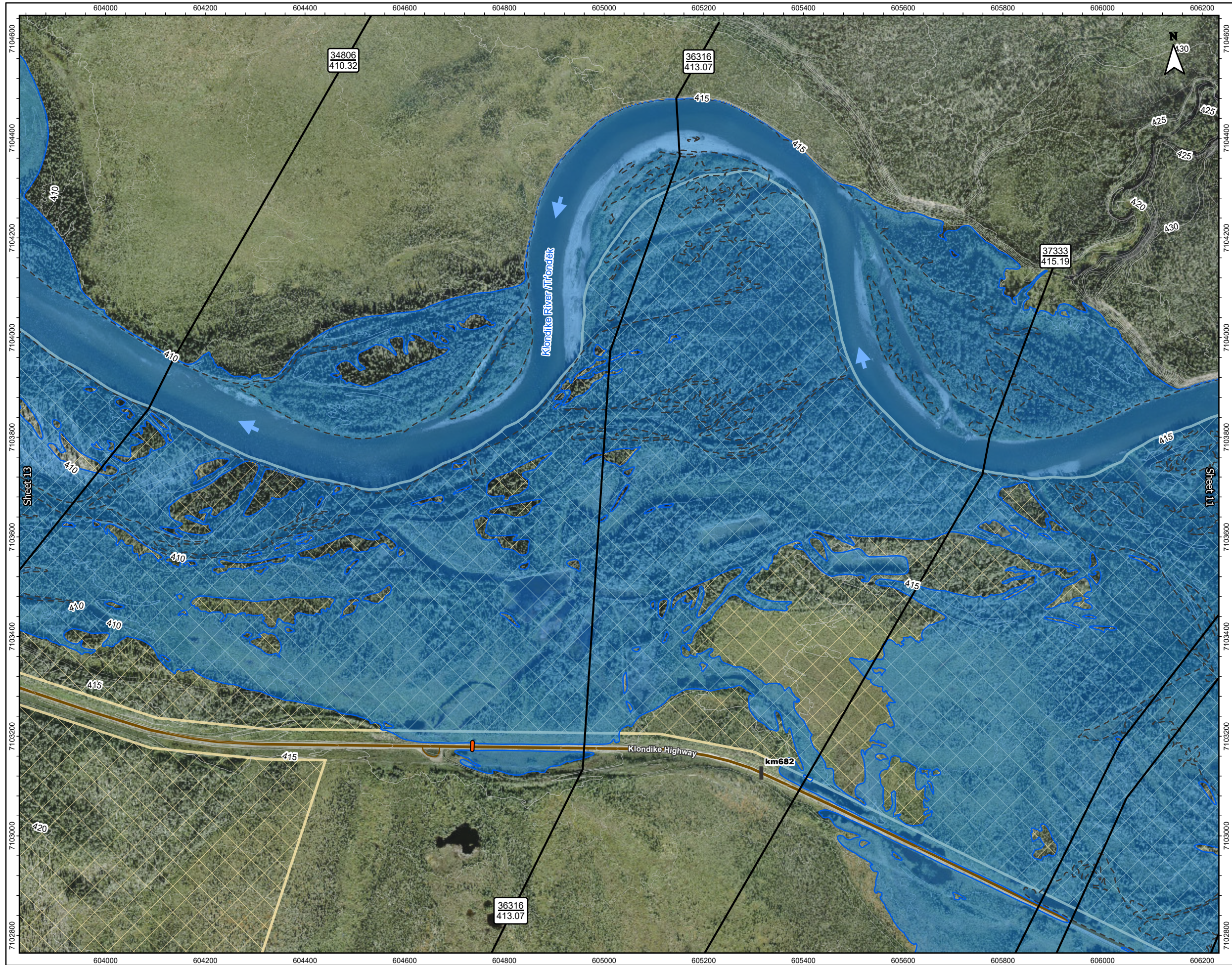
- River Flow Direction
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Highway
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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 (At original document size of 11x 17) 1:7,500



**Notes**  
 1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a  
 2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC  
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**Title:** Dawson City and Klondike Valley Flood Mapping Study  
**Composite Flood Hazard Map - Klondike River**  
**0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

**Client/Project:**  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

**Project:** 123222713

**Project Location:** Dawson, Yukon

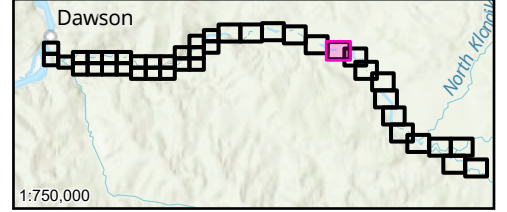
Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 100 200 300 400 m

(At original document size of 11x 17) 1:7,500



- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
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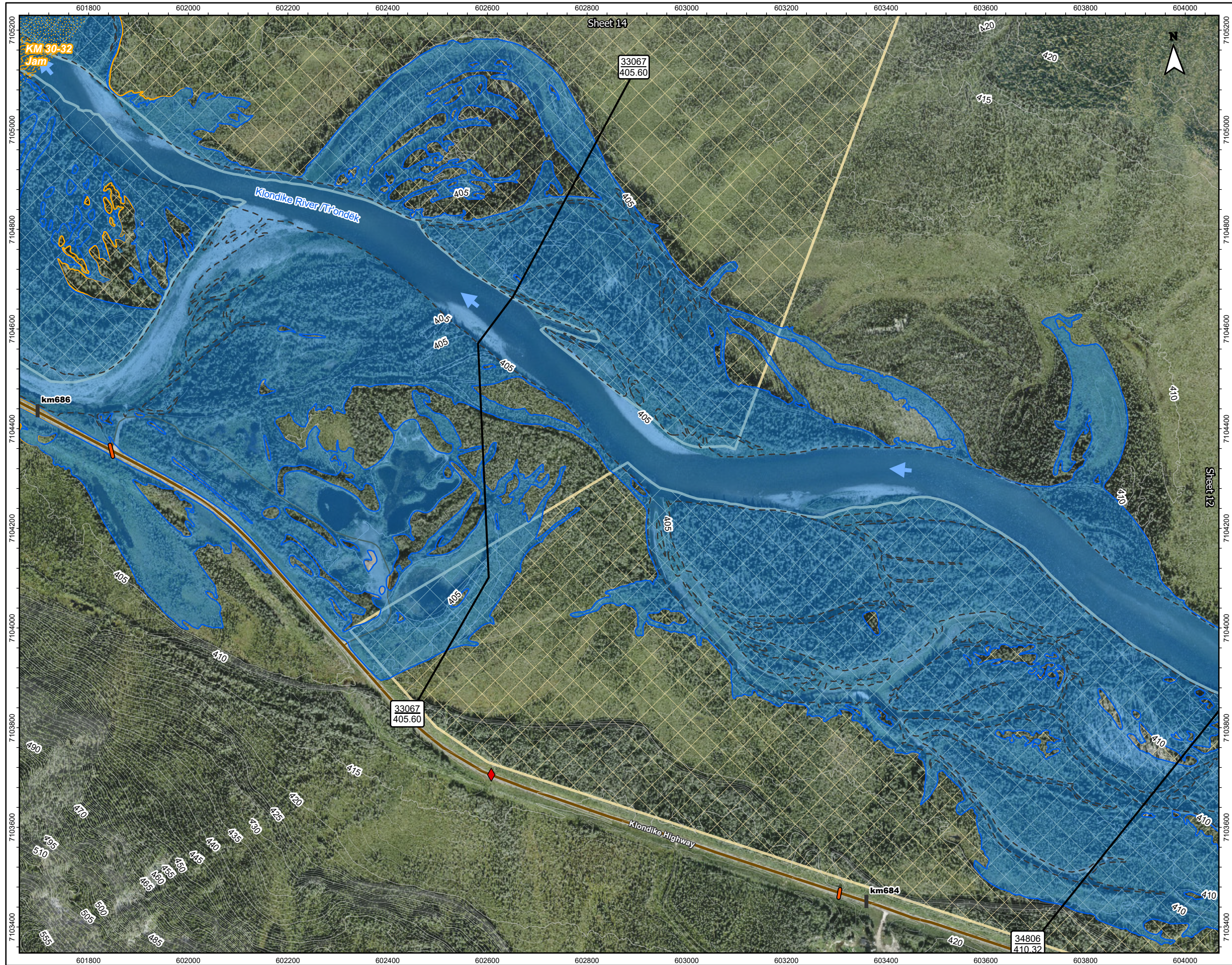


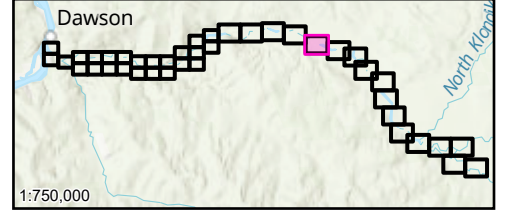
Figure No. **KR-0.5CC-13** Sheet 13 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

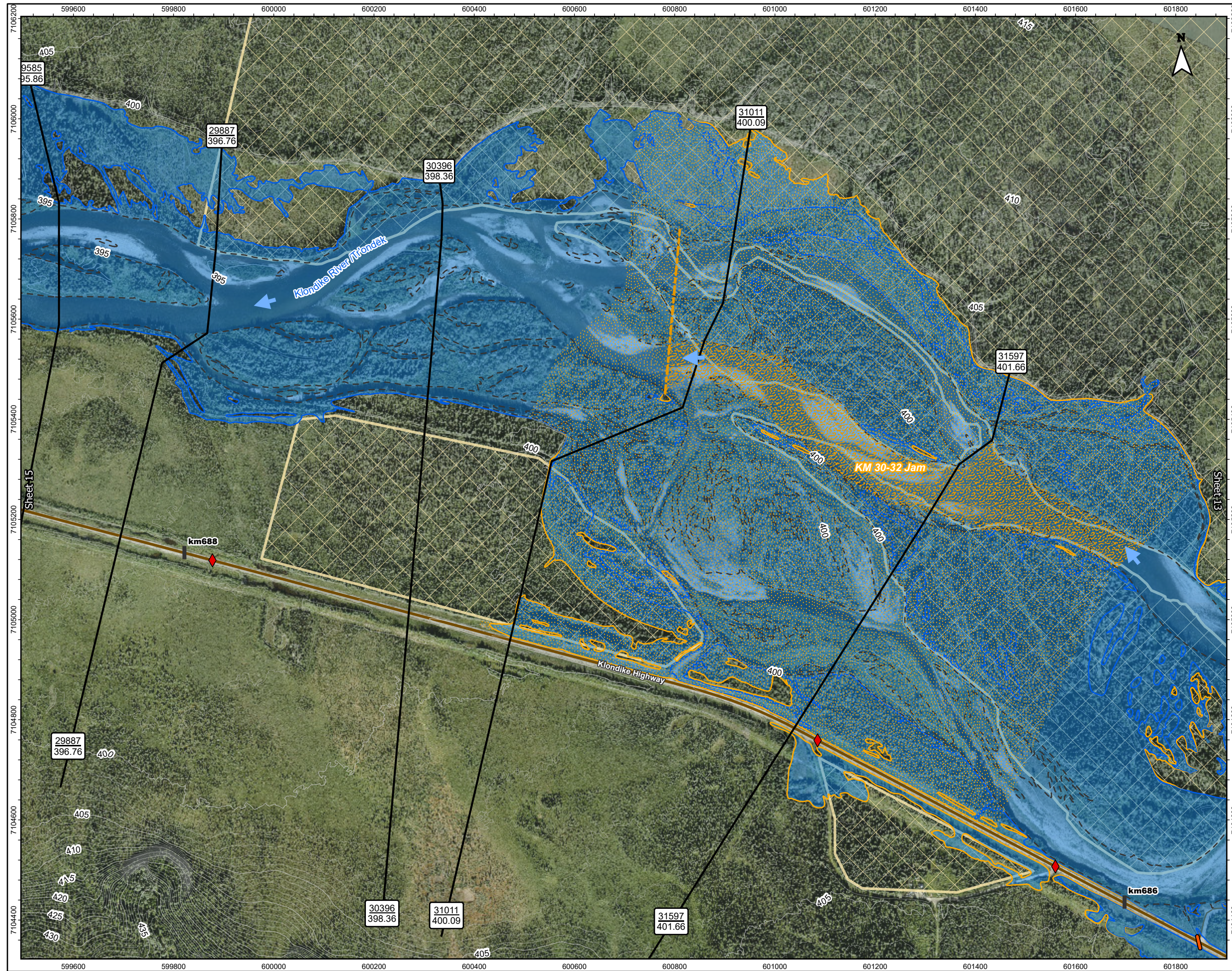
Map Publication Date: 03/06/2026  
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**Notes**  
 1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a  
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**Title: Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
for Climate Change**

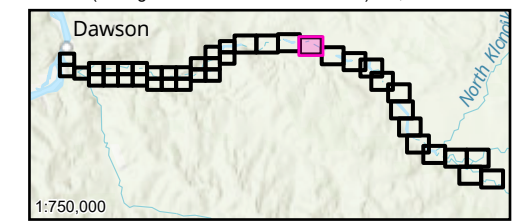
**Client/Project:**  
Government of Yukon  
Department of Environment  
Water Resources Branch

**Project:** 123222713

**Project Location:** Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Toe of Ice Jam
- Tr'ondëk Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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(At original document size of 11x 17) 1:7,500



- Notes**
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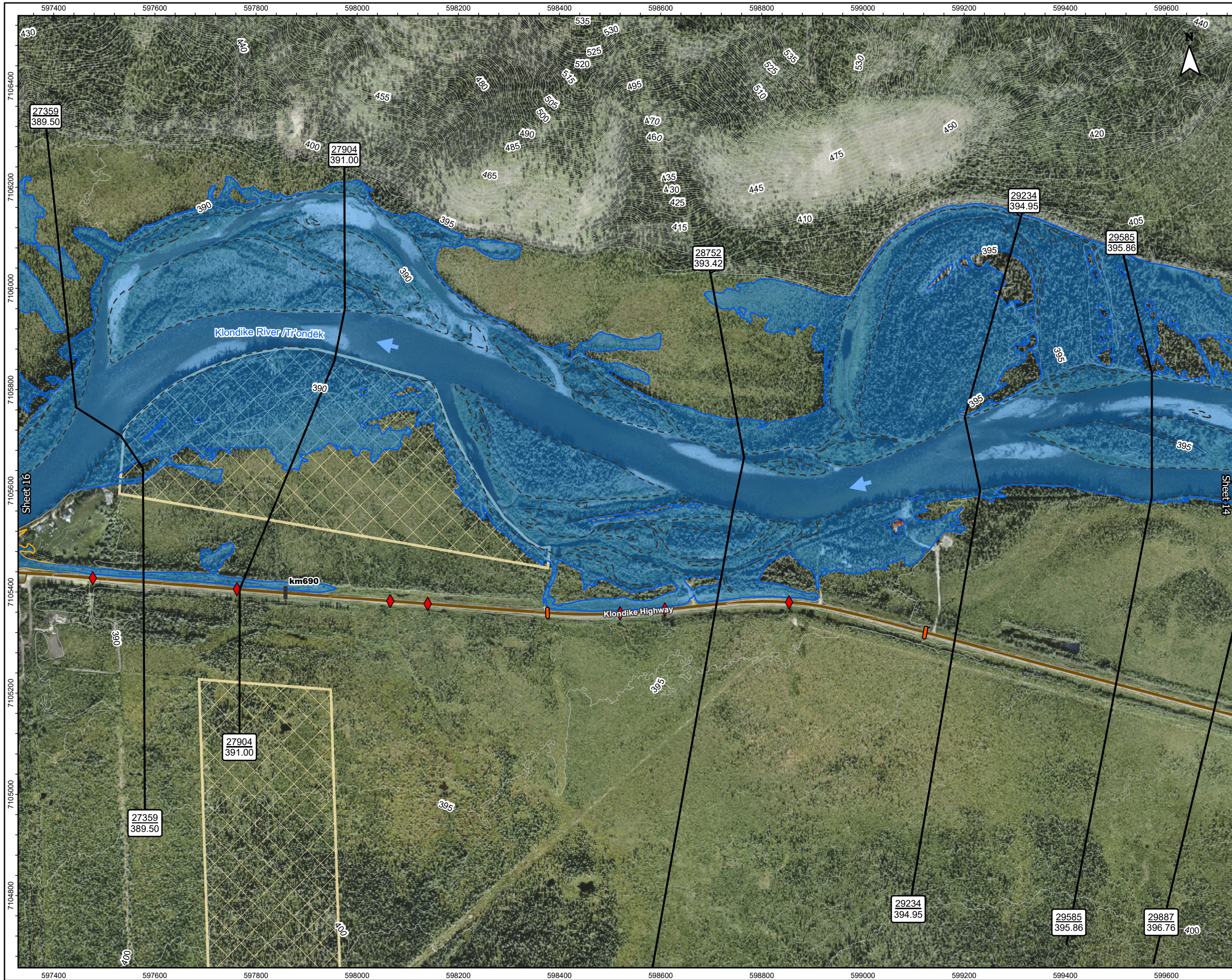


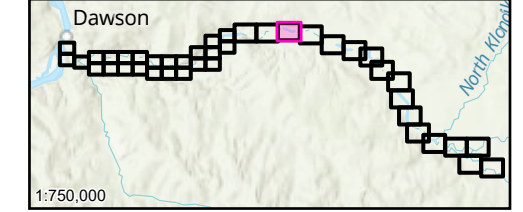
Figure No. **KR-0.5CC-15** Sheet 15 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

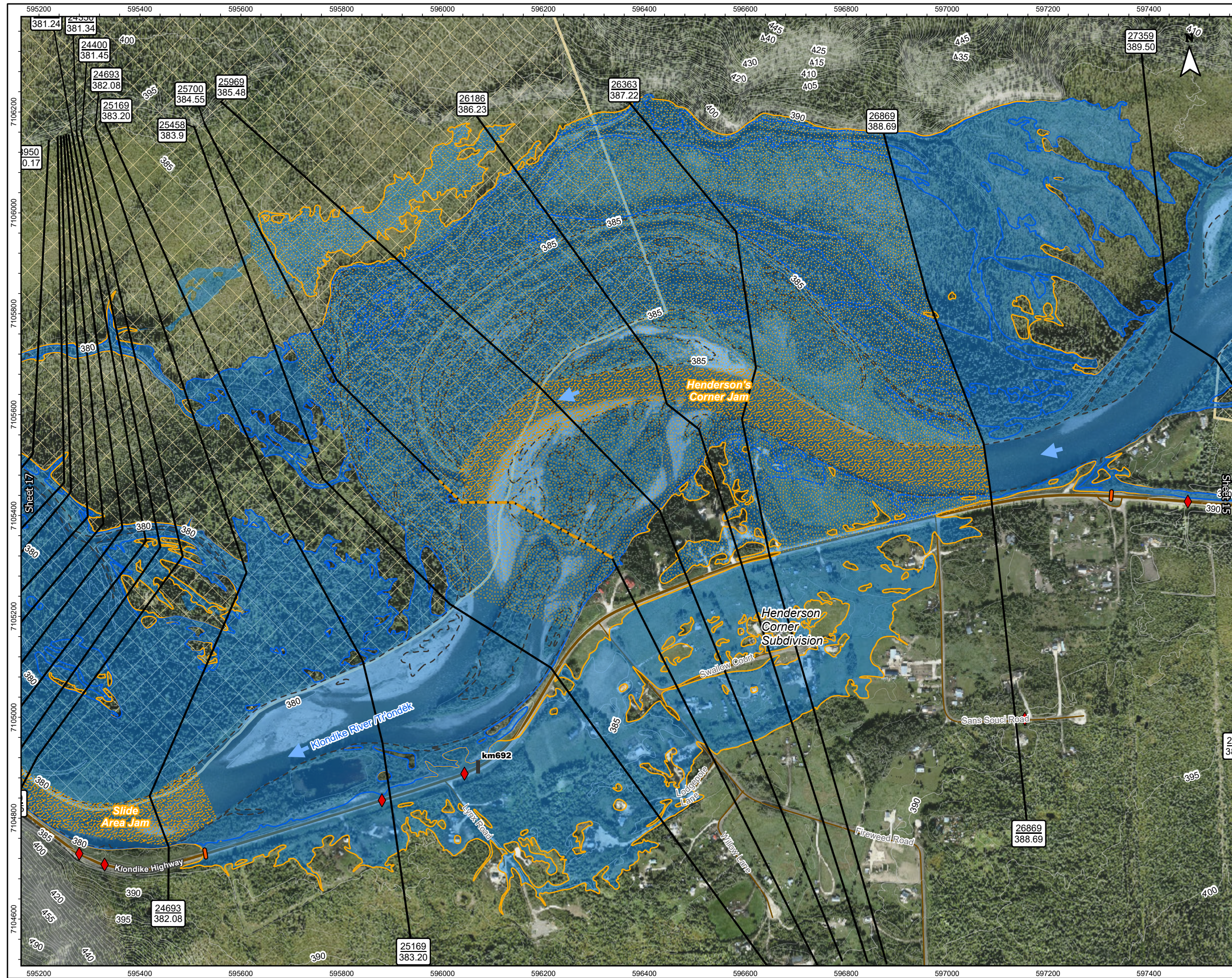
- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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 (At original document size of 11x 17) 1:7,500



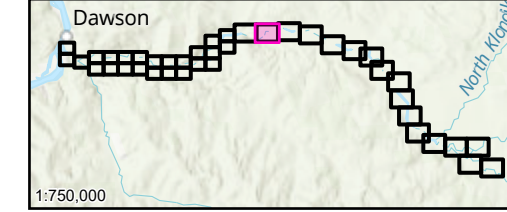
- Notes
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  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
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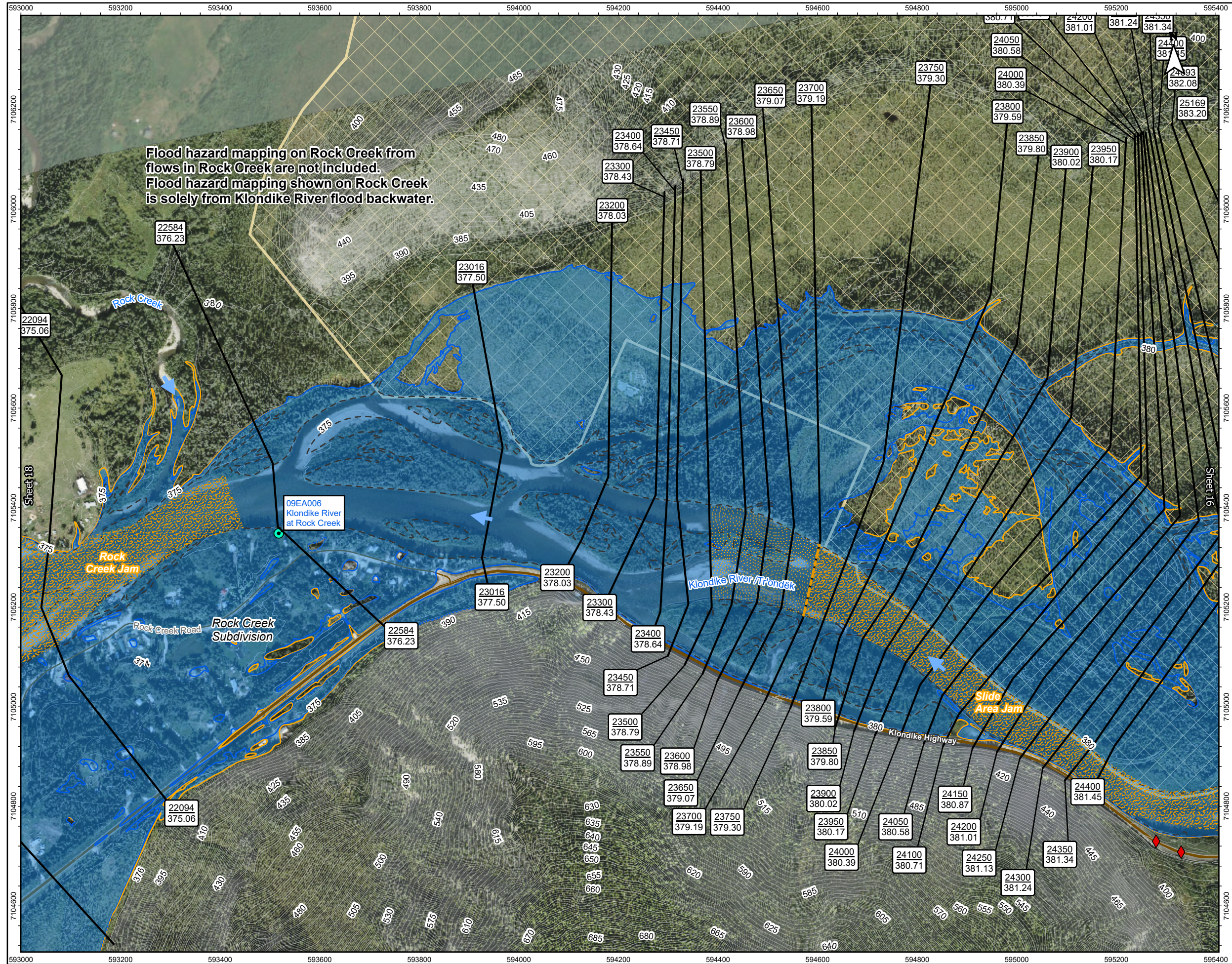


- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Toe of Ice Jam
- Tr'ondék Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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(At original document size of 11x 17) 1:7,500



- Notes
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Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
for Climate Change**

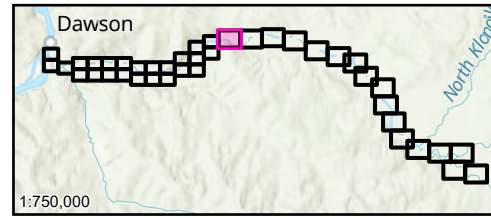
Client/Project:  
**Government of Yukon  
Department of Environment  
Water Resources Branch**

Project: 123222713

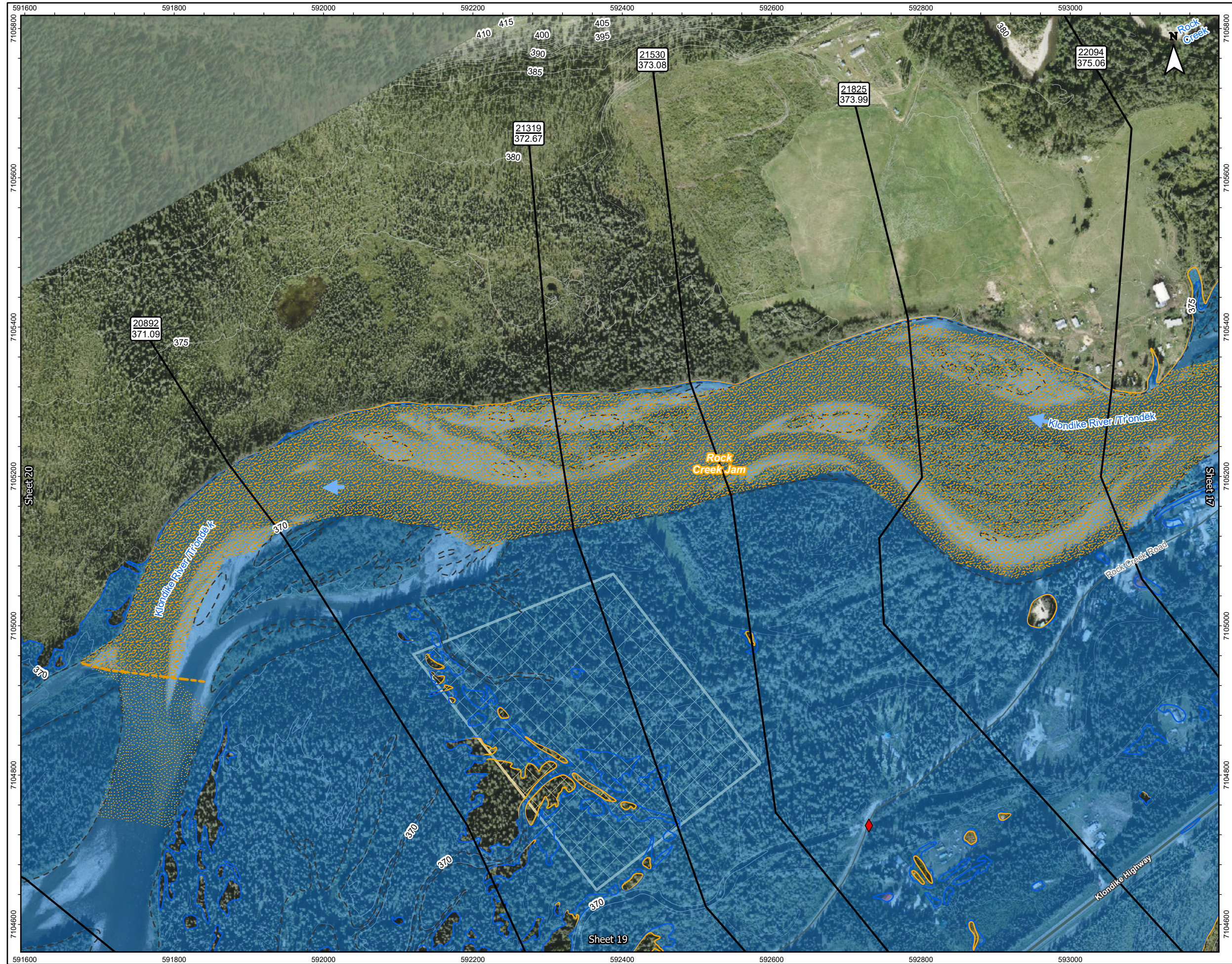
Project Location: Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- WSC Stations
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Toe of Ice Jam
- Tr'ondëk Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

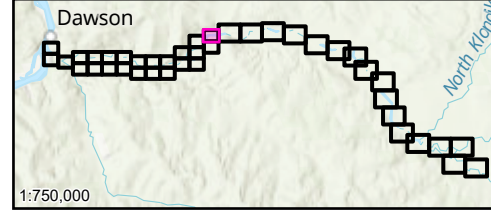
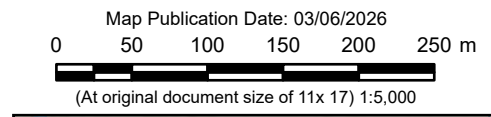
Map Publication Date: 03/06/2026  
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- Notes
- Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
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- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Toe of Ice Jam
- Tr'ondëk Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents



- Notes**
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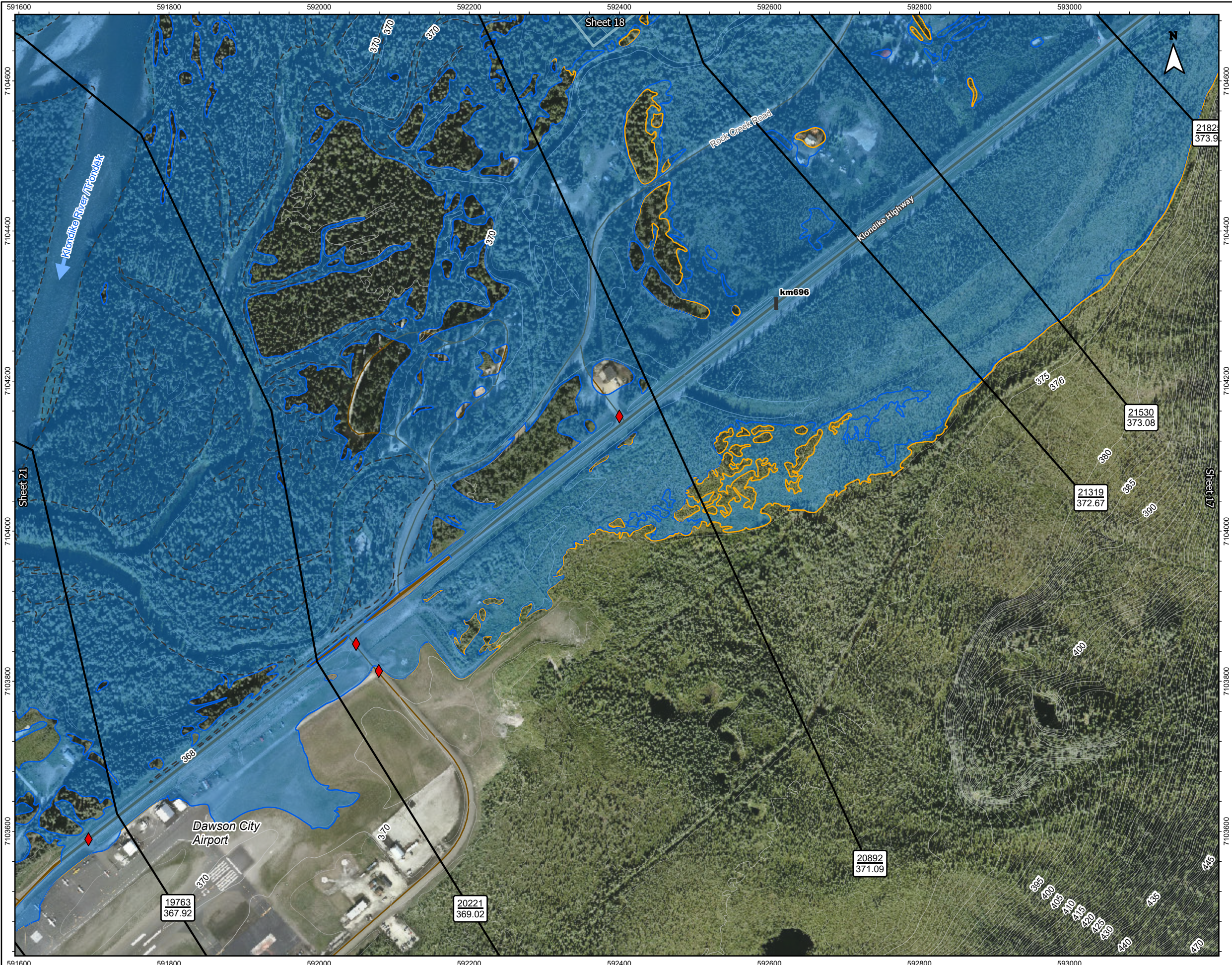


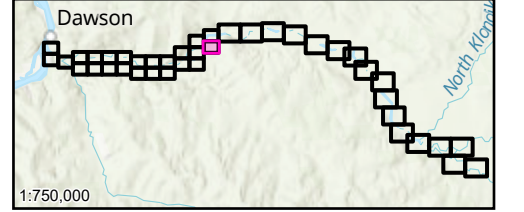
Figure No. **KR-0.5CC-19** Sheet 19 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch  
 Project: 123222713

Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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 (At original document size of 11x 17) 1:5,000



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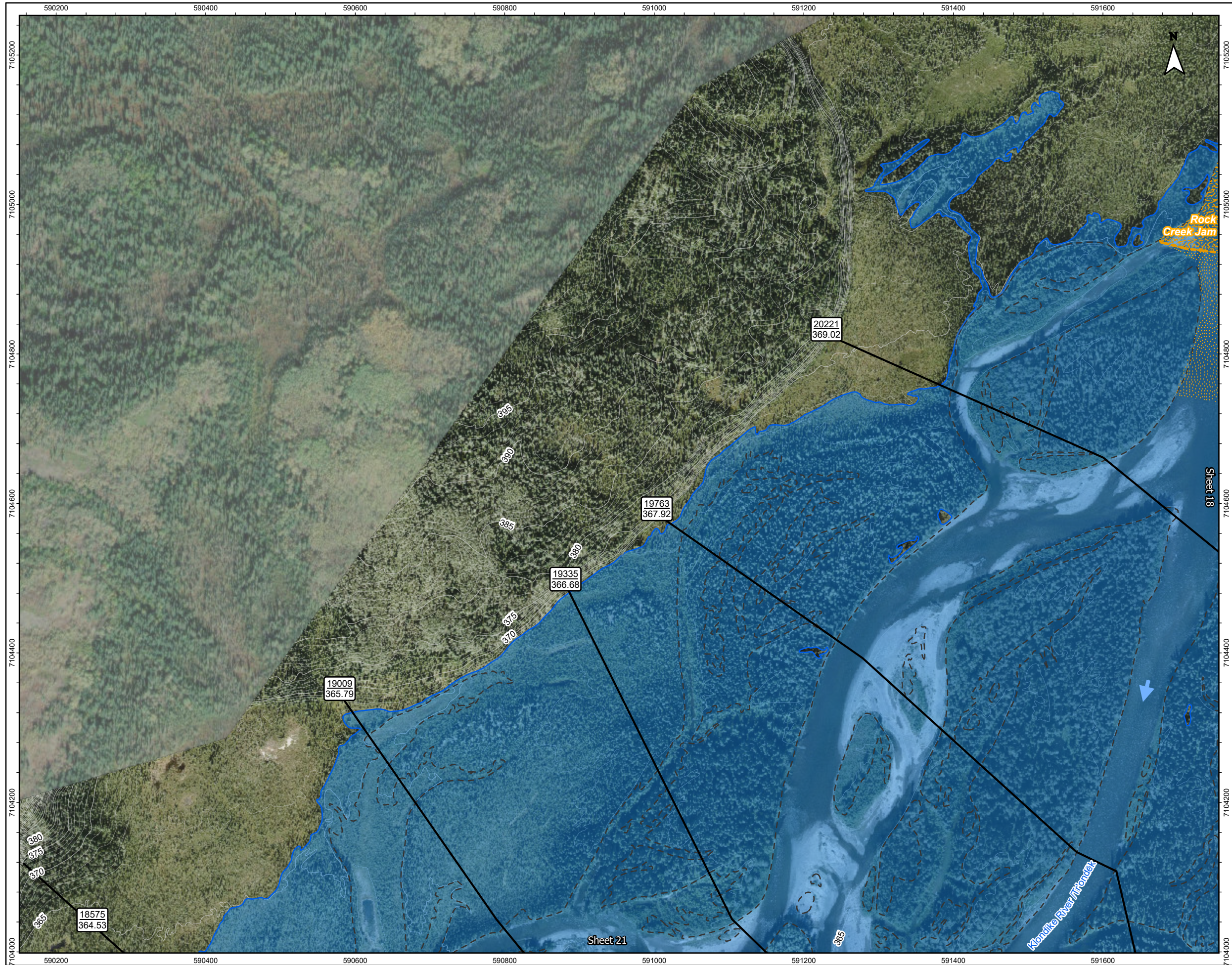


Figure No. **KR-0.5CC-20** Sheet 20 of 41

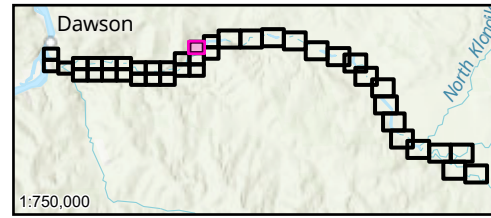
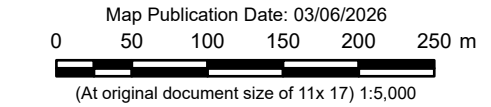
Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
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Client/Project:  
Government of Yukon  
Department of Environment  
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Inundation Under Modelled Open Water Runs
- Highway Kilometer Post
- Inundation Under Modelled Breakup Ice Jam Runs
- Cross-Section Number  
WSE (m) Along Cross-Section
- Inundation Extent From Subsurface Seepage
- Major Contour (5m)
- Composite Open Water and Ice Jam Inundation Extent
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Potential Presence of Ice Debris During Jam Scenario
- Toe of Ice Jam
- Ice Jamming Extents
- Approximate 50% AEP Open Water Flood Inundation



**Notes**

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.
5. The content of these Composite Flood Hazard Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study produced for Yukon Government. Composite Hazard Maps are based on the available data which is current to the time the maps were produced. Such data contains inherent limitations given that the climatic conditions and geomorphic conditions are constantly evolving and cannot be predicted with certainty.

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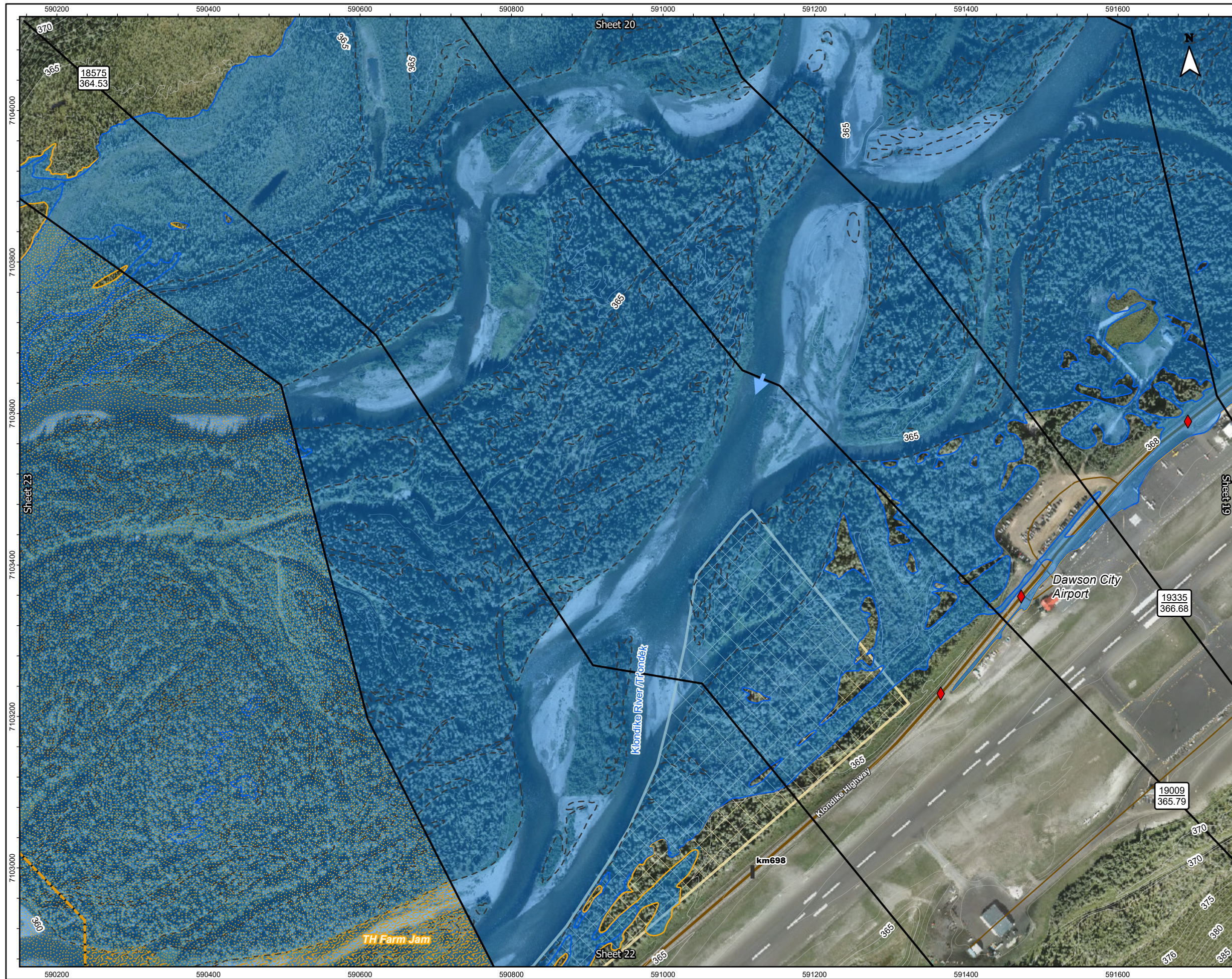


Figure No. **KR-0.5CC-21** Sheet 21 of 41

Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
for Climate Change**

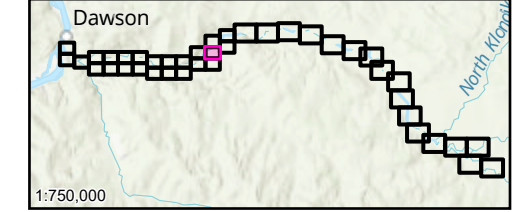
Client/Project:  
**Government of Yukon  
Department of Environment  
Water Resources Branch**

Project: 123222713

Project Location: Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Toe of Ice Jam
- Tr'ondëk Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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(At original document size of 11x 17) 1:5,000

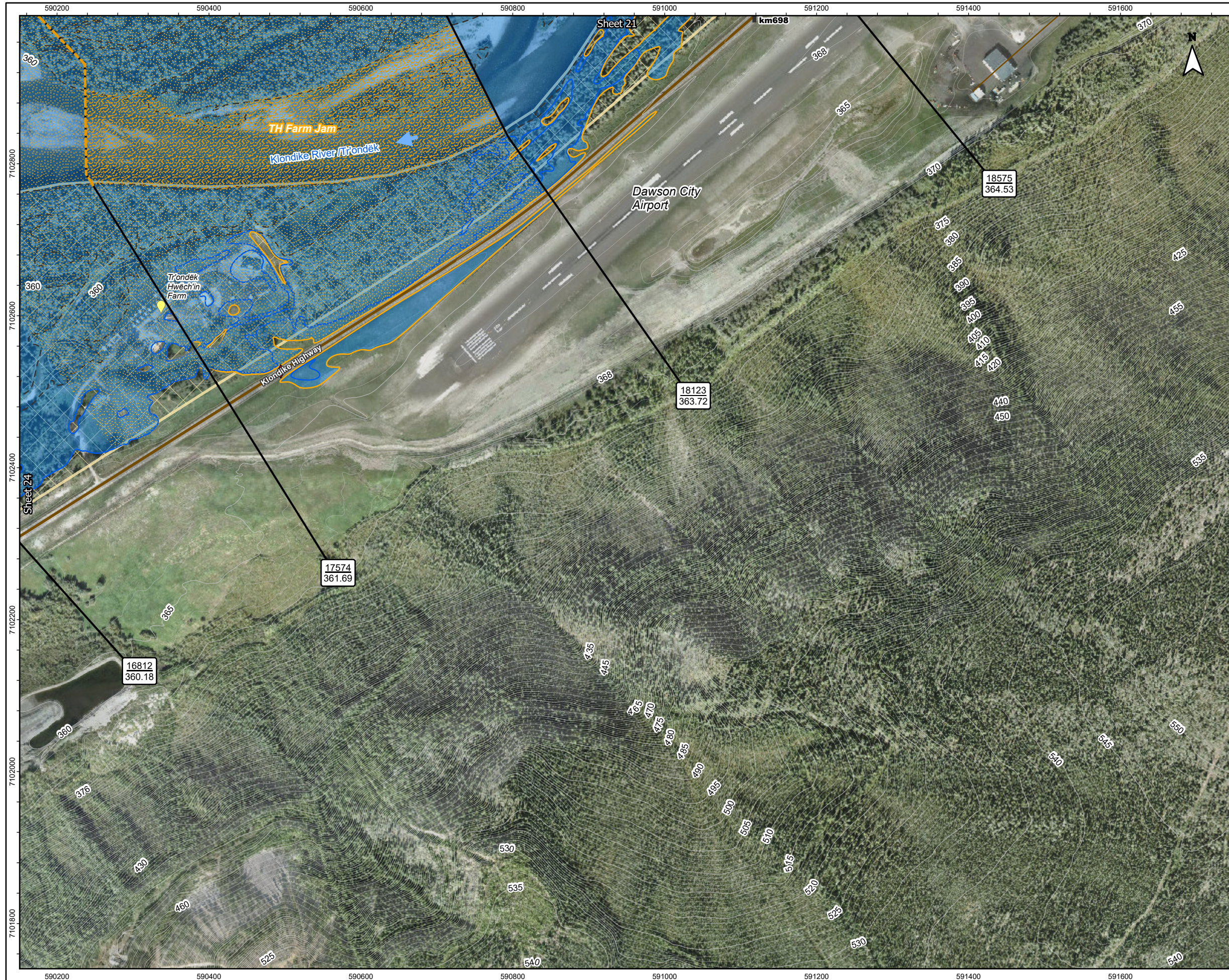


**Notes**

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
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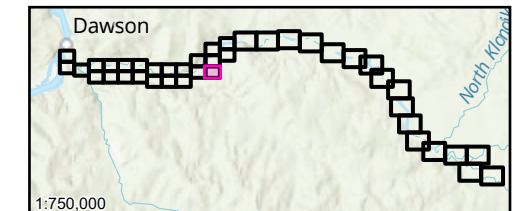


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- River Flow Direction
- HPW Drainage Culverts
- Point of Interest
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Toe of Ice Jam
- Tr'ondék Hwéché'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
  3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
  4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.
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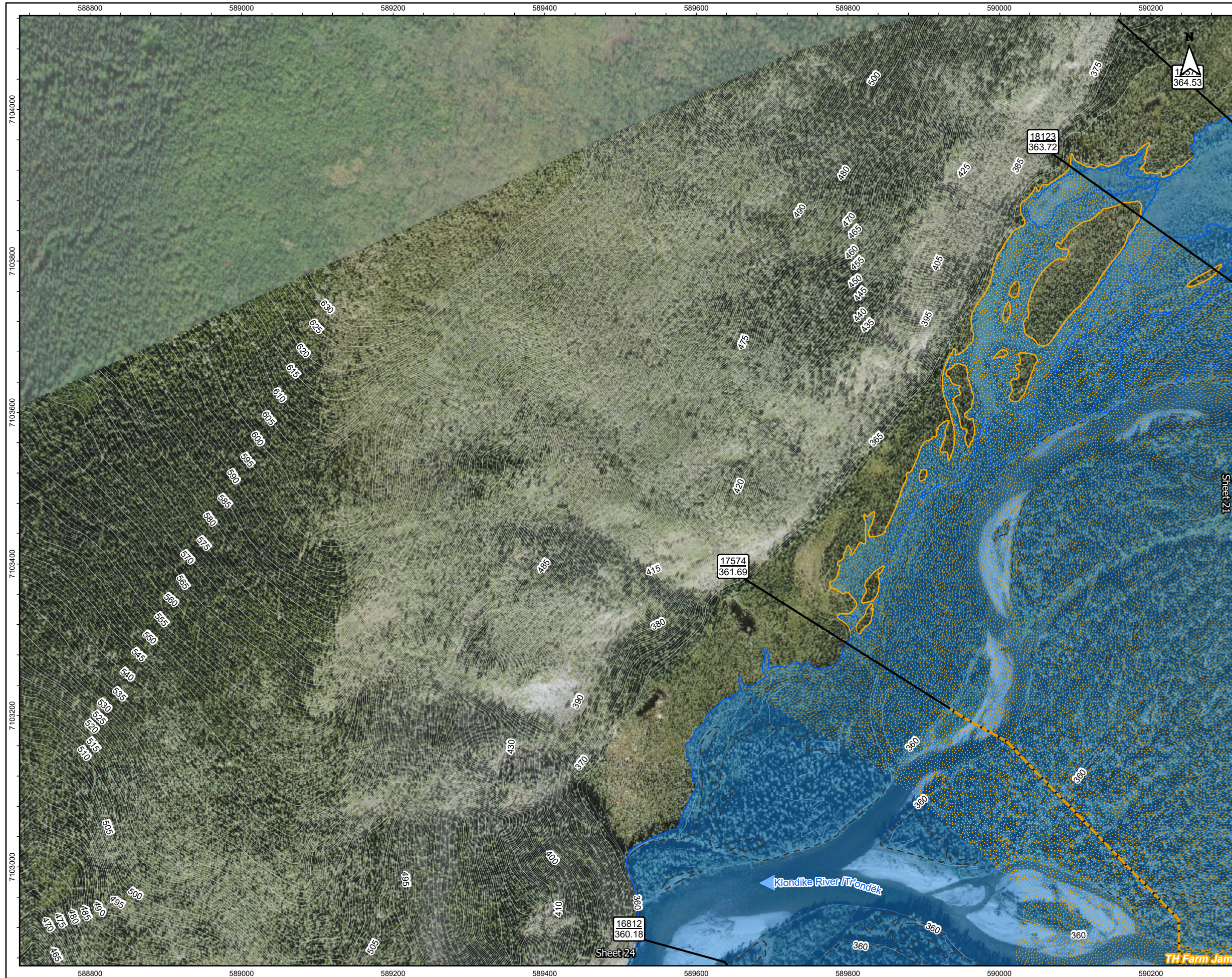


Figure No. **KR-0.5CC-23** Sheet 23 of 41

Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
for Climate Change**

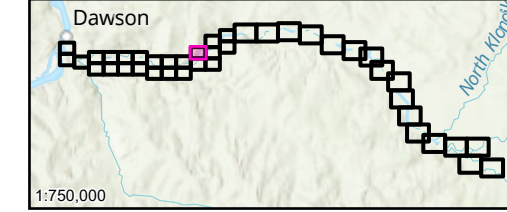
Client/Project:  
Government of Yukon  
Department of Environment  
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Inundation Under Modelled Open Water Runs
- Highway Kilometer Post
- Inundation Under Modelled Breakup Ice Jam Runs
- Cross-Section Number  
WSE (m) Along Cross-Section
- Inundation Extent From Subsurface Seepage
- Major Contour (5m)
- Composite Open Water and Ice Jam Inundation Extent
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Potential Presence of Ice Debris During Jam Scenario
- Toe of Ice Jam
- Ice Jamming Extents
- Approximate 50% AEP Open Water Flood Inundation

Map Publication Date: 03/06/2026  
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(At original document size of 11x 17) 1:5,000



**Notes**

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.
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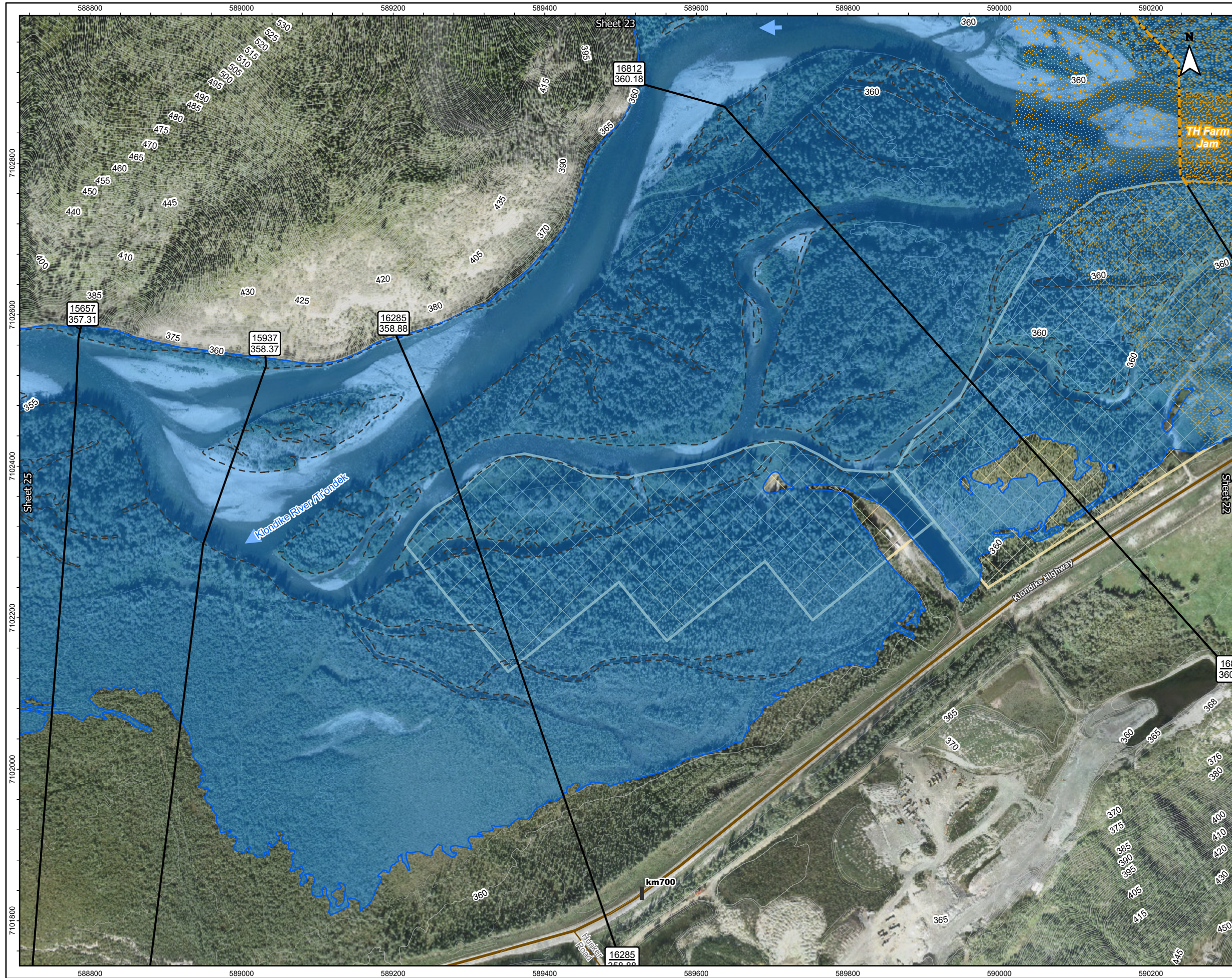


Figure No. **KR-0.5CC-24** Sheet 24 of 41

Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
for Climate Change**

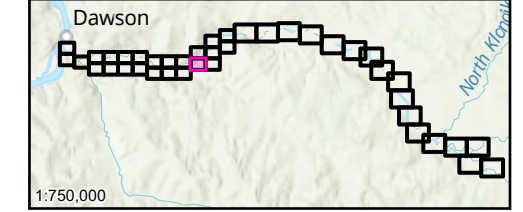
Client/Project:  
Government of Yukon  
Department of Environment  
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Tr'ondëk Hwëch'in Settlement Land
- Highway Kilometer Post
- Approximate 50% AEP Open Water Flood Inundation
- Cross-Section Number  
WSE (m) Along Cross-Section
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Highway
- Inundation Extent From Subsurface Seepage
- Local Road
- Major Contour (5m)
- Composite Open Water and Ice Jam Inundation Extent
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Potential Presence of Ice Debris During Jam Scenario
- Toe of Ice Jam
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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(At original document size of 11x 17) 1:5,000

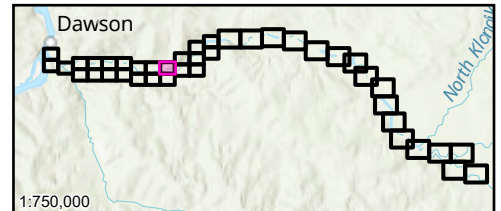
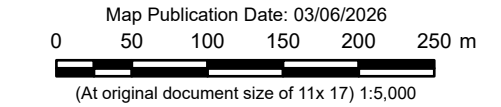


- Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
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- River Flow Direction
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Inundation Extent From Subsurface Seepage
- Surveyed Culvert Location
- Composite Open Water and Ice Jam Inundation Extent
- Major Contour (5m)
- Minor Contour (1m)
- Potential Presence of Ice Debris During Jam Scenario
- Surveyed Cross-Sections Used in Hydraulic Model
- Ice Jamming Extents
- Approximate 50% AEP Open Water Flood Inundation



- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
  3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
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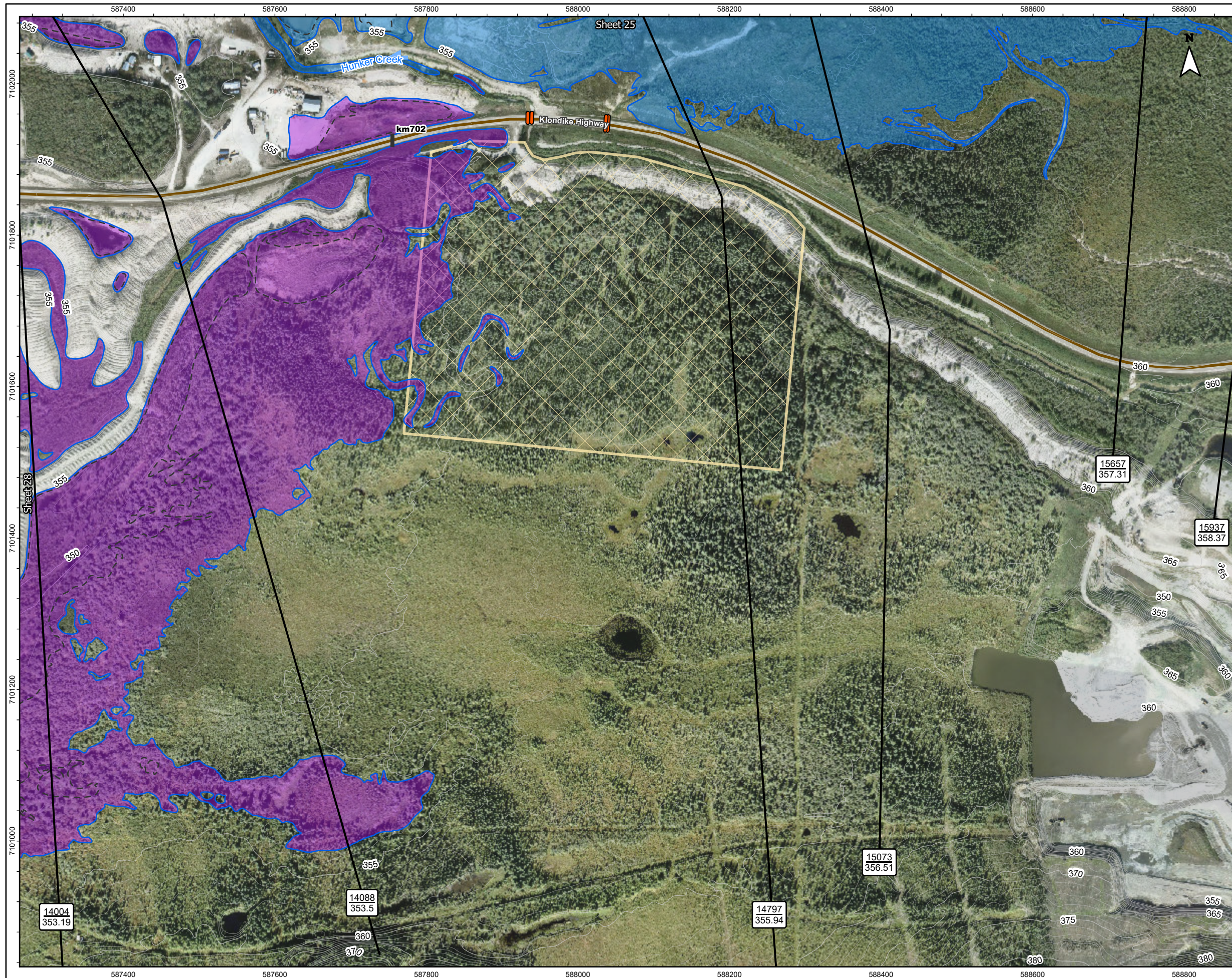


Figure No. **KR-0.5CC-26** Sheet 26 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study  
 Composite Flood Hazard Map - Klondike River  
 0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
 for Climate Change**

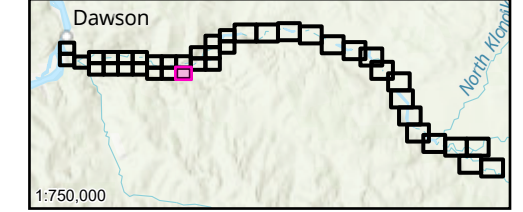
Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- Highway Kilometer Post
- Approximate 50% AEP Open Water Flood Inundation
- Cross-Section Number  
WSE (m) Along Cross-Section
- Inundation Under Modelled Open Water Runs
- Surveyed Culvert Location
- Inundation Under Modelled Breakup Ice Jam Runs
- Highway
- Inundation Extent From Subsurface Seepage
- Major Contour (5m)
- Composite Open Water and Ice Jam Inundation Extent
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Potential Presence of Ice Debris During Jam Scenario
- Tr'ondëk Hwëch'in Settlement Land
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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 (At original document size of 11x 17) 1:5,000



**Notes**

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGVD2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
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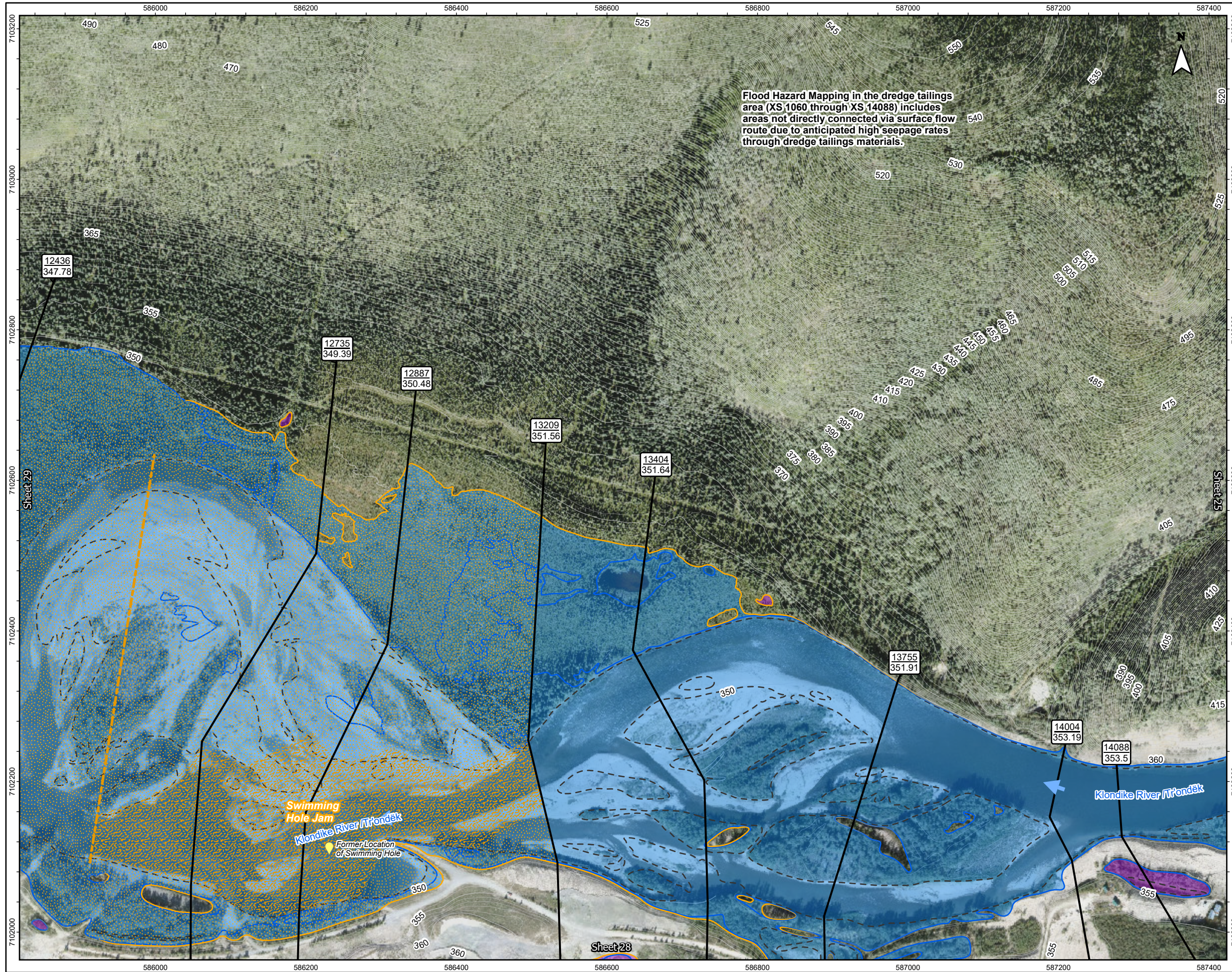


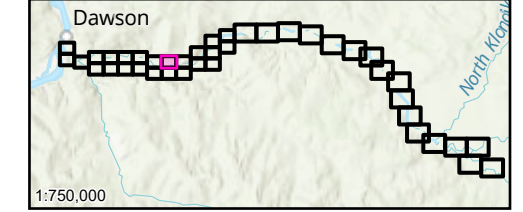
Figure No. **KR-0.5CC-27** Sheet 27 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

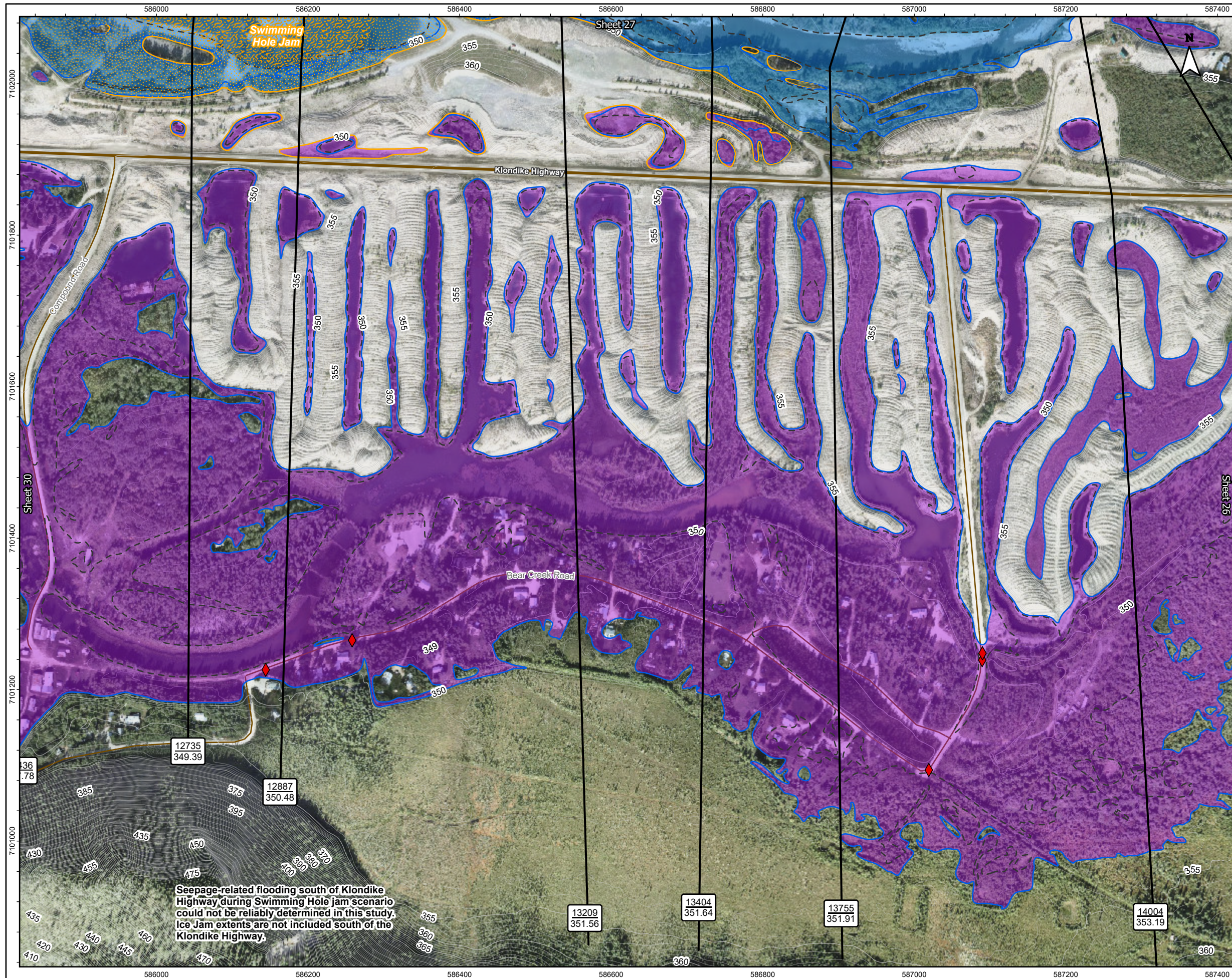
- River Flow Direction
- Point of Interest
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Toe of Ice Jam
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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 (At original document size of 11x 17) 1:5,000



**Notes**  
 1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a  
 2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC  
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Seepage-related flooding south of Klondike Highway during Swimming Hole jam scenario could not be reliably determined in this study. Ice Jam extents are not included south of the Klondike Highway.

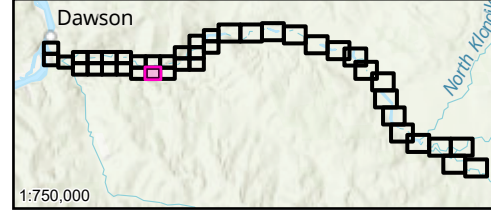
Figure No. **KR-0.5CC-28** Sheet 28 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

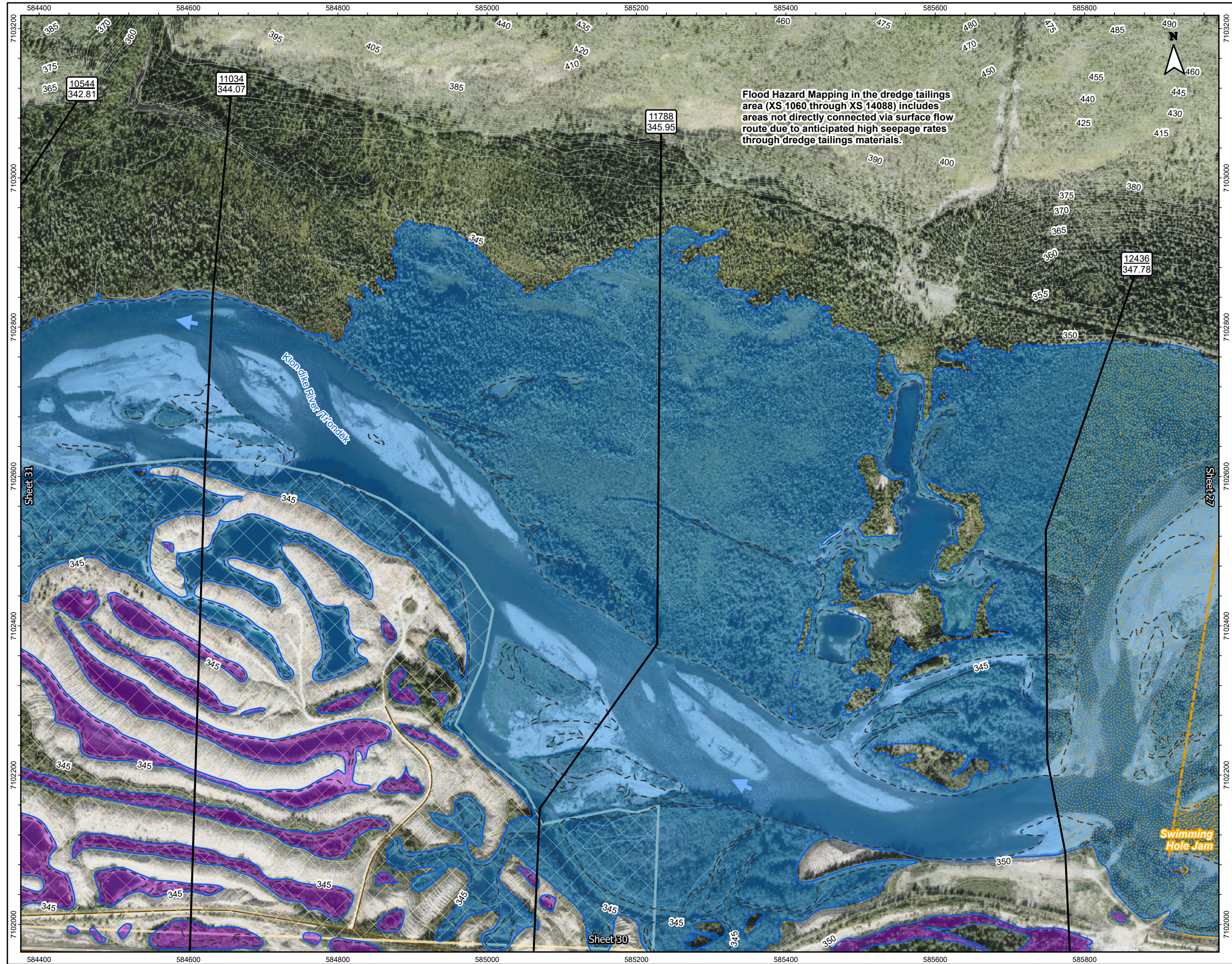
Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

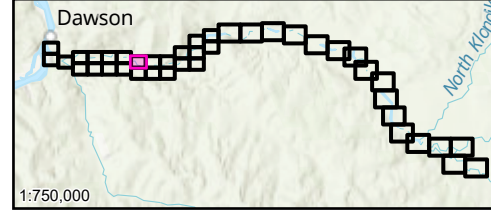
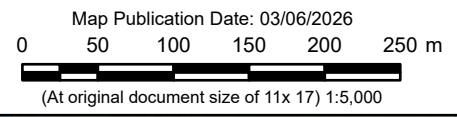
Map Publication Date: 03/06/2026  
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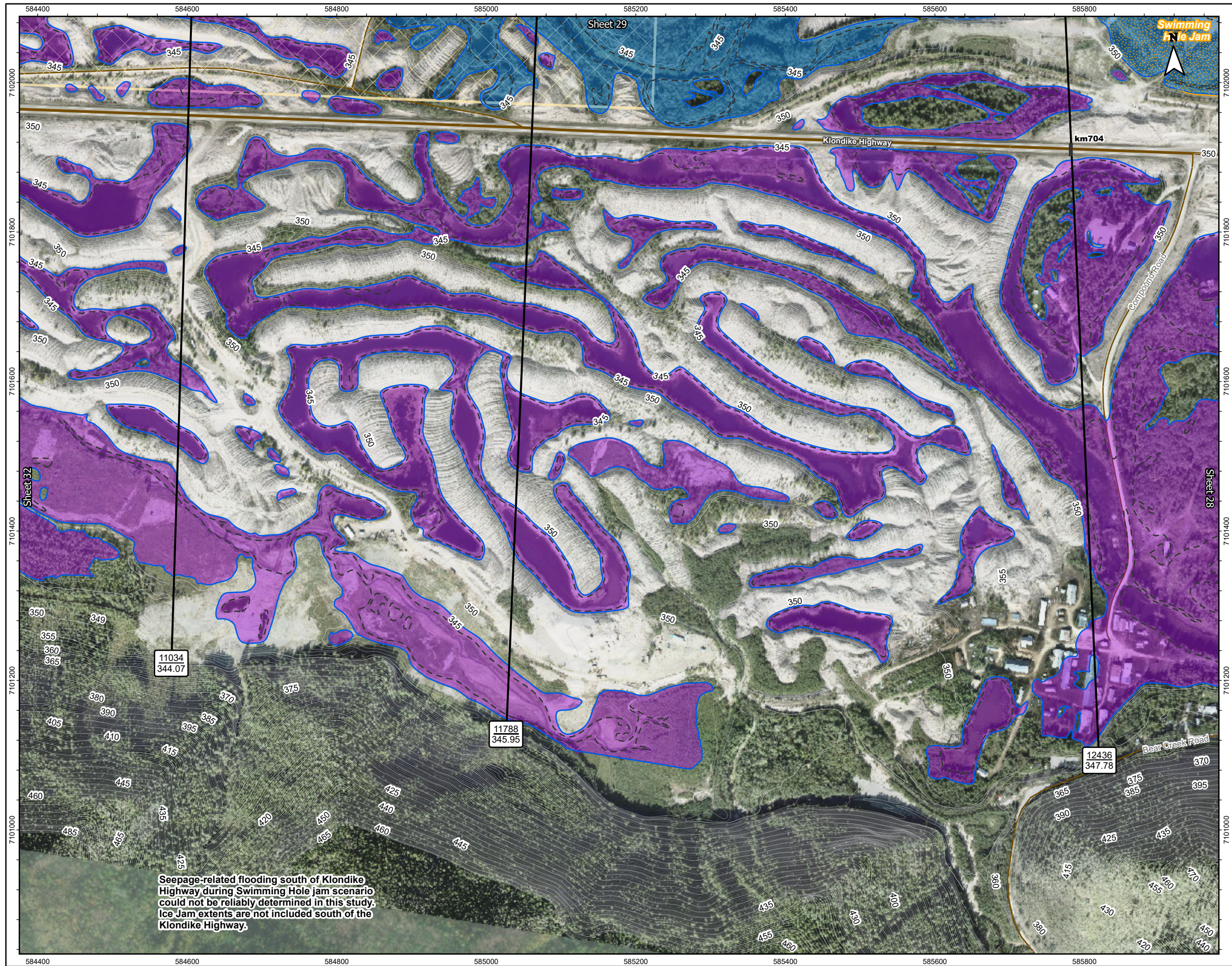
- Notes
- Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  - Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
  - Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
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- River Flow Direction
- Tr'ondëk Hwëch'in Settlement Land
- Highway Kilometer Post
- Approximate 50% AEP Open Water Flood Inundation
- Cross-Section Number  
WSE (m) Along Cross-Section
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Highway
- Inundation Extent From Subsurface Seepage
- Local Road
- Composite Open Water and Ice Jam Inundation Extent
- Major Contour (5m)
- Potential Presence of Ice Debris During Jam Scenario
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Ice Jamming Extents
- Toe of Ice Jam



- Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
  3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
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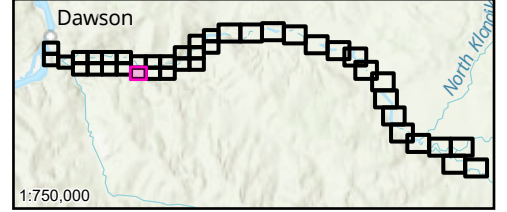


Seepage-related flooding south of Klondike Highway during Swimming Hole jam scenario could not be reliably determined in this study. Ice Jam extents are not included south of the Klondike Highway.

Figure No. **KR-0.5CC-30** Sheet 30 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**  
 Client/Project: **Government of Yukon Department of Environment Water Resources Branch**  
 Project: **123222713**  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- Highway Kilometer Post
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
 0 50 100 150 200 250 m  
 (At original document size of 11x 17) 1:5,000



- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
  3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
  4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.
  5. The content of these Composite Flood Hazard Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study produced for Yukon Government. Composite Hazard Maps are based on the available data which is current to the time the maps were produced. Such data contains inherent limitations given that the climatic conditions and geomorphic conditions are constantly evolving and cannot be predicted with certainty.

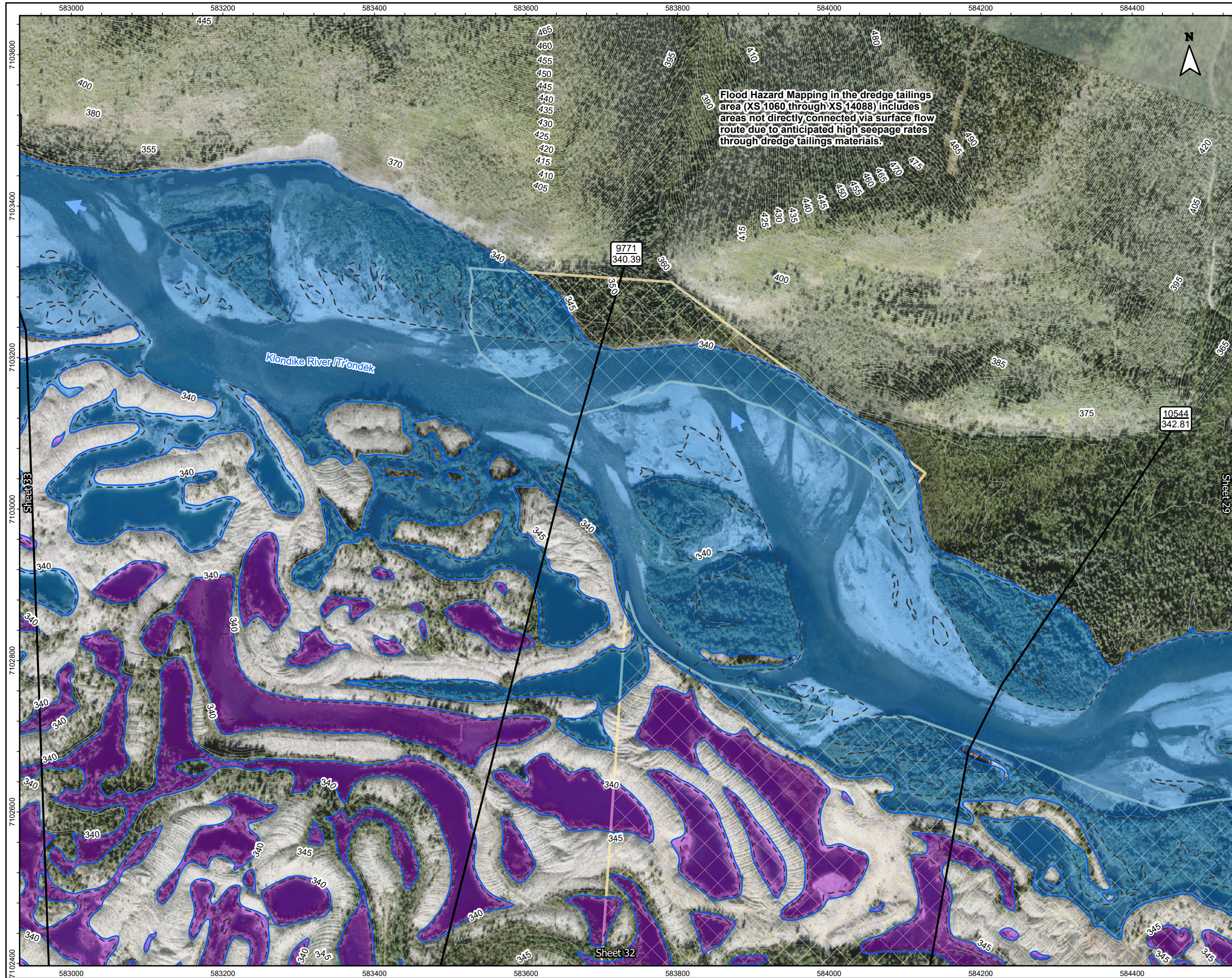
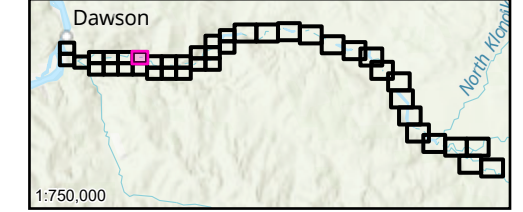


Figure No. **KR-0.5CC-31** Sheet 31 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study  
 Composite Flood Hazard Map - Klondike River  
 0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
 for Climate Change**  
 Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch  
 Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

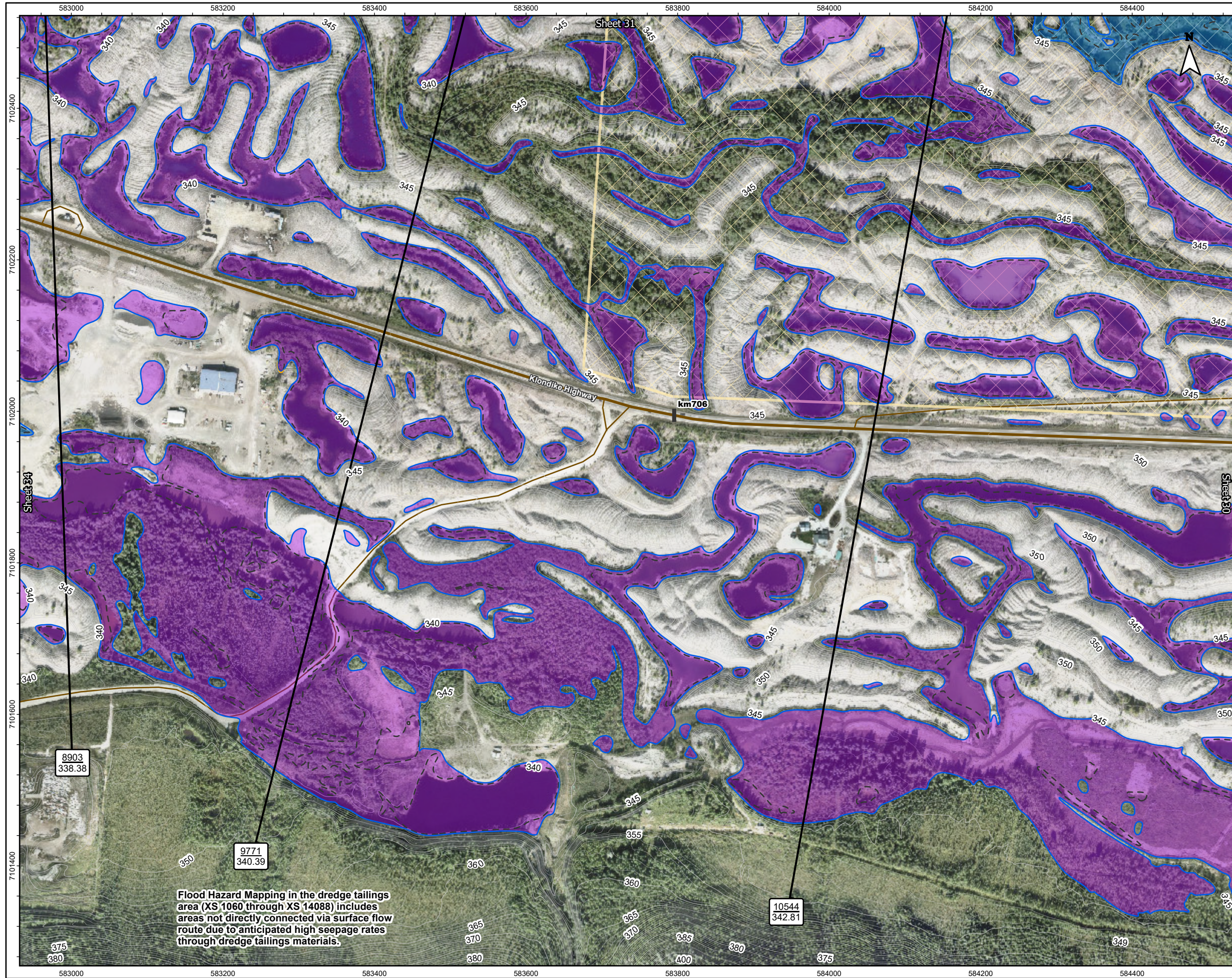
- River Flow Direction
- Approximate 50% AEP Open Water Flood Inundation
- Highway Kilometer Post
- Inundation Under Modelled Open Water Runs
- Cross-Section Number  
WSE (m) Along Cross-Section
- Inundation Under Modelled Breakup Ice Jam Runs
- Major Contour (5m)
- Inundation Extent From Subsurface Seepage
- Minor Contour (1m)
- Composite Open Water and Ice Jam Inundation Extent
- Surveyed Cross-Sections Used in Hydraulic Model
- Potential Presence of Ice Debris During Jam Scenario
- Tr'ondëk Hwëch'in Settlement Land
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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 (At original document size of 11x 17) 1:5,000

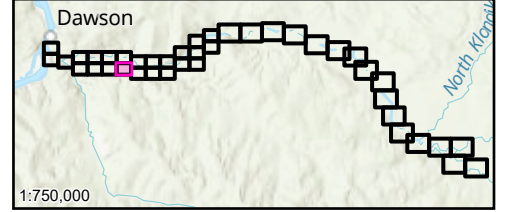
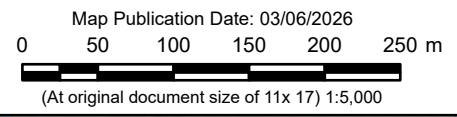


**Notes**  
 1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a  
 2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANNVEC  
 3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.  
 4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.  
 5. The content of these Composite Flood Hazard Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study produced for Yukon Government. Composite Hazard Maps are based on the available data which is current to the time the maps were produced. Such data contains inherent limitations given that the climatic conditions and geomorphic conditions are constantly evolving and cannot be predicted with certainty.

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- Highway Kilometer Post
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents
- Tr'ondëk Hwëch'in Settlement Land



**Notes**

- Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013a, Geoid: CGG2013a
- Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
- Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
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- The content of these Composite Flood Hazard Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study produced for Yukon Government. Composite Hazard Maps are based on the available data which is current to the time the maps were produced. Such data contains inherent limitations given that the climatic conditions and geomorphic conditions are constantly evolving and cannot be predicted with certainty.

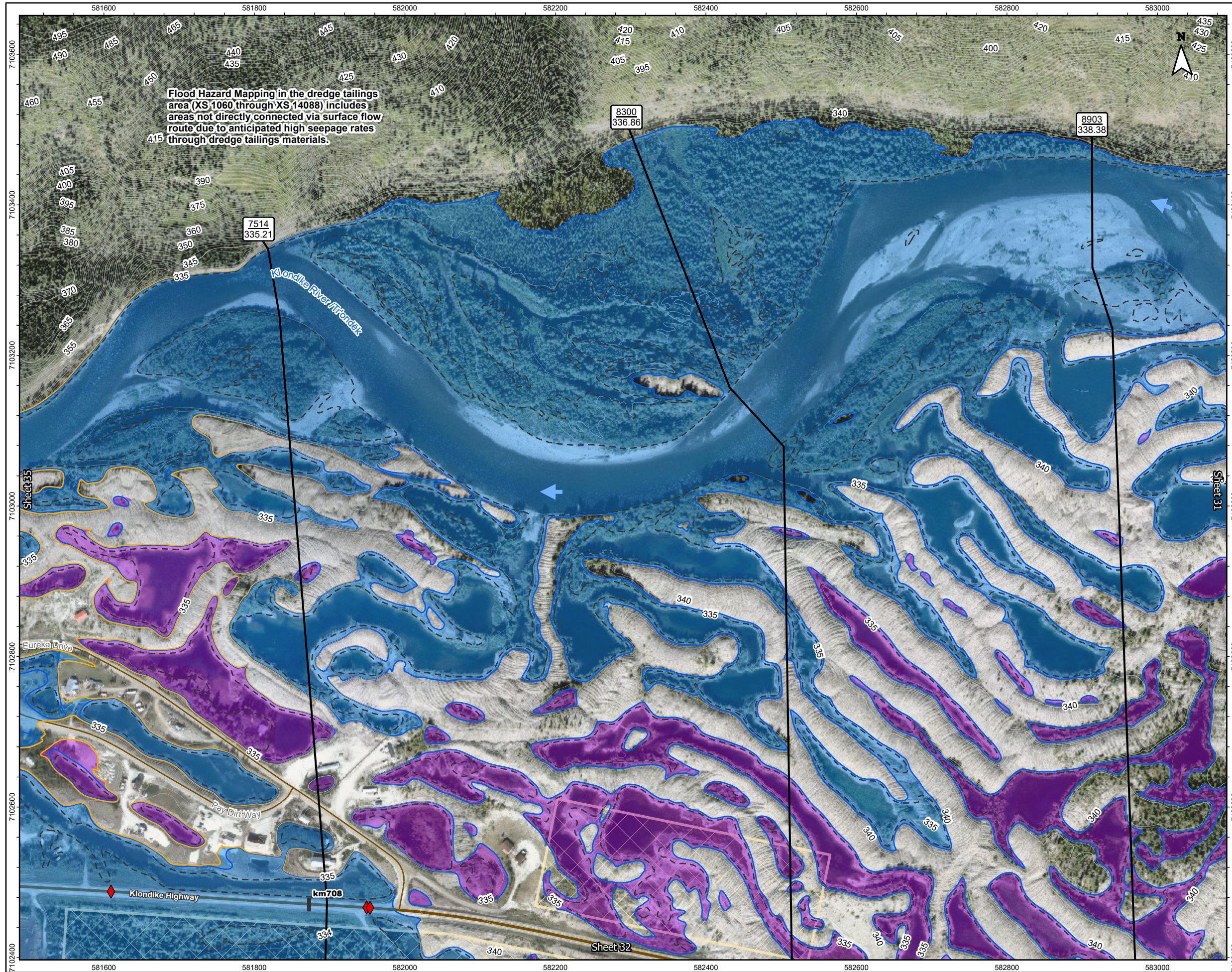


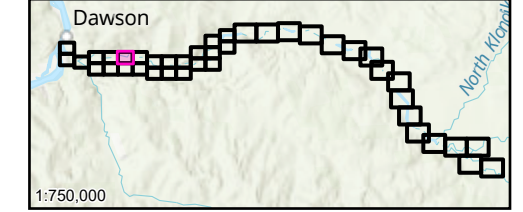
Figure No. **KR-0.5CC-33** Sheet 33 of 41  
 Title: **Dawson City and Klondike Valley Flood Mapping Study Composite Flood Hazard Map - Klondike River 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change**

Client/Project:  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch

Project: 123222713  
 Project Location: Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondék Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

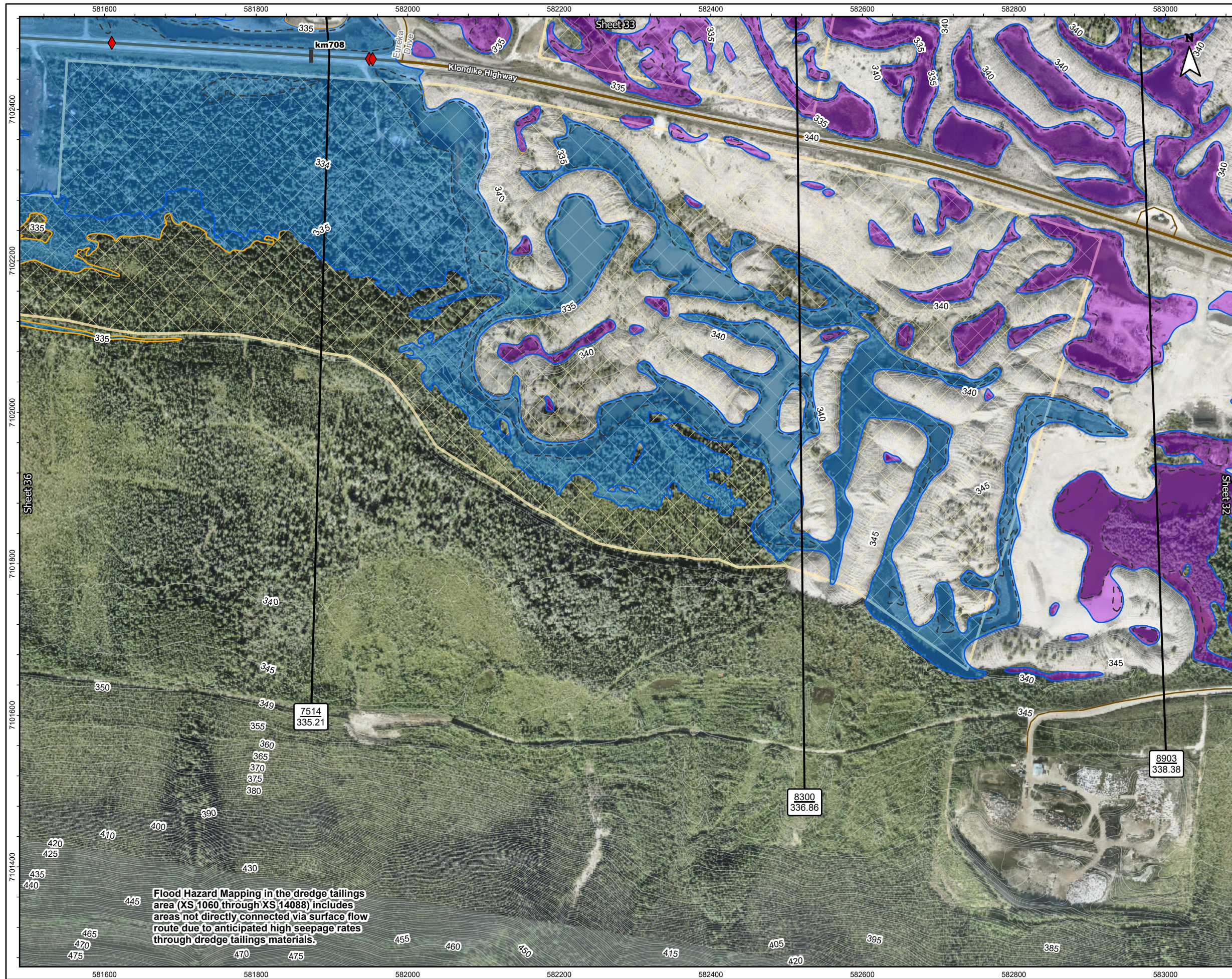
Map Publication Date: 03/06/2026  
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 (At original document size of 11x 17) 1:5,000



Notes  
 1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a  
 2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC  
 3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.  
 4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.  
 5. The content of these Composite Flood Hazard Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study produced for Yukon Government. Composite Hazard Maps are based on the available data which is current to the time the maps were produced. Such data contains inherent limitations given that the climatic conditions and geomorphic conditions are constantly evolving and cannot be predicted with certainty.

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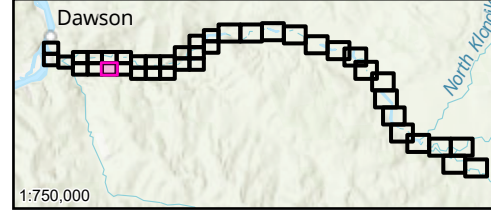


**Flood Hazard Mapping in the dredge tailings area (XS 1060 through XS 14088) includes areas not directly connected via surface flow route due to anticipated high seepage rates through dredge tailings materials.**

Figure No. **KR-0.5CC-34** Sheet 34 of 41  
**Title:** Dawson City and Klondike Valley Flood Mapping Study  
 Composite Flood Hazard Map - Klondike River  
 0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change  
**Client/Project:**  
 Government of Yukon  
 Department of Environment  
 Water Resources Branch  
**Project:** 123222713  
**Project Location:** Dawson, Yukon  
 Prepared by MANDERSON on 2026-03-06  
 Requested by JMUIRHEAD on 2024-03-30  
 Review by JMUIRHEAD on 2026-03-06

- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number  
WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections  
Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement  
Land
- Approximate 50% AEP Open  
Water Flood Inundation
- Inundation Under Modelled  
Open Water Runs
- Inundation Under Modelled  
Breakup Ice Jam Runs
- Inundation Extent From  
Subsurface Seepage
- Composite Open Water and  
Ice Jam Inundation Extent
- Potential Presence of Ice  
Debris During Jam Scenario
- Ice Jamming Extents

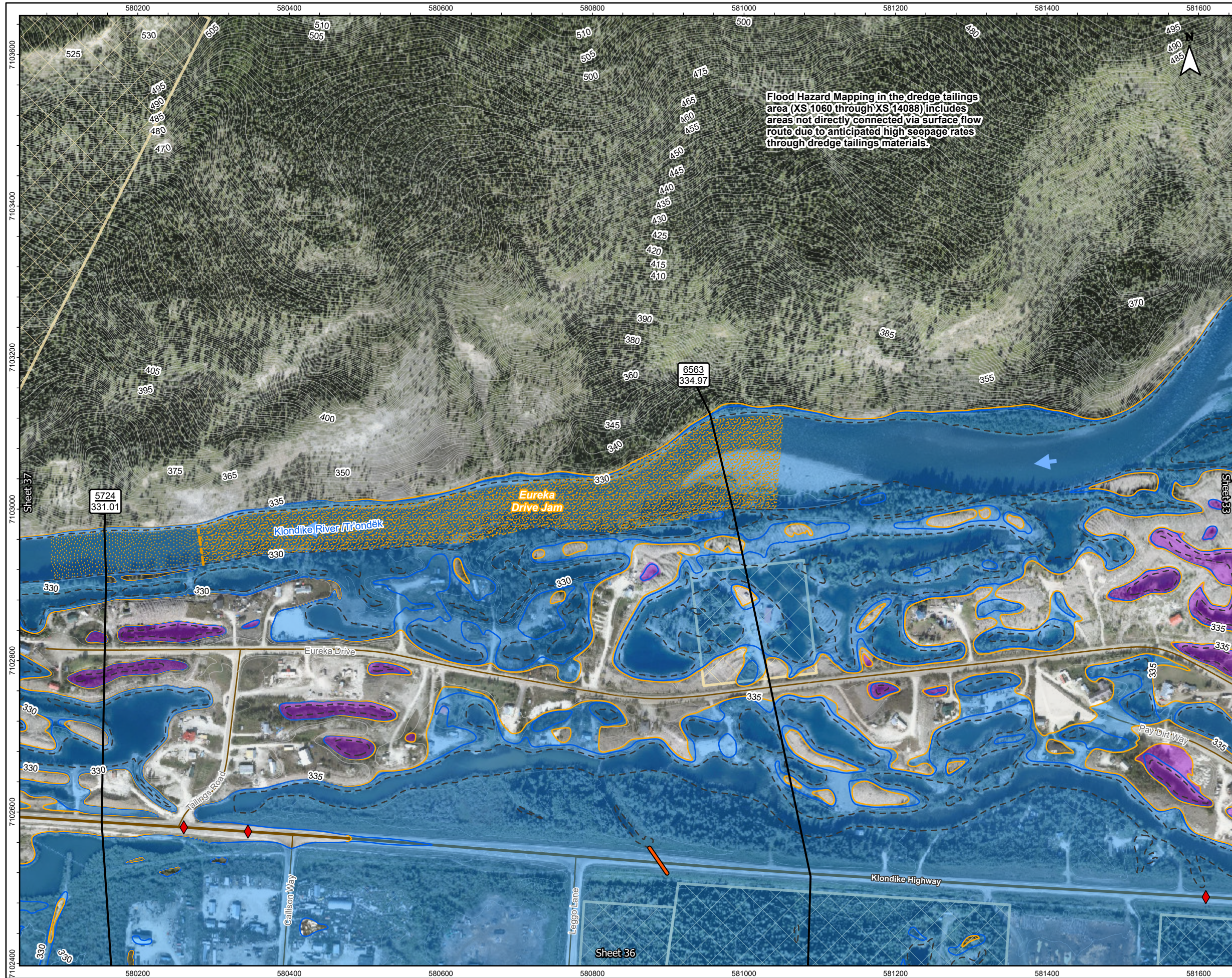
Map Publication Date: 03/06/2026  
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- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
  3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
  4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.
  5. The content of these Composite Flood Hazard Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study produced for Yukon Government. Composite Hazard Maps are based on the available data which is current to the time the maps were produced. Such data contains inherent limitations given that the climatic conditions and geomorphic conditions are constantly evolving and cannot be predicted with certainty.



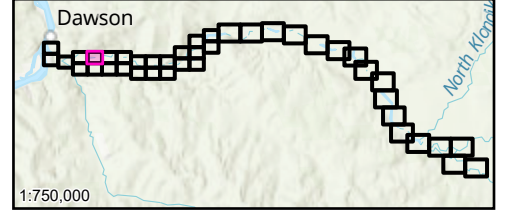
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Flood Hazard Mapping in the dredge tailings area (XS 1060 through XS 14088) includes areas not directly connected via surface flow route due to anticipated high seepage rates through dredge tailings materials.

- River Flow Direction
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number WSE (m) Along Cross-Section
- Surveyed Culvert Location
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Toe of Ice Jam
- Tr'ondék Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
- Composite Open Water and Ice Jam Inundation Extent
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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 (At original document size of 11x 17) 1:5,000



- Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
  3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
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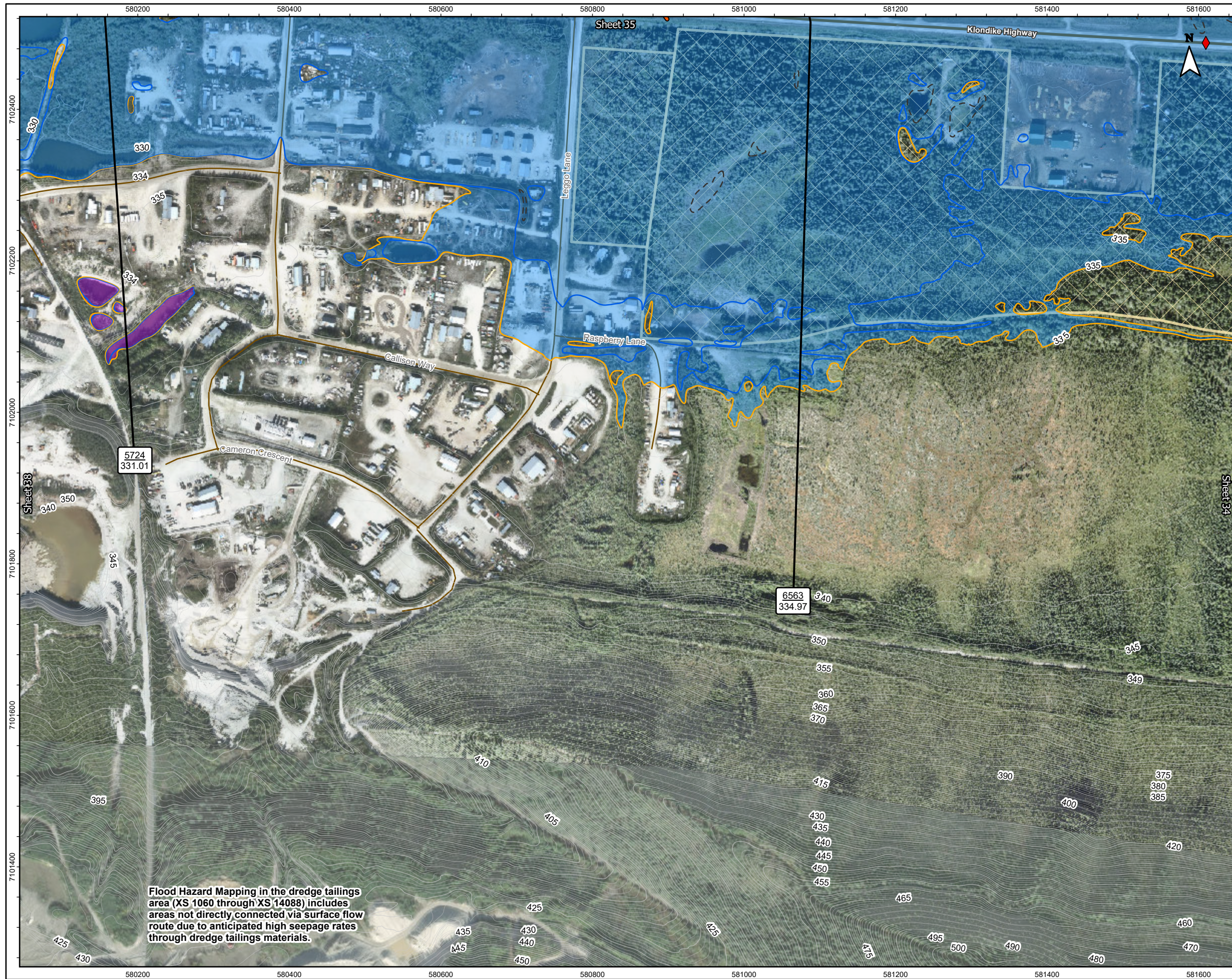


Figure No. **KR-0.5CC-36** Sheet 36 of 41

Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
for Climate Change**

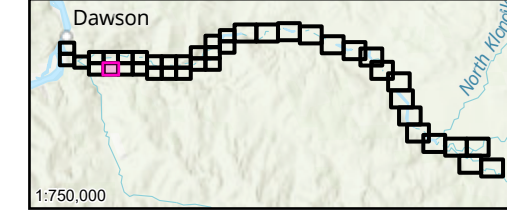
Client/Project:  
**Government of Yukon  
Department of Environment  
Water Resources Branch**

Project: 123222713

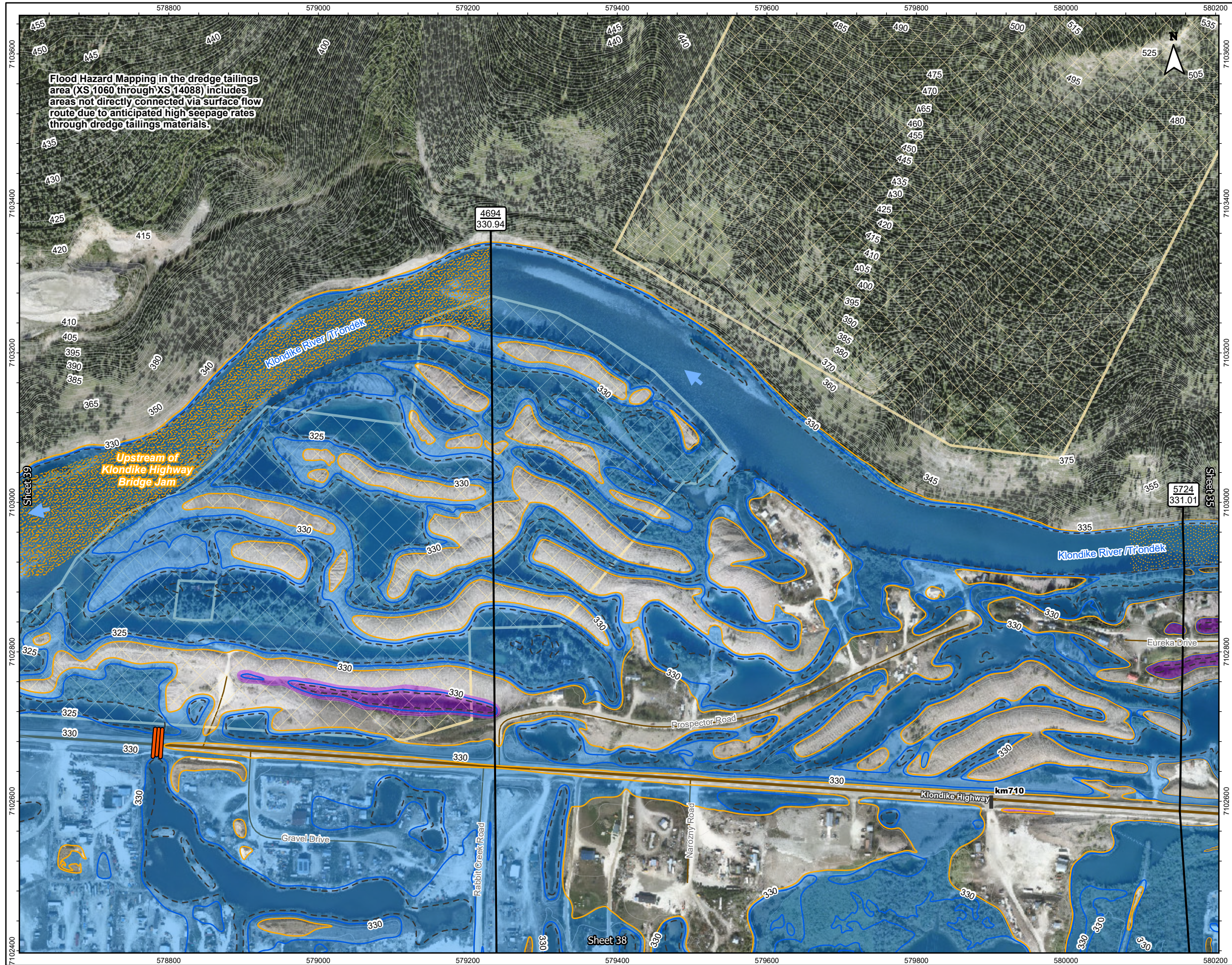
Project Location: Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- HPW Drainage Culverts
- Tr'ondëk Hwëch'in Settlement Land
- Highway Kilometer Post
- Approximate 50% AEP Open Water Flood Inundation
- Cross-Section Number WSE (m) Along Cross-Section
- Inundation Under Modelled Open Water Runs
- Surveyed Culvert Location
- Inundation Under Modelled Breakup Ice Jam Runs
- Highway
- Inundation Extent From Subsurface Seepage
- Local Road
- Composite Open Water and Ice Jam Inundation Extent
- Major Contour (5m)
- Potential Presence of Ice Debris During Jam Scenario
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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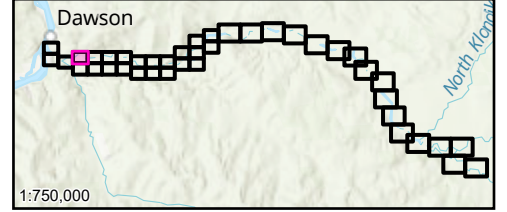


- Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
  3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
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  5. The content of these Composite Flood Hazard Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study produced for Yukon Government. Composite Hazard Maps are based on the available data which is current to the time the maps were produced. Such data contains inherent limitations given that the climatic conditions and geomorphic conditions are constantly evolving and cannot be predicted with certainty.



- River Flow Direction
- Tr'ondëk Hwëch'in Settlement Land
- Highway Kilometer Post
- Approximate 50% AEP Open Water Flood Inundation
- Cross-Section Number  
WSE (m) Along Cross-Section
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Surveyed Culvert Location
- Inundation Extent From Subsurface Seepage
- Highway
- Inundation Extent From Subsurface Seepage
- Local Road
- Composite Open Water and Ice Jam Inundation Extent
- Major Contour (5m)
- Potential Presence of Ice Debris During Jam Scenario
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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(At original document size of 11x 17) 1:5,000



- Notes
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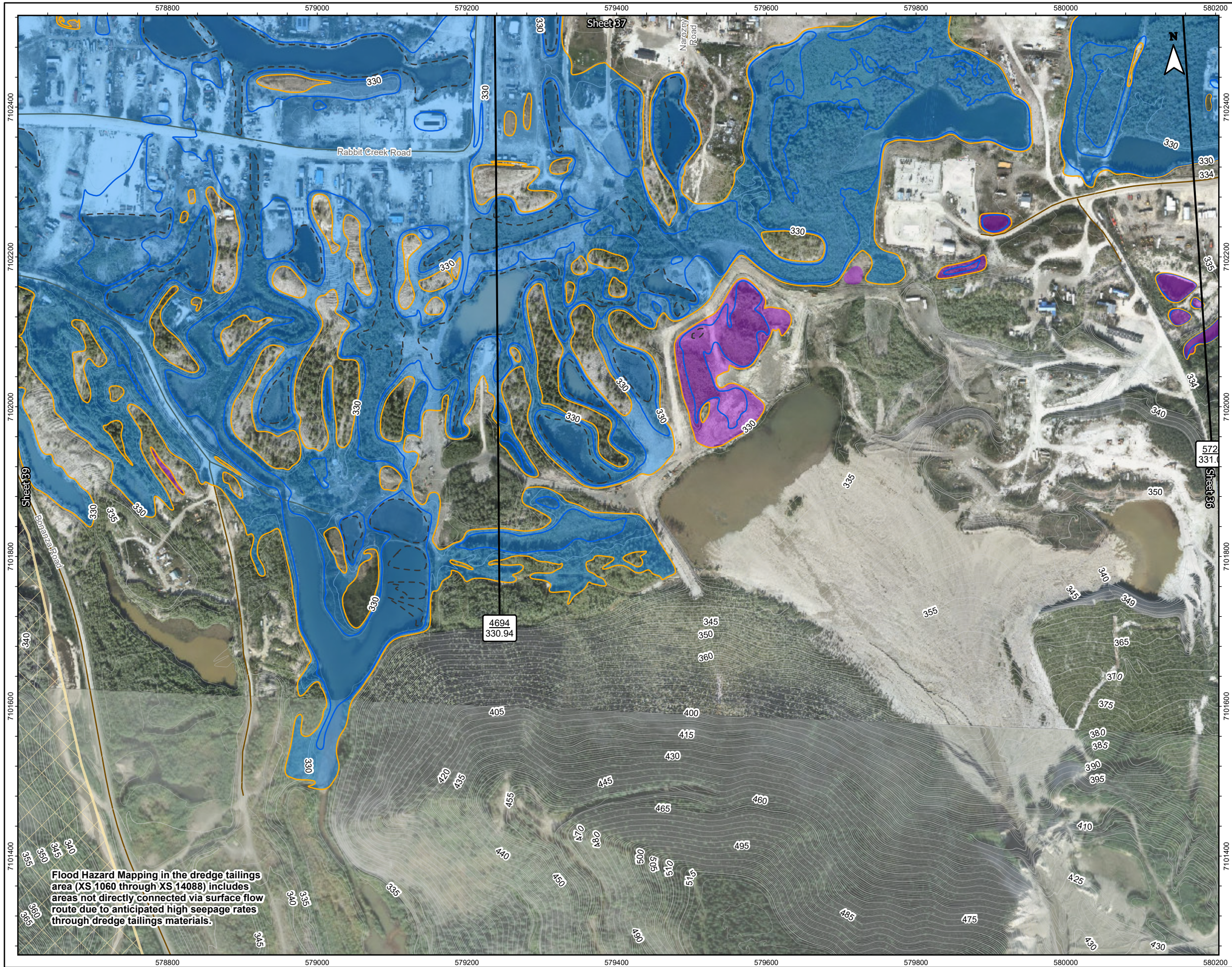


Figure No. **KR-0.5CC-38** Sheet 38 of 41

Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
for Climate Change**

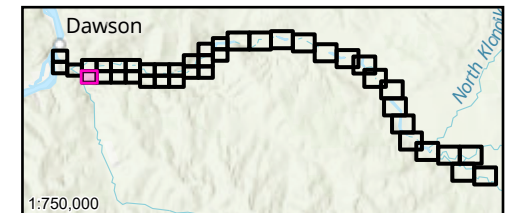
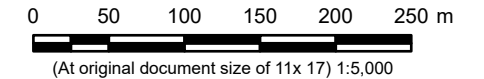
Client/Project:  
**Government of Yukon  
Department of Environment  
Water Resources Branch**

Project: 123222713

Project Location: Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

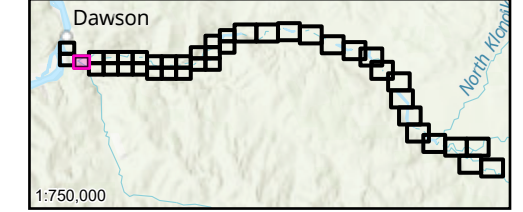
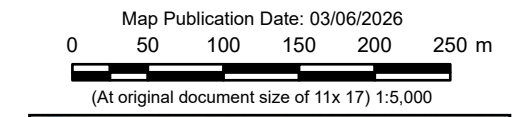
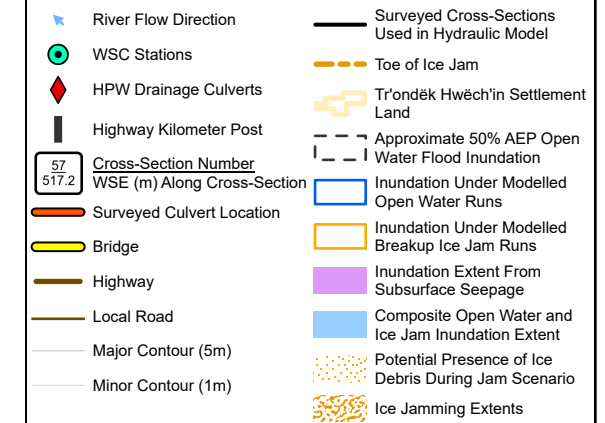
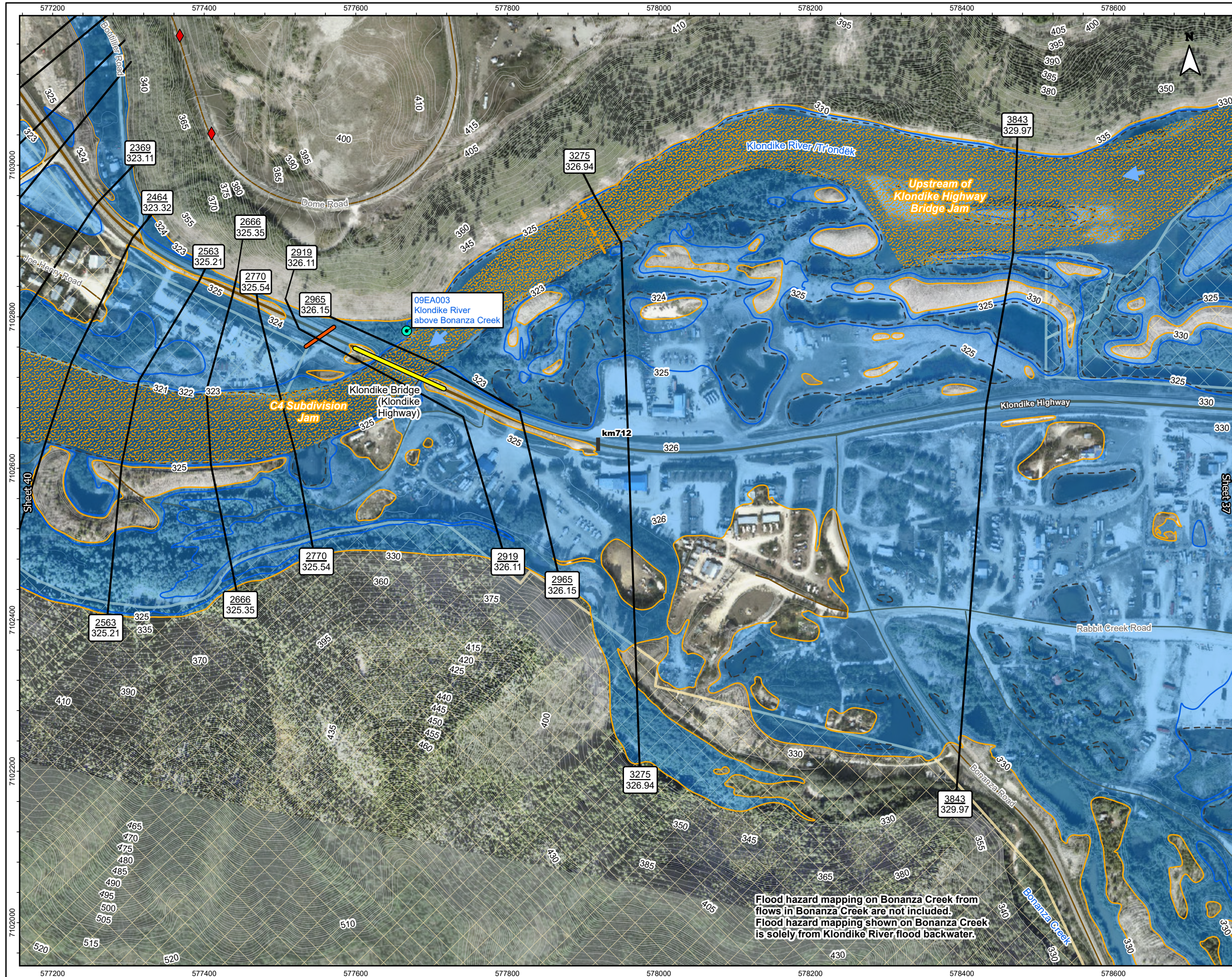
- |   |  |
|---|--|
| Highway Kilometer Post                              | Approximate 50% AEP Open Water Flood Inundation      |
| Cross-Section Number<br>WSE (m) Along Cross-Section | Inundation Under Modelled Open Water Runs            |
| Local Road  | Inundation Under Modelled Breakup Ice Jam Runs       |
| Major Contour (5m)                                  | Inundation Extent From Subsurface Seepage            |
| Minor Contour (1m)                                  | Composite Open Water and Ice Jam Inundation Extent   |
| Surveyed Cross-Sections Used in Hydraulic Model     | Potential Presence of Ice Debris During Jam Scenario |
| Tr'ondëk Hwëch'in Settlement Land                   | Ice Jamming Extents                                  |

Map Publication Date: 03/06/2026



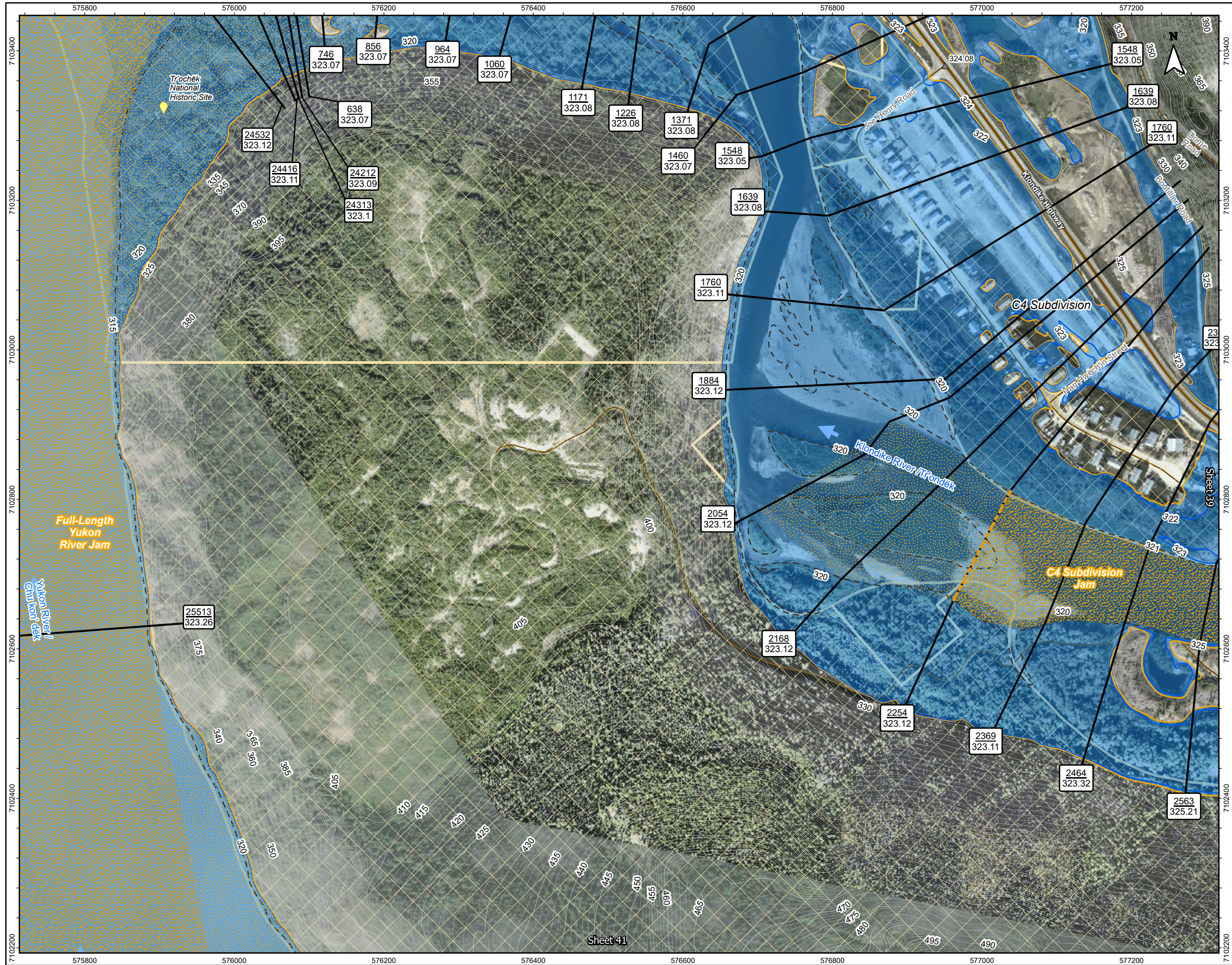
- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
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Flood Hazard Mapping in the dredge tailings area (XS 1060 through XS 14088) includes areas not directly connected via surface flow route due to anticipated high seepage rates through dredge tailings materials.



**Notes**

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3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
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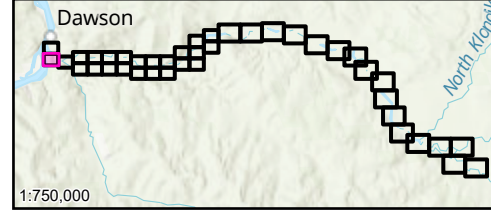
Title: **Dawson City and Klondike Valley Flood Mapping Study  
Composite Flood Hazard Map - Klondike River  
0.5% Annual Exceedance Probability (AEP) with Factor of Safety  
for Climate Change**

Client/Project:  
**Government of Yukon  
Department of Environment  
Water Resources Branch**

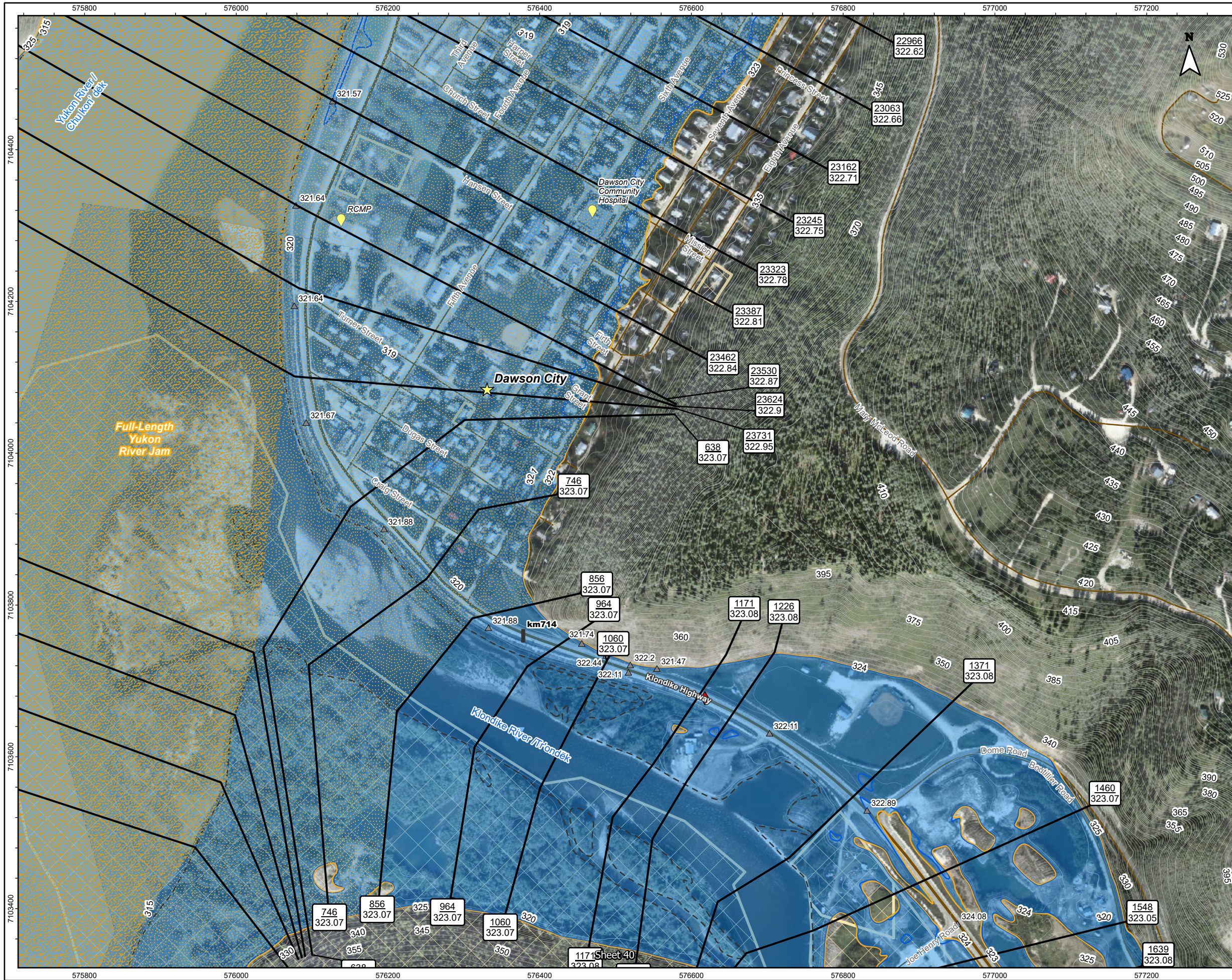
Project: 123222713  
Project Location: Dawson, Yukon  
Prepared by MANDERSON on 2026-03-06  
Requested by JMUIRHEAD on 2024-03-30  
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- River Flow Direction
- Ground Elevations of Interest
- Point of Interest
- Highway Kilometer Post
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Toe of Ice Jam
- Tr'ondék Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Inundation Extent From Subsurface Seepage
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- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026  
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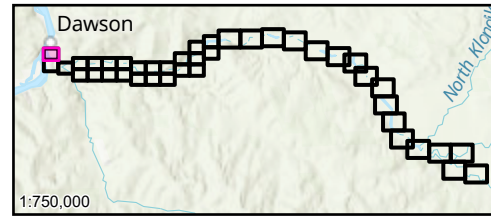


- Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
  2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
  3. Flood hazard extents shown on these maps are based on LIDAR collected in August, 2024 and topographical and bathymetric data that was collected in June and September 2024.
  4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.
  5. The content of these Composite Flood Hazard Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study produced for Yukon Government. Composite Hazard Maps are based on the available data which is current to the time the maps were produced. Such data contains inherent limitations given that the climatic conditions and geomorphic conditions are constantly evolving and cannot be predicted with certainty.



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|-------------------------------|--|
| River Flow Direction          | Minor Contour (1m)                                   |
| River Flow Direction          | Surveyed Cross-Sections Used in Hydraulic Model      |
| Ground Elevations of Interest | Tr'ondëk Hwëch'in Settlement Land                    |
| HPW Drainage Culverts         | Approximate 50% AEP Open Water Flood Inundation      |
| Municipality                  | Inundation Under Modelled Open Water Runs            |
| Point of Interest             | Inundation Under Modelled Breakup Ice Jam Runs       |
| Highway Kilometer Post        | Inundation Extent From Subsurface Seepage            |
| Cross-Section Number          | Composite Open Water and Ice Jam Inundation Extent   |
| WSE (m) Along Cross-Section   | Potential Presence of Ice Debris During Jam Scenario |
| Highway                       | Ice Jamming Extents                                  |
| Local Road                    |  |
| Major Contour (5m)            |  |

Map Publication Date: 03/06/2026  
0 50 100 150 200 250 m  
(At original document size of 11x 17) 1:5,000



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