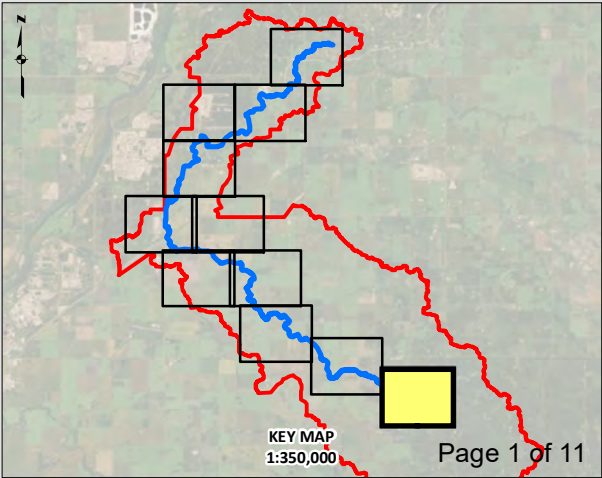
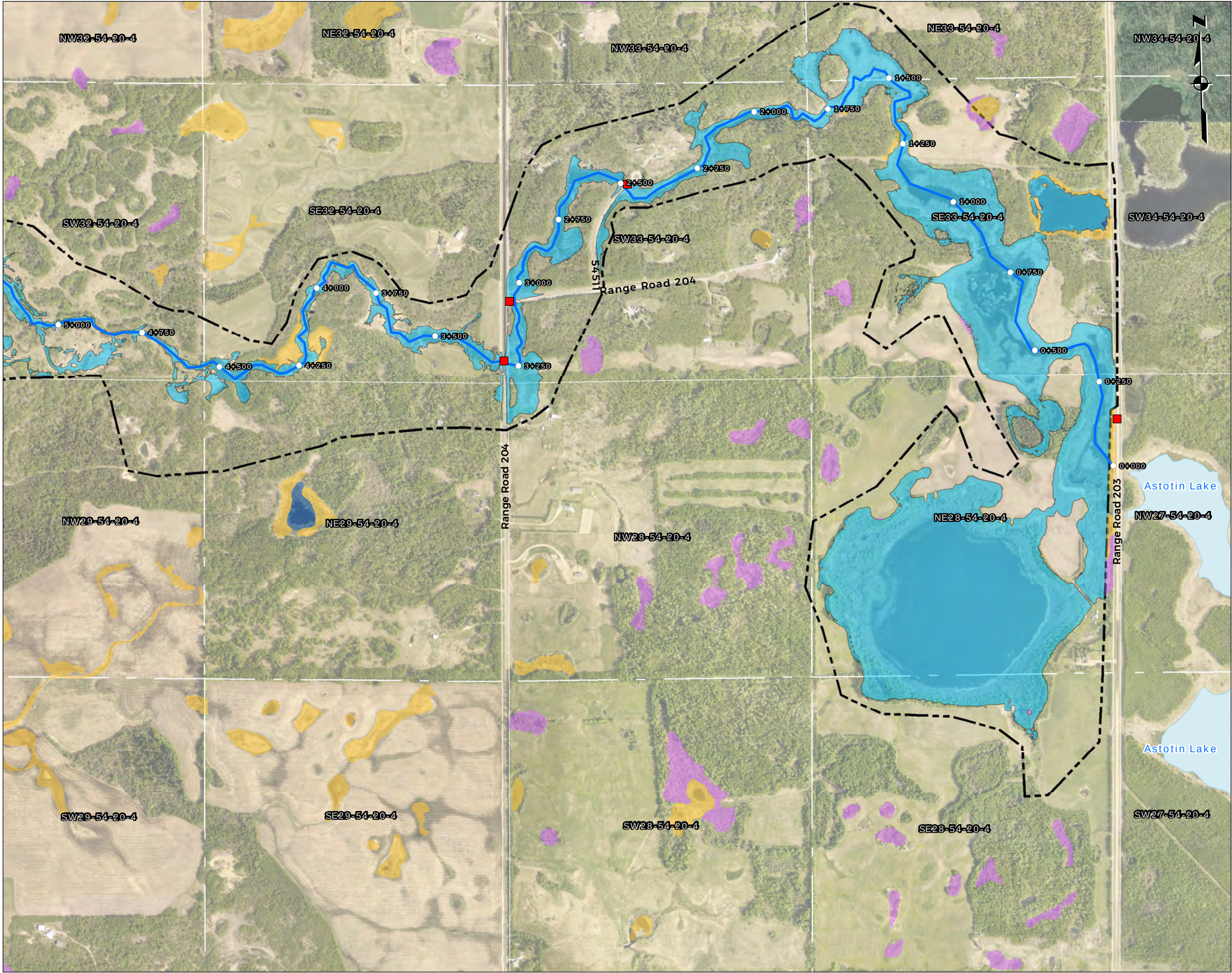




Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- - - Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water
- Astotin Lake

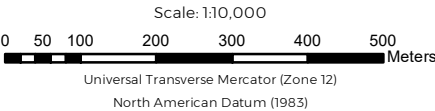
Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

**Astotin Creek Resiliency Study
Drainage Master Plan**

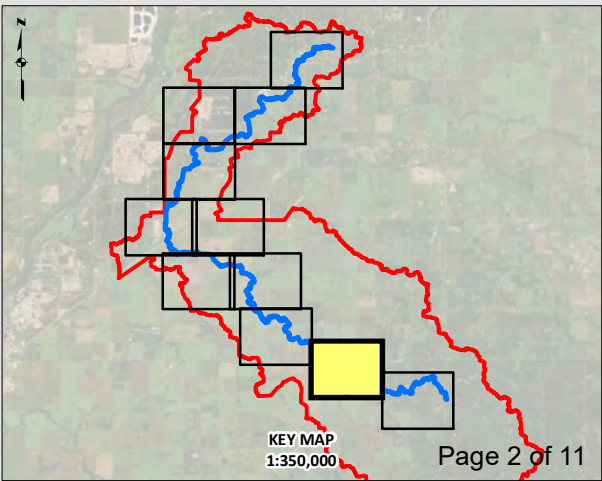
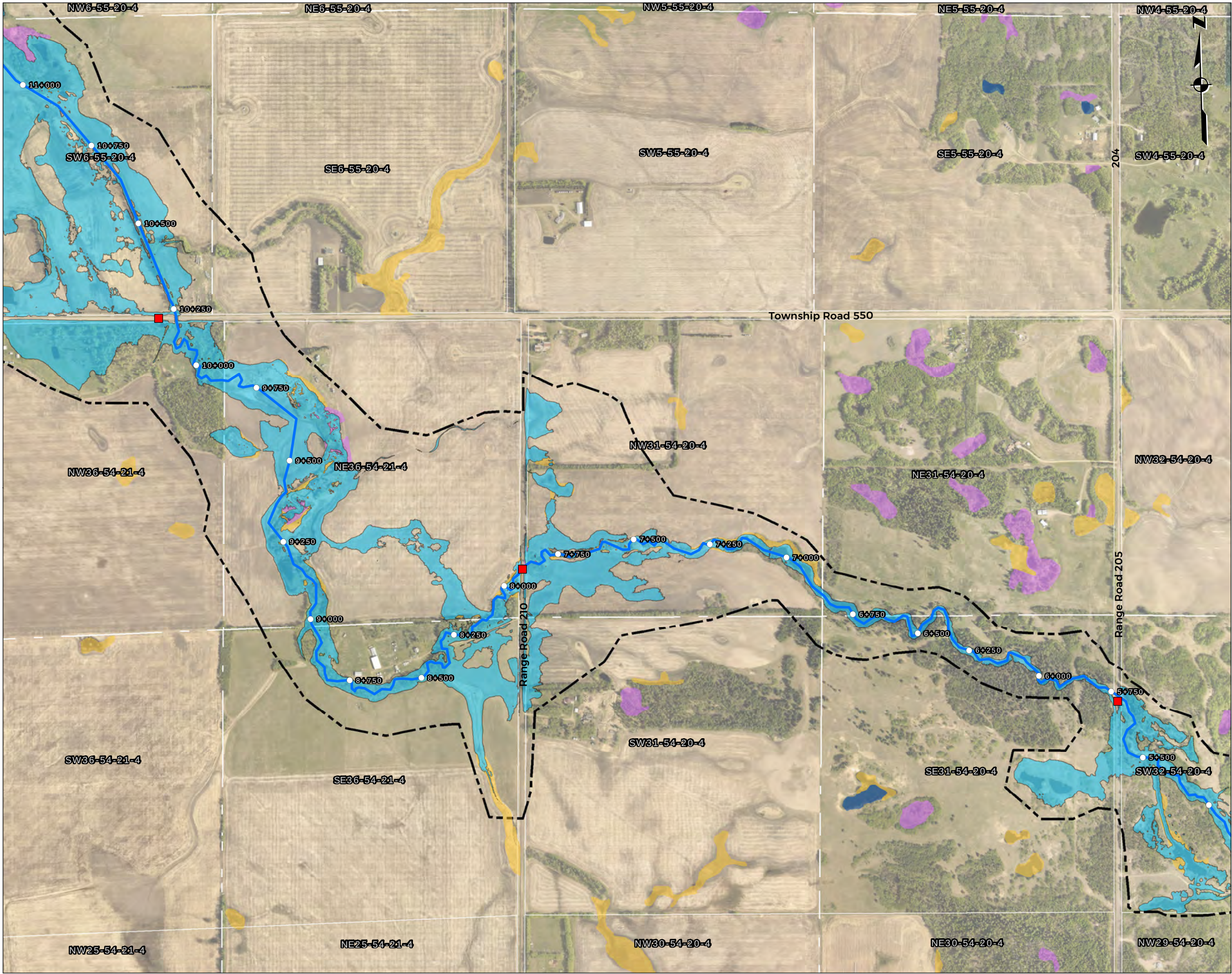
Appendix D: 100-Year Flood Inundation Map

**Astotin Creek
Alberta**



Report By: AH WSP Job #: 211-03754-00
Drawn by: JH Date: August 9, 2021
Reviewed By: AH Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI



Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- - - Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water

Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

**Astotin Creek Resiliency Study
Drainage Master Plan**

Appendix D: 100-Year Flood Inundation Map

**Astotin Creek
Alberta**

Scale: 1:10,000

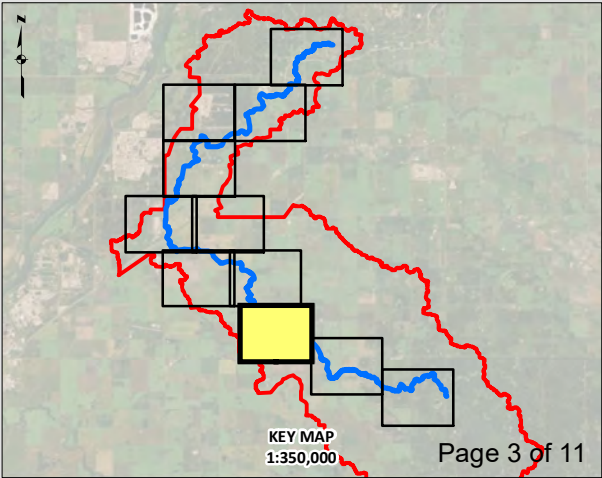
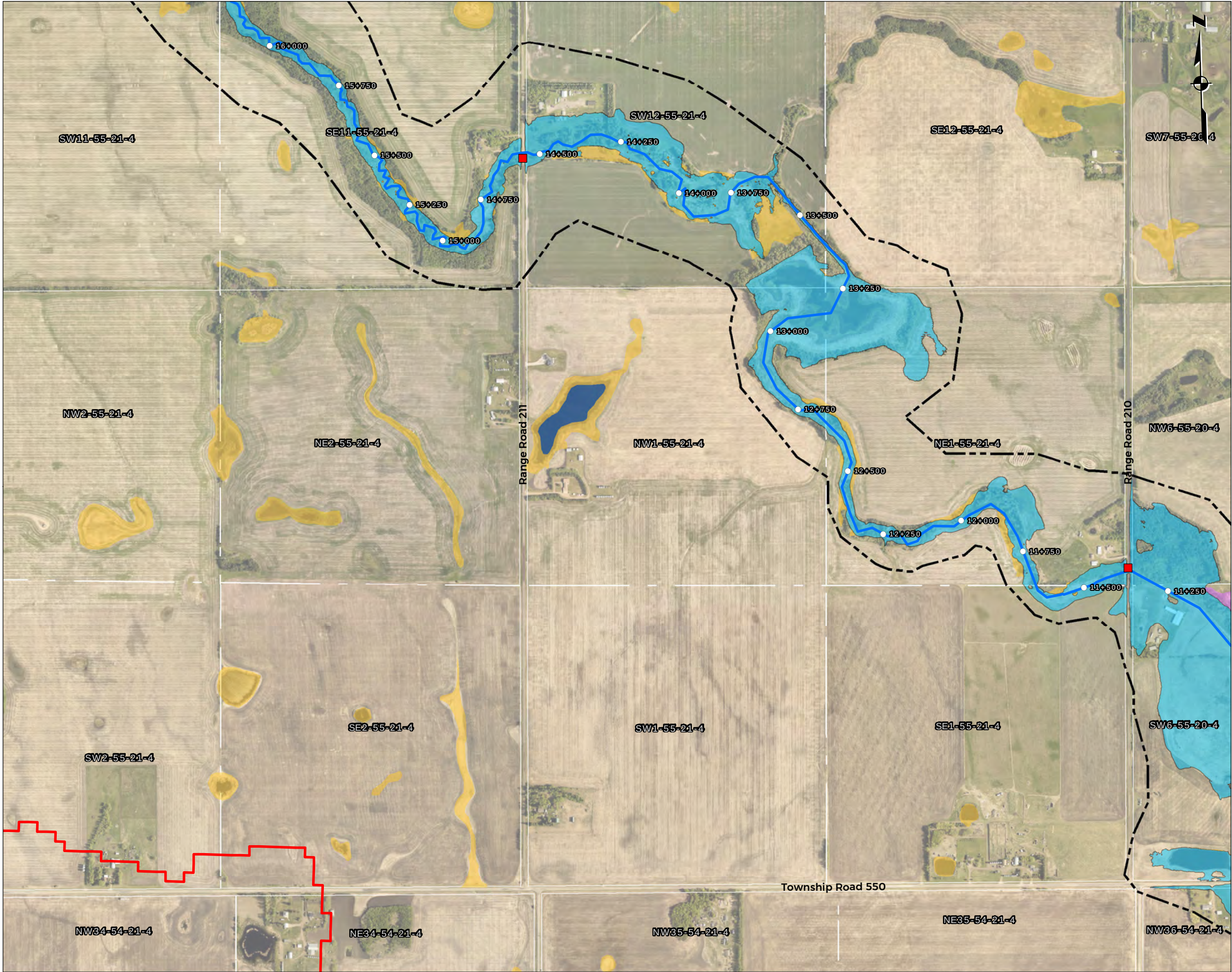
0 50 100 200 300 400 500 Meters

Universal Transverse Mercator (Zone 12)
North American Datum (1983)

wsp

Report By: AH WSP Job #: 211-03754-00
Drawn by: JH Date: August 9, 2021
Reviewed By: AH Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI



Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- - - Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water

Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

**Astotin Creek Resiliency Study
Drainage Master Plan**

Appendix D: 100-Year Flood Inundation Map

**Astotin Creek
Alberta**

Scale: 1:10,000

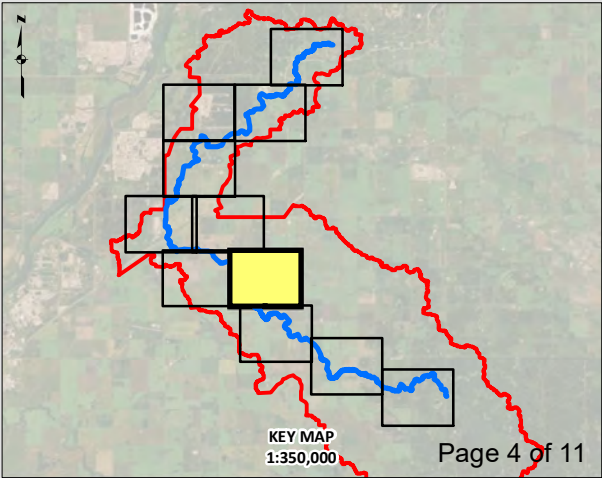
0 50 100 200 300 400 500 Meters

Universal Transverse Mercator (Zone 12)
North American Datum (1983)

wsp

Report By: AH WSP Job #: 211-03754-00
Drawn by: JH Date: August 9, 2021
Reviewed By: AH Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI



Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- - - Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water

Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

**Astotin Creek Resiliency Study
Drainage Master Plan**

Appendix D: 100-Year Flood Inundation Map

**Astotin Creek
Alberta**

Scale: 1:10,000

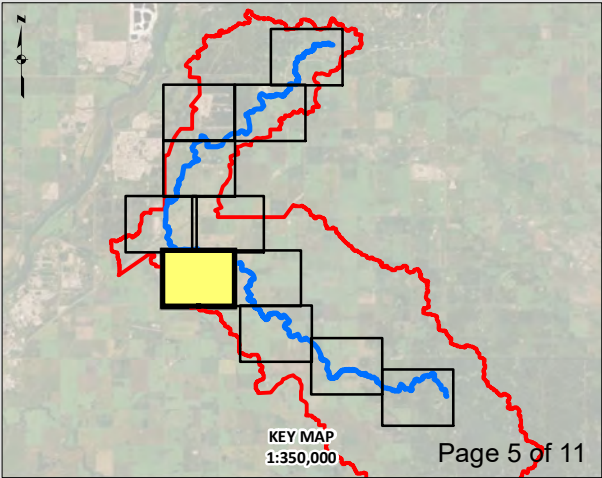
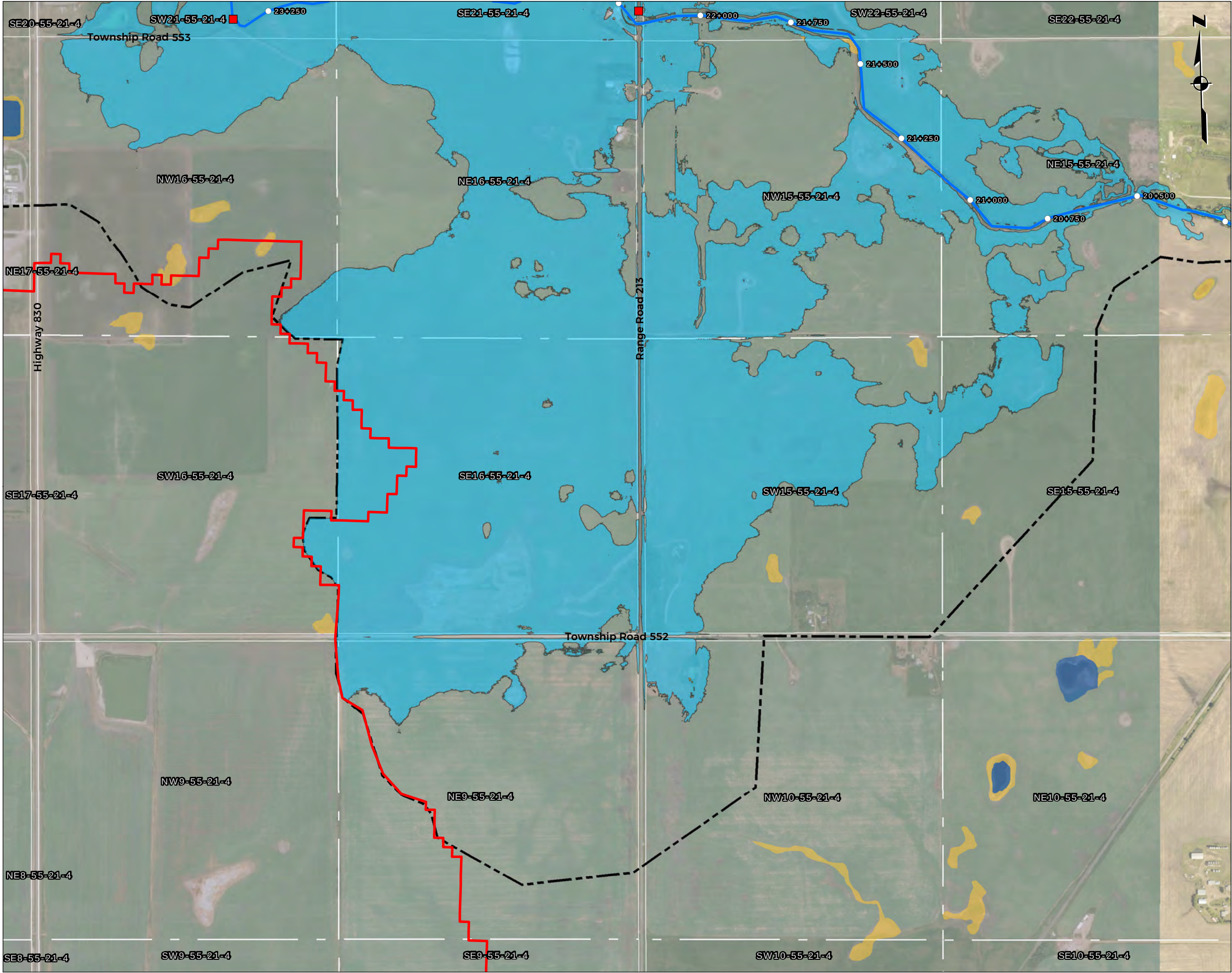
0 50 100 200 300 400 500 Meters

Universal Transverse Mercator (Zone 12)
North American Datum (1983)

wsp

Report By: AH WSP Job #: 211-03754-00
Drawn by: JH Date: August 9, 2021
Reviewed by: AH Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI



Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- - - Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water

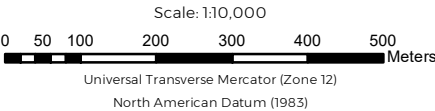
Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

**Astotin Creek Resiliency Study
Drainage Master Plan**

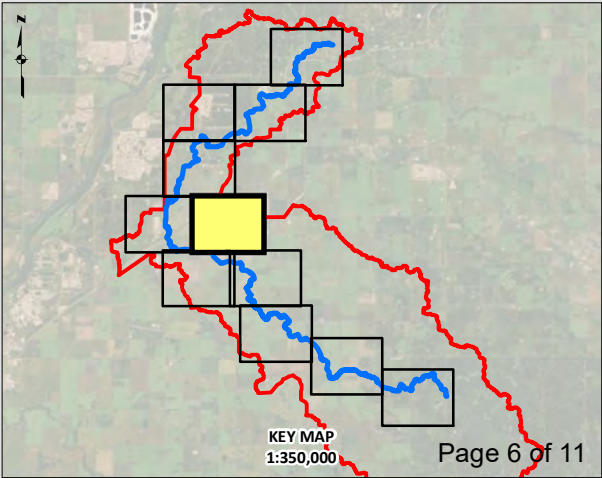
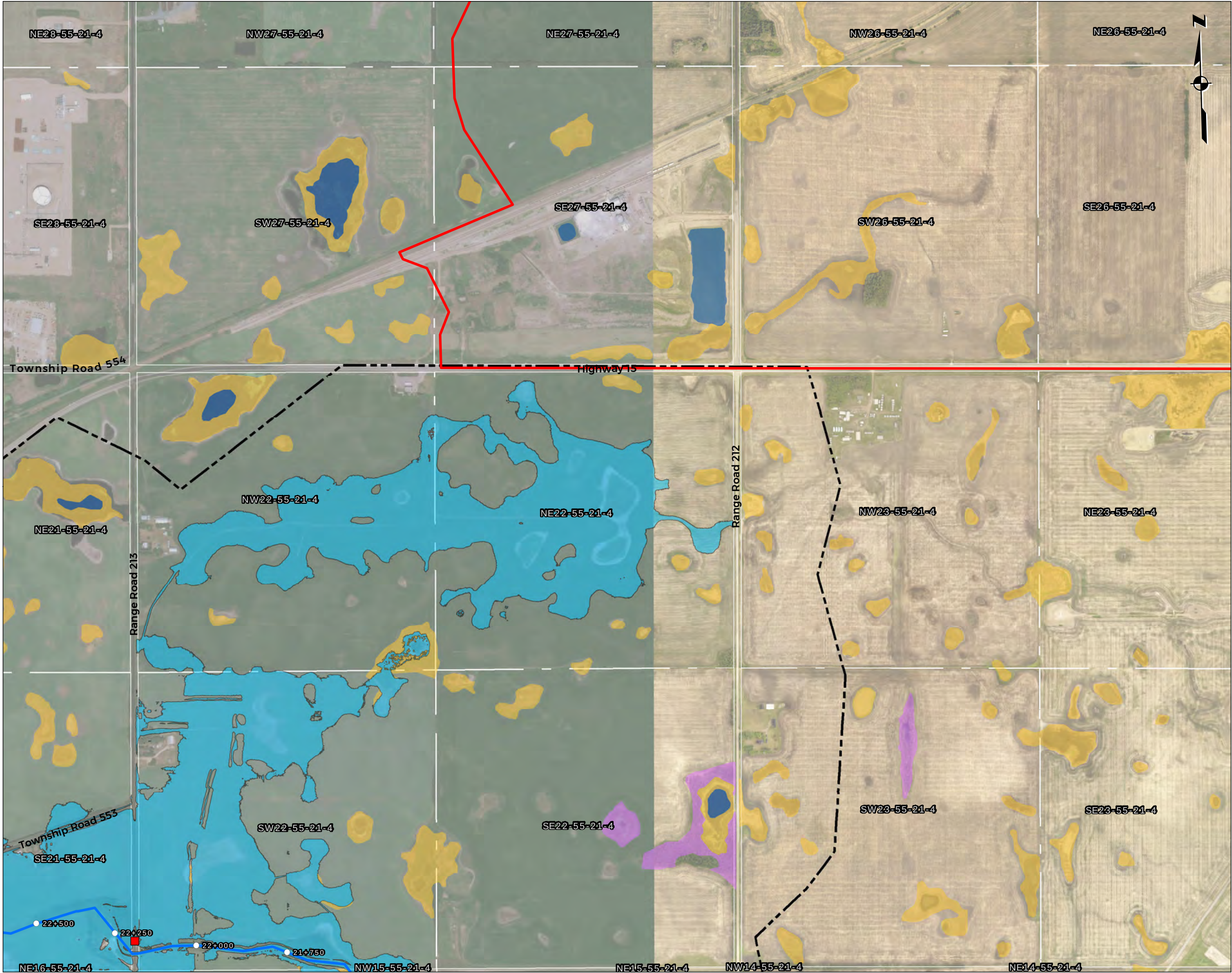
Appendix D: 100-Year Flood Inundation Map

**Astotin Creek
Alberta**



Report By: AH WSP Job #: 211-03754-00
Drawn by: JH Date: August 9, 2021
Reviewed By: AH Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI



Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- ▭ Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water

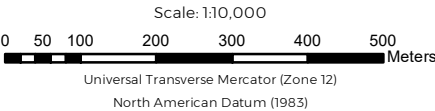
Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

**Astotin Creek Resiliency Study
Drainage Master Plan**

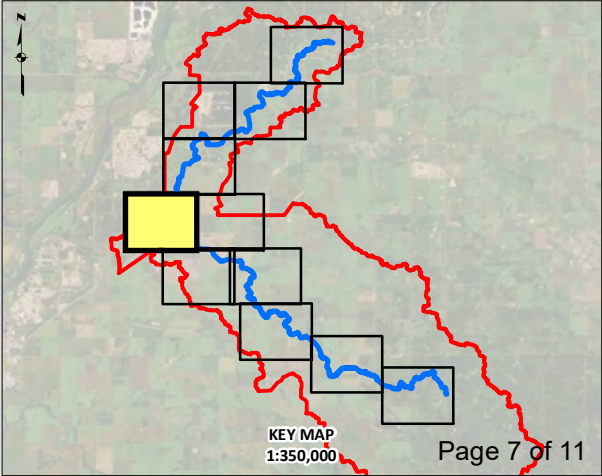
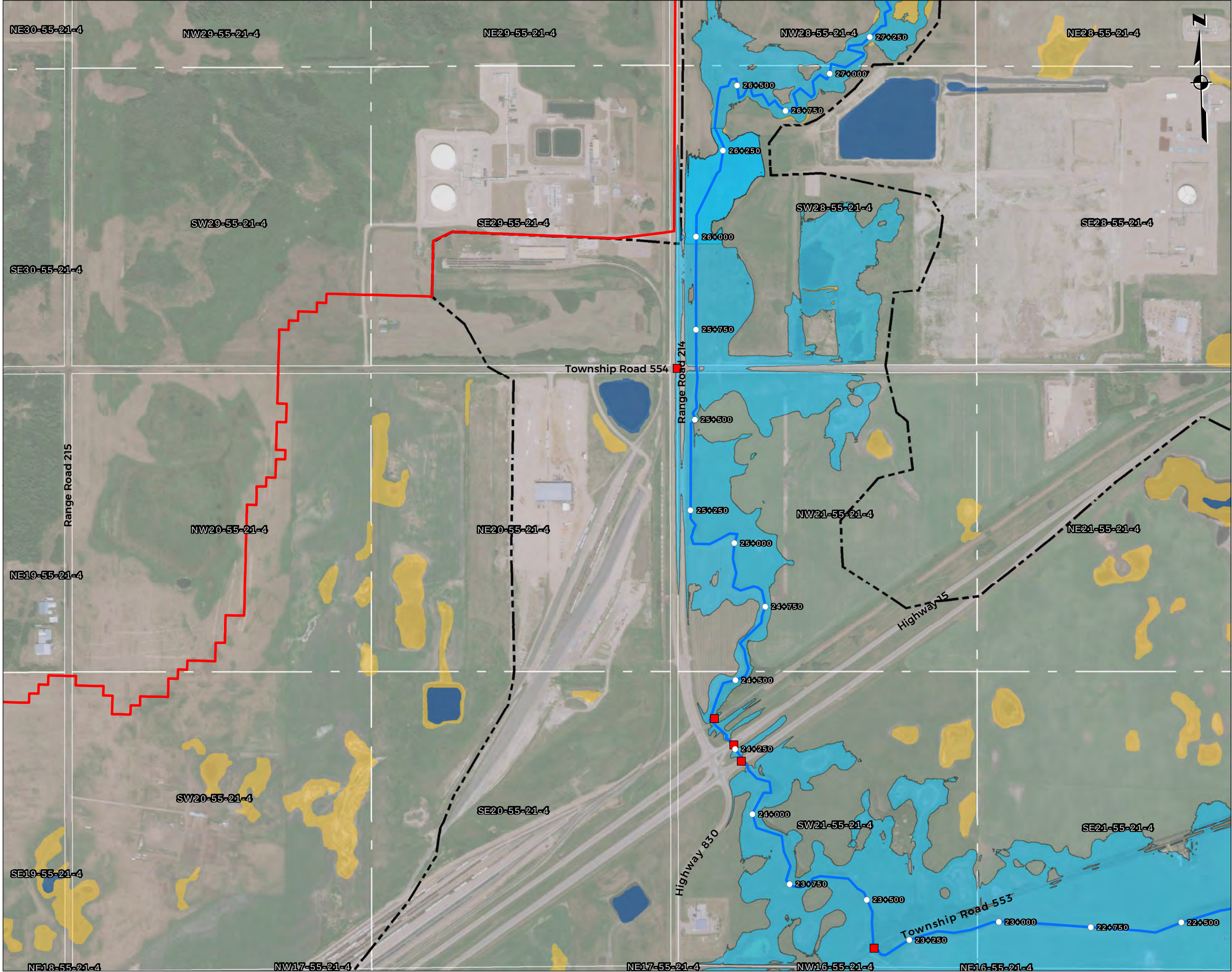
Appendix D: 100-Year Flood Inundation Map

**Astotin Creek
Alberta**



Report By: AH WSP Job #: 211-03754-00
Drawn by: JH Date: August 9, 2021
Reviewed by: AH Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI



Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- - - Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water

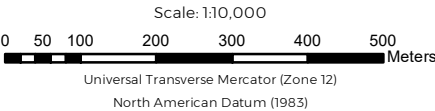
Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

Astotin Creek Resiliency Study
Drainage Master Plan

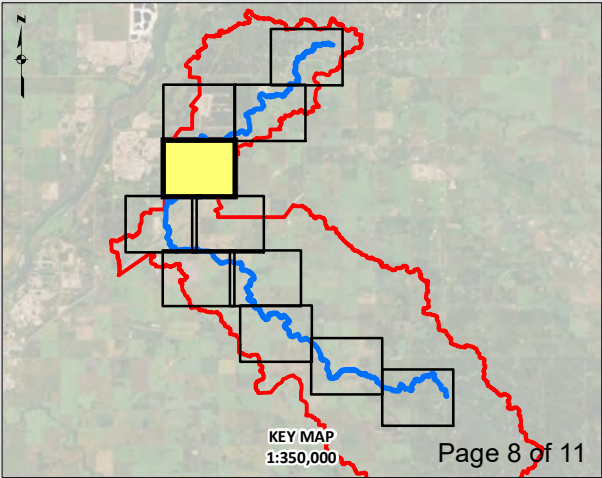
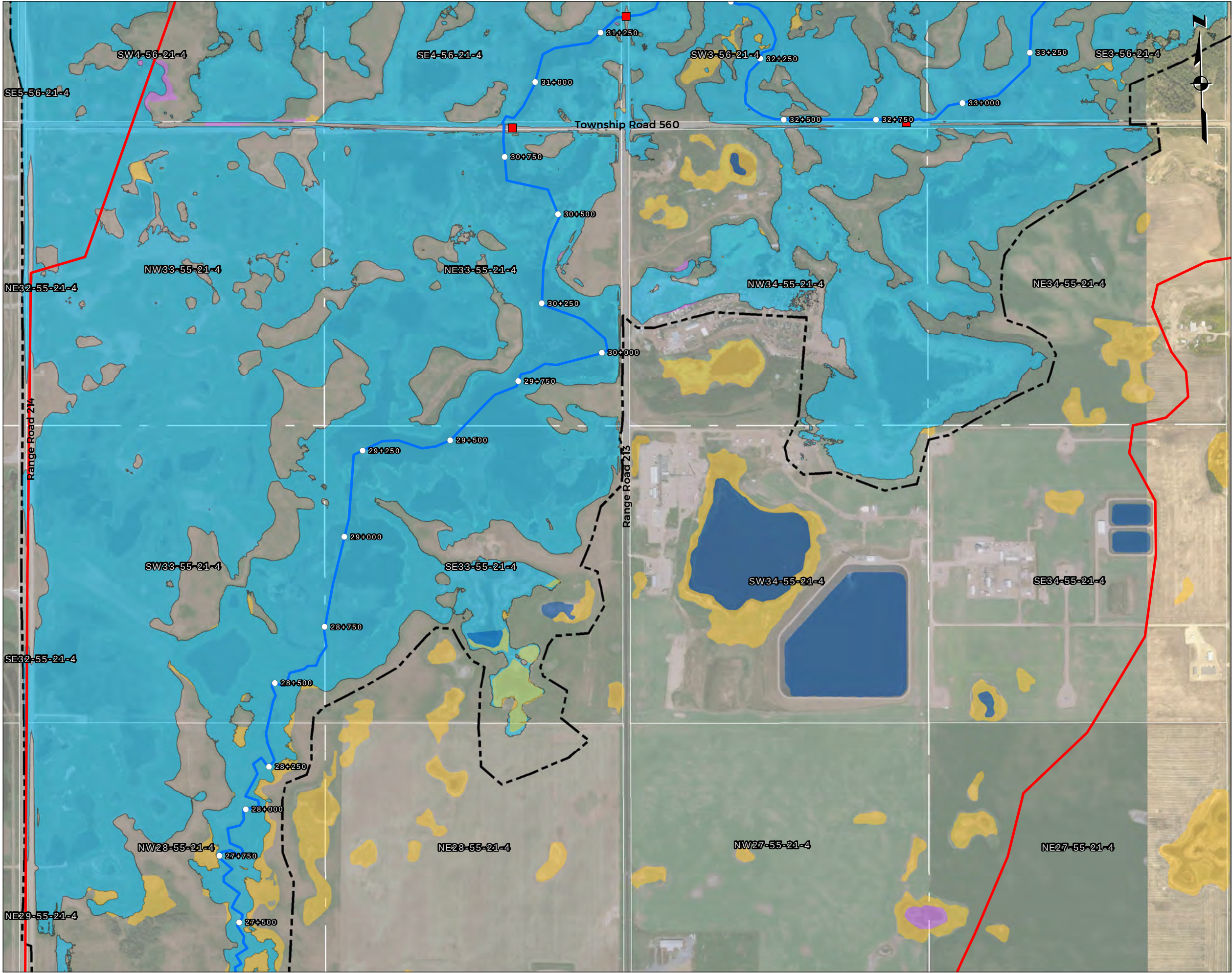
Appendix D: 100-Year Flood Inundation Map

Astotin Creek
Alberta



Report By: AH WSP Job #: 211-03754-00
Drawn by: JH Date: August 9, 2021
Reviewed By: AH Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI



Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- - - Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water

Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

**Astotin Creek Resiliency Study
Drainage Master Plan**

Appendix D: 100-Year Flood Inundation Map

**Astotin Creek
Alberta**

Scale: 1:10,000

0 50 100 200 300 400 500 Meters

Universal Transverse Mercator (Zone 12)
North American Datum (1983)



Report By: AH

Drawn by: JH

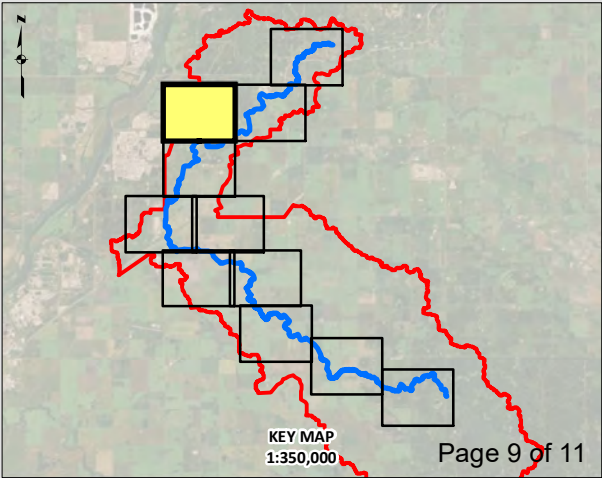
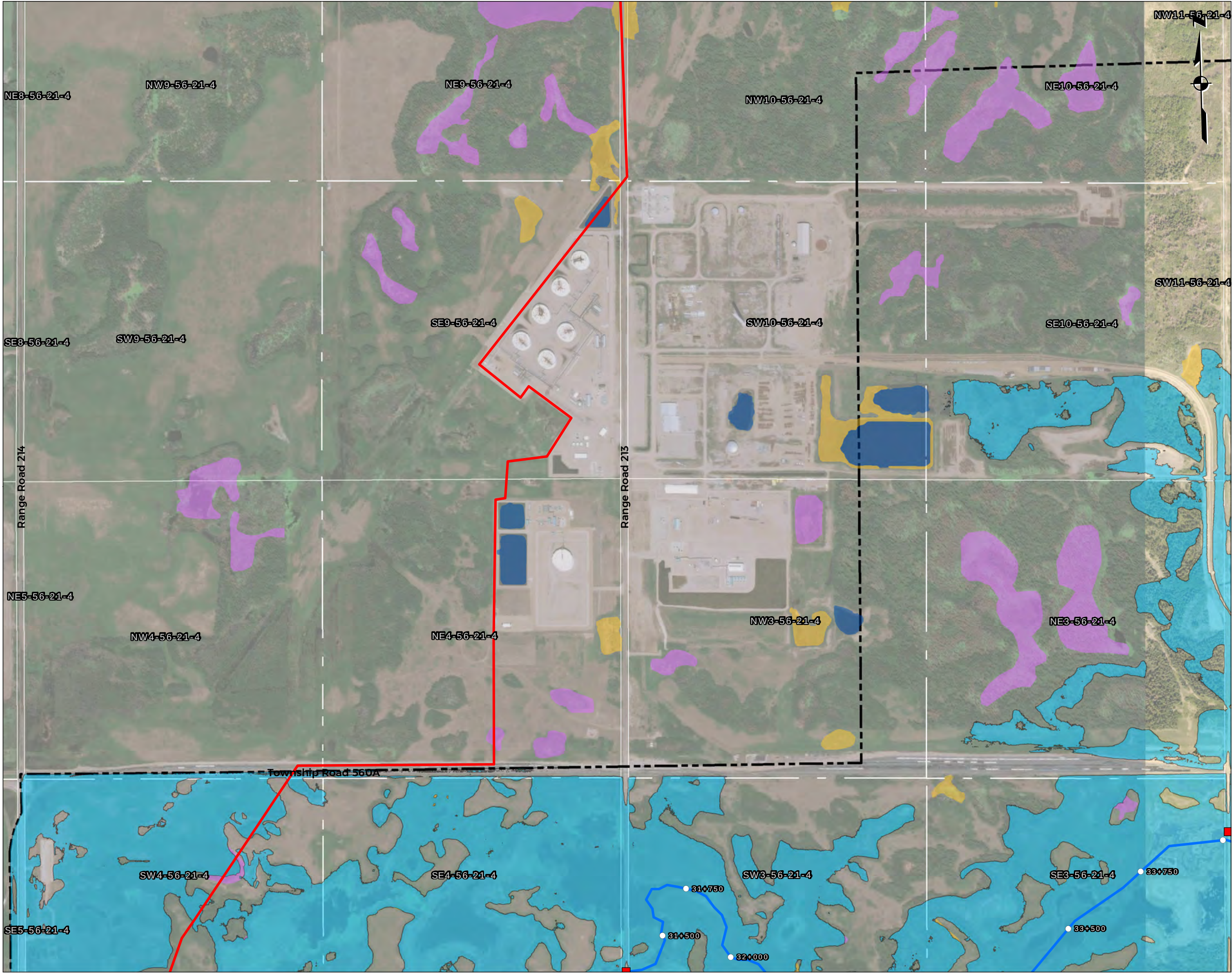
Reviewed By: AH

WSP Job #: 211-03754-00

Date: August 9, 2021

Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI



Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- - - Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water

Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

**Astotin Creek Resiliency Study
Drainage Master Plan**

Appendix D: 100-Year Flood Inundation Map

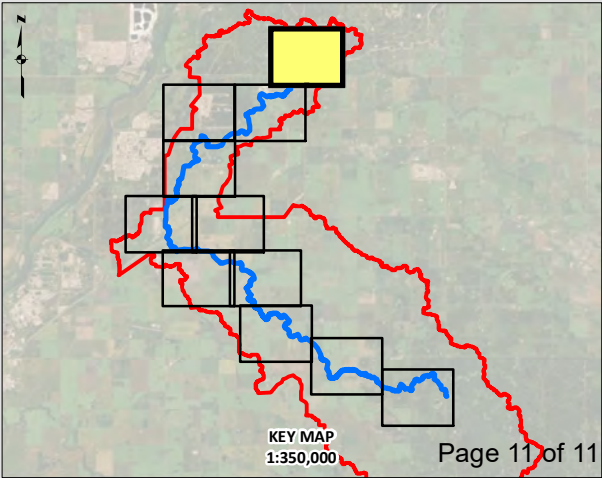
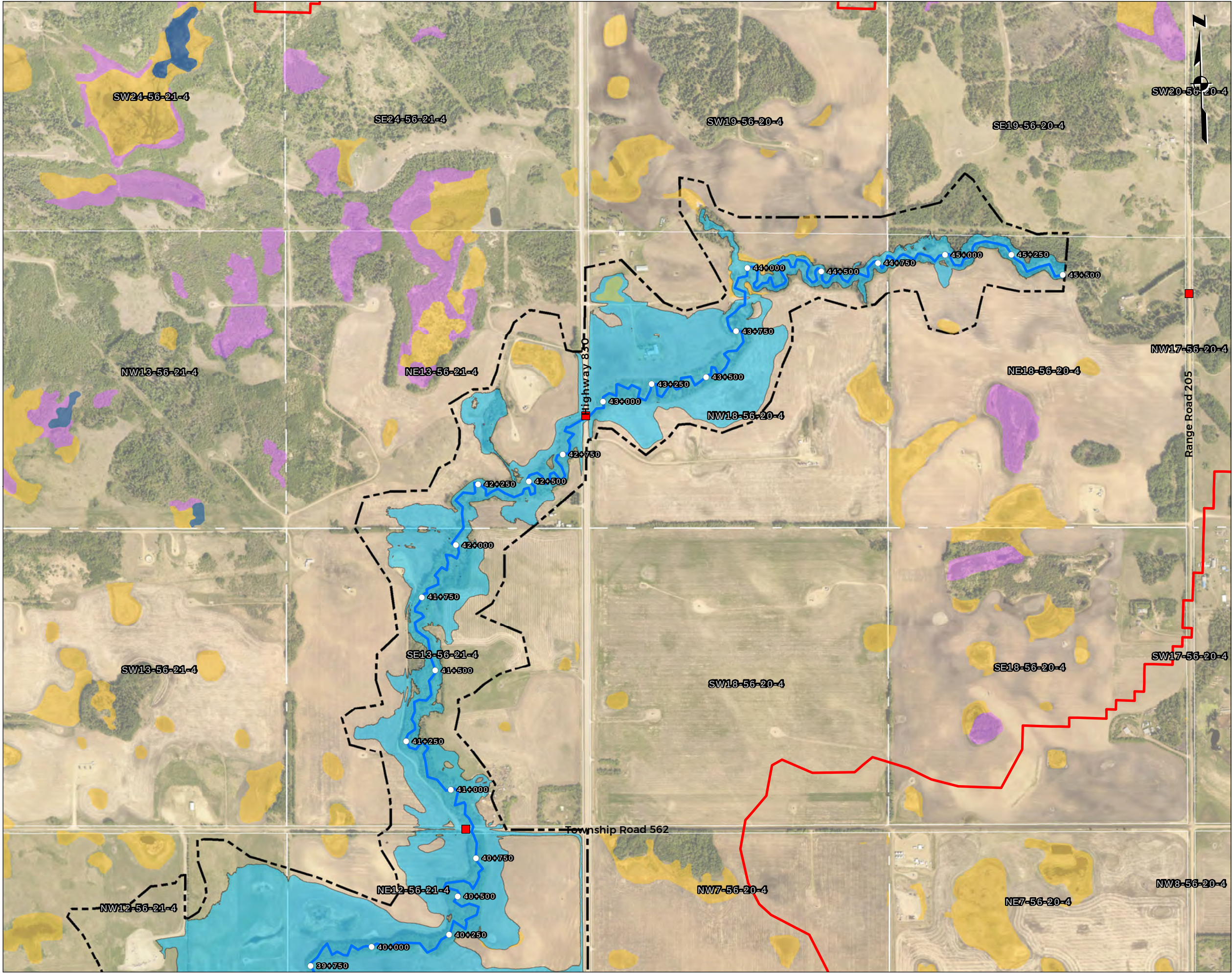
**Astotin Creek
Alberta**

Scale: 1:10,000



Report By: AH WSP Job #: 211-03754-00
Drawn by: JH Date: August 9, 2021
Reviewed By: AH Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI



Legend

- Station Marker
- Structures
- ~ Astotin Creek
- ▭ Astotin Watershed
- - - Hydraulic Model Boundaries
- 100 Year Flood Inundation
- Marsh
- Swamp
- Open Water

Notes:

- 1) The flood maps were created using a two-dimensional hydrodynamic HEC-RAS model and a Digital Elevation Model (DEM) of the Astotin Creek Watershed
- 2) The DEM was created by combining the 2018 LiDAR data collected by Airborne Imaging with the bathymetric data collected by WSP in 2021.
- 3) The HEC-RAS model was calibrated for low-flow conditions but no calibration data for high flood events were available, limiting the model's accuracy at high flows.
- 4) The flood maps do not consider blockage of bridges and culverts that may develop during large flood events.
- 5) The flood maps only consider flooding due to Astotin Creek flows and do not include local impoundments due to flooding issues.

**Astotin Creek Resiliency Study
Drainage Master Plan**

Appendix D: 100-Year Flood Inundation Map

**Astotin Creek
Alberta**

Scale: 1:10,000

0 50 100 200 300 400 500 Meters

Universal Transverse Mercator (Zone 12)
North American Datum (1983)

wsp

Report By: AH WSP Job #: 211-03754-00
Drawn by: JH Date: August 9, 2021
Reviewed By: AH Office: Edmonton

Notes: Data provided by Altalis; Natural Resource Canada; ESRI