

Photo No.: Photos-20180511-165028.jpg Description: Deck



Photo No.: Photos-20180511-165101.jpg Description: Downstream



Photo No.: Photos-20180511-165132.jpg Description: Outlet



Photo No.: Photos-20180511-165346.jpg Description: Upstream SW



Photo No.: Photos-20180511-165411.jpg Description: Upstream NW



Photo No.: Photos-20180511-165444.jpg Description: Inlet





Photo No.: Photos-20180511-165850.jpg Description: Snowmobile trail off water to ditch

Crossing ID: WC_0532

ENVIRONMENTAL



Inspection Date: May 18, 2018
Watercourse Name: Sturgeon River

GPS Co-ordinates:

UTM: 12 | **Easting**: 327,245 | **Northing**: 5,947,482

Stream Classification: Fluvial (Permanent - Large)
Bankfull Width: 15m (Estimated to Nearest Metre)

Crossing Type: Bridge - Permanent

Erosion at Site: No

Most Common Bridge Substructure Material: Concrete

Total Deck Length: 40 m

Deck Width (Number of Lanes): 4
Decking Material: Concrete
Decking Pattern: Closed
Curb Type: Concrete

Road Surface Material: Other - pavement

Abutment Type: Concrete Blocks

Abutment Functioning?: Yes - in good condition and no materials eroding from underneath **Wingwall Functioning?:** Yes - in good condition and no materials eroding from underneath

Armour: Riprap

Opening Blockage: 0%

Cause of blockage: Other - none Structural Problems: None

Bridge Signs: No, sign is not present

Grader markers or bridge reflectors?: Yes, sign is present

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: rip rap the pedestrian walking path then concrete block abutment.





Photo No.: Photos-20180518-202807.jpg Description: Outlet



Photo No.: Photos-20180518-202840.jpg Description: Downstream



Photo No.: Photos-20180518-202911.jpg Description: Upstream



Photo No.: Photos-20180518-202929.jpg Description: Inlet



Inspection Date: May 18, 2018 Watercourse Name: Sturgeon River

GPS Co-ordinates:

UTM: 12 | **Easting**: 318,988 | **Northing**: 5,946,831

Stream Classification: Fluvial (Permanent - Large)
Bankfull Width: 14m (Estimated to Nearest Metre)

Crossing Type: Bridge - Permanent

Erosion at Site: No

Most Common Bridge Substructure Material: Steel

Total Deck Length: 30 m

Deck Width (Number of Lanes): 2
Decking Material: Concrete
Decking Pattern: Closed
Curb Type: Concrete

Road Surface Material: Gravel Abutment Type: Steel Pilings

Abutment Functioning?: Yes - in good condition and no materials eroding from underneath

Wingwall Functioning?: No wingwalls present

Armour: Other - steel abutment walls and vegetation on fill slope

Opening Blockage: 0%

Cause of blockage: Other - none Structural Problems: None

Bridge Signs: No, sign is not present

Grader markers or bridge reflectors?: Yes, sign is present

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low Comments:





Photo No.: Photos-20180518-175104.jpg Description: Upstream



Photo No.: Photos-20180518-175124.jpg Description: Deck



Photo No.: Photos-20180518-175233.jpg Description: Outlet



Photo No.: Photos-20180518-175431.jpg Description: Downstream



Photo No.: Photos-20180518-175543.jpg Description: Inlet





Inspection Date: May 18, 2018
Watercourse Name: Sturgeon River

GPS Co-ordinates:

UTM: 12 | **Easting:** 324,271 | **Northing:** 5,944,489

Stream Classification: Fluvial (Permanent - Large)
Bankfull Width: 50m (Estimated to Nearest Metre)

Crossing Type: Bridge - Permanent

Erosion at Site: No

Most Common Bridge Substructure Material: Concrete

Total Deck Length: 50 m

Deck Width (Number of Lanes): 2 Decking Material: Concrete Decking Pattern: Closed Curb Type: Concrete

Road Surface Material: Other - pavement Abutment Type: Concrete Pilings

Abutment Functioning?: Yes - in good condition and no materials eroding from underneath **Wingwall Functioning?:** Yes - in good condition and no materials eroding from underneath

Armour: Riprap

Opening Blockage: 0%

Cause of blockage: Other - none Structural Problems: None

Bridge Signs: No, sign is not present

Grader markers or bridge reflectors?: Yes, sign is present

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: Walkway flooded, temporary lifted path created. Outlet of Big Lake





Photo No.: Photos-20180518-190338.jpg Description: Inlet



Photo No.: Photos-20180518-190355.jpg

Description: Upstream



Photo No.: Photos-20180518-190443.jpg Description: Flooding



Photo No.: Photos-20180518-190534.jpg Description: Downstream



Photo No.: Photos-20180518-190554.jpg Description: Outlet

Crossing ID: WC_0581

NSWA Sturgeon River Watercourse Assessment





Inspection Date: May 11, 2018
Watercourse Name: Sturgeon River

GPS Co-ordinates:

UTM: 11 | **Easting:** 655,936 | **Northing:** 5,947,362

Stream Classification: Fluvial (Permanent - Large)
Bankfull Width: 45m (Estimated to Nearest Metre)

Crossing Type: Bridge - Permanent

Erosion at Site: Yes Erosion Location (Inlet or Outlet): Outlet

Erosion Source: Bank Slump

Erosion Extent: Low **Total Erosion Area:** 2 m²

Most Common Bridge Substructure Material: Timber

Total Deck Length: 15 m

Deck Width (Number of Lanes): 1
Decking Material: Concrete
Decking Pattern: Open
Curb Type: Concrete

Road Surface Material: Other - pavement

Abutment Type: Log Pilings

Abutment Functioning?: Yes - in good condition and no materials eroding from underneath **Wingwall Functioning?:** Yes - in good condition and no materials eroding from underneath

Armour: Riprap

Opening Blockage: 0%

Cause of blockage: Other - none Structural Problems: None

Bridge Signs: No, sign is not present

Grader markers or bridge reflectors?: Yes, sign is present

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: Riprap missing from southeast side of wingwall and slumping is noted. Site located on Isle Lake. Lots of lakeshore

developments. Bridge sits low.







Photo No.: Photos-20180511-161235.jpg

Description: Upstream



Photo No.: Photos-20180511-161250.jpg Description: Downstream

Photo No.: Photos-20180511-161314.jpg Description: Deck



Photo No.: Photos-20180511-161444.jpg Description: Outlet

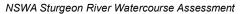


Photo No.: Photos-20180511-161636.jpg Description: Inlet



Photo No.: Photos-20180511-162040.jpg Description: Erosion









Inspection Date: May 16, 2018 Watercourse Name: Atim Creek

GPS Co-ordinates:

UTM: 12 | **Easting:** 313,770 | **Northing:** 5,942,380

Stream Classification: Fluvial (Permanent - Small)
Bankfull Width: 15m (Estimated to Nearest Metre)

Crossing Type: Bridge - Permanent

Erosion at Site: Potential Erosion Location (Inlet or Outlet): Both

Erosion Source: Fill Slope

Erosion Extent: Low Total Erosion Area: 16 m²

Most Common Bridge Substructure Material: Steel

Total Deck Length: 22 m

Deck Width (Number of Lanes): 2
Decking Material: Concrete
Decking Pattern: Closed
Curb Type: Concrete

Road Surface Material: Other - pavement

Abutment Type: Steel Pilings

Abutment Functioning?: Yes - in good condition and no materials eroding from underneath **Wingwall Functioning?:** Yes - in good condition and no materials eroding from underneath

Armour: Vegetation
Opening Blockage: 0%

Cause of blockage: Other - none Structural Problems: None

Bridge Signs: No, sign is not present

Grader markers or bridge reflectors?: Damaged, sign is either down or needs to be replaced

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: Fill slope erosion has potential to occur.

Crossing ID: WC_0661

NSWA Sturgeon River Watercourse Assessment





Photo No.: Photos-20180516-175717.jpg Description: Upstream



Photo No.: Photos-20180516-175746.jpg Description: Inlet



Photo No.: Photos-20180516-175804.jpg Description: Erosion potential



Photo No.: Photos-20180516-175849.jpg Description: Downstream



Photo No.: Photos-20180516-175902.jpg Description: Outlet





Inspection Date: May 16, 2018 Watercourse Name: Atim Creek

GPS Co-ordinates:

UTM: 12 | **Easting:** 307,367 | **Northing:** 5,940,909

Stream Classification: Fluvial (Permanent - Small)
Bankfull Width: 3m (Estimated to Nearest Metre)

Crossing Type: Bridge - Permanent

Erosion at Site: Potential Erosion Location (Inlet or Outlet): Both

Erosion Source: Fill Slope

Erosion Extent: Low **Total Erosion Area:** 3 m²

Most Common Bridge Substructure Material: Steel

Total Deck Length: 5 m

Deck Width (Number of Lanes): 2 Decking Material: Concrete Decking Pattern: Open

Curb Type: None - There is no curb, or the curb pattern has openings

Road Surface Material: Other - pavement

Abutment Type: Steel Pilings

Abutment Functioning?: Yes - in good condition and no materials eroding from underneath **Wingwall Functioning?:** Yes - in good condition and no materials eroding from underneath

Armour: Riprap

Opening Blockage: 0%

Cause of blockage: Other - none Structural Problems: None

Bridge Signs: No, sign is not present

Grader markers or bridge reflectors?: Yes, sign is present

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: Riprap present, wingwalls are functioning however there is earth in front and to

the sides. This is hard to determine if its top of stream bank.





Photo No.: Photos-20180516-165114.jpg Description: Deck



Photo No.: Photos-20180516-165138.jpg Description: Upstream



Photo No.: Photos-20180516-165218.jpg Description: Outlet



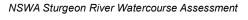
Photo No.: Photos-20180516-165242.jpg Description: Downstream



Photo No.: Photos-20180516-165313.jpg Description: Inlet



Photo No.: Photos-20180516-165643.jpg Description: Sign near bridge







Inspection Date: May 16, 2018 Watercourse Name: Atim Creek

GPS Co-ordinates:

UTM: 12 | **Easting:** 305,775 | **Northing:** 5,940,065

Stream Classification: Fluvial (Permanent - Small)
Bankfull Width: 4m (Estimated to Nearest Metre)

Crossing Type: Culvert - Single Culvert(s) Diameter: 1) 3.5 m

Erosion at Site: No Structural Problems: None

Greater than 10% of the culvert diameter blocked by debris?: No Substrate in Culvert?: unknown Substrate Type: unknown

For what length of culvert?: unknown What proportion has backwater?: 100%

Culvert Slope: level and uniform

Outlet Gap: none Embedded?: no

Pool Depth: none Scour pool apparent?: No

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: outlet of WC_0750, heard a lot of birds, stream diverges into multiple channels with riparian

areas.





Photo No.: Photos-20180516-161844.jpg Description: Downstream



Photo No.: Photos-20180516-161942.jpg Description: Outlet



Photo No.: Photos-20180516-162128.jpg Description: North water



Photo No.: Photos-20180516-162307.jpg Description: Downstream culvert



Inspection Date: May 16, 2018 Watercourse Name: Atim Creek

GPS Co-ordinates:

UTM: 12 | **Easting:** 305,773 | **Northing:** 5,940,065

Stream Classification: Fluvial (Permanent - Small)
Bankfull Width: 12m (Estimated to Nearest Metre)

Crossing Type: Culvert - Single Culvert(s) Diameter: 1) 3.5 m

Erosion at Site: No

Structural Problems: None

Greater than 10% of the culvert diameter blocked by debris?: No Substrate in Culvert?: unknown Substrate Type: unknown

For what length of culvert?: unknown What proportion has backwater?: 100%

Culvert Slope: level and uniform

Outlet Gap: none Embedded?: no

Pool Depth: none Scour pool apparent?: No

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: Inlet of WC_0735





Photo No.: Photos-20180516-160823.jpg Description: Inlet



Photo No.: Photos-20180516-160906.jpg Description: Upstream





Inspection Date: May 16, 2018 Watercourse Name: Atim Creek

GPS Co-ordinates:

UTM: 12 | **Easting**: 305,698 | **Northing**: 5,940,000

Stream Classification: Fluvial (Permanent - Small)
Bankfull Width: 4m (Estimated to Nearest Metre)

Crossing Type: Culvert - Single Culvert(s) Diameter: 1) 3.5 m

Erosion at Site: No

Structural Problems: None

Greater than 10% of the culvert diameter blocked by debris?: No Substrate in Culvert?: unknown Substrate Type: unknown

For what length of culvert?: unknown What proportion has backwater?: 100%

Culvert Slope: level and uniform

Outlet Gap: none Embedded?: no

Pool Depth: none Scour pool apparent?: No

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: Multiple culverts in area. This culvert meets another culvert. Great blue

heron spotted





Photo No.: Photos-20180516-160245.jpg Description: Upstream





Photo No.: Photos-20180516-160353.jpg Description: Inlet



Photo No.: Photos-20180516-160514.jpg Description: Downstream



Photo No.: Photos-20180516-160534.jpg Description: Outlet



Inspection Date: May 09, 2018 Watercourse Name: Sturgeon River

GPS Co-ordinates:

UTM: 11 | **Easting:** 641,505 | **Northing:** 5,939,877

Stream Classification: Fluvial (Permanent - Small)
Bankfull Width: 6m (Estimated to Nearest Metre)

Crossing Type: Bridge - Permanent

Erosion at Site: No

Most Common Bridge Substructure Material: Concrete

Total Deck Length: 25 m

Deck Width (Number of Lanes): 2 Decking Material: Concrete Decking Pattern: Closed Curb Type: Concrete

Road Surface Material: Other - pavement

Abutment Type: Concrete Blocks

Abutment Functioning?: Yes - in good condition and no materials eroding from underneath

Wingwall Functioning?: No wingwalls

Armour: Riprap
Opening Blockage: 0%

Cause of blockage: Other - none Structural Problems: None Bridge Signs: Yes, sign is present

Grader markers or bridge reflectors?: Yes, sign is present

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: no wing walls, abutments are up against the land in one long block.







Photo No.: Photos-20180509-193700.jpg Description: Upstream



Photo No.: Photos-20180509-193713.jpg Description: Inlet



Photo No.: Photos-20180509-193747.jpg Description: Downstream



Photo No.: Photos-20180509-193804.jpg Description: Outlet



Inspection Date: May 09, 2018 **Watercourse Name:** Sturgeon River

GPS Co-ordinates:

UTM: 11 | **Easting:** 641,517 | **Northing:** 5,939,861

Stream Classification: Fluvial (Permanent - Small)
Bankfull Width: 10m (Estimated to Nearest Metre)

Crossing Type: Bridge - Permanent

Erosion at Site: No

Most Common Bridge Substructure Material: Steel

Total Deck Length: 25 m

Deck Width (Number of Lanes): 2 Decking Material: Concrete Decking Pattern: Closed Curb Type: Concrete

Road Surface Material: Other - pavement

Abutment Type: Steel Pilings

Abutment Functioning?: Yes - in good condition and no materials eroding from

underneath Wingwall Functioning?: No wingwalls present

Armour: Other - cement sandbags

Opening Blockage: 0%

Cause of blockage: Other - none Structural Problems: None Bridge Signs: Yes, sign is present

Grader markers or bridge reflectors?: Yes, sign is present

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low Comments:





Photo No.: Photos-20180509-192824.jpg Description: Upstream



Photo No.: Photos-20180509-192926.jpg Description: Inlet



Photo No.: Photos-20180509-193018.jpg Description: Downstream



Photo No.: Photos-20180509-193055.jpg Description: Outlet



Inspection Date: May 14, 2018 Watercourse Name: Kilini Creek

GPS Co-ordinates:

UTM: 11 | **Easting:** 683,491 | **Northing:** 5,939,269

Stream Classification: Fluvial (Permanent - Small)
Banful Width: 8m (Estimated to Nearest Metre)

Crossing Type: Culvert - Single Culvert(s) Diameter: 1) 2.2 m

Erosion at Site: Yes Erosion Location (Inlet or Outlet): inlet

Erosion Source: slumping

Erosion Extent: low Total Erosion Area: 1m²

Structural Problems: Yes, damaged by rust

Greater than 10% of the culvert diameter blocked by debris?: No Substrate in Culvert?: Unknown Substrate Type: unknown

For what length of culvert?: unknown What proportion has backwater?: 75% Culvert Slope: Level and Uniform

Outlet Gap: none Embeded?: no

Pool Depth: 0.4 m Scour pool apparent?: No

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: inlet of WC_0790, wetland area. rr 23 just redone. old silt fences around culvert. Low flow.





Photo No.: Photos-20180514-153206.jpg Description: Upstream



Photo No.: Photos-20180514-153253.jpg Description: Inlet





Culvert(s) Diameter: 3m

Inspection Date: May 15, 2018 Watercourse Name: Atim Creek

GPS Co-ordinates:

UTM: 12 | **Easting:** 303,412 | **Northing:** 5,936,153

Stream Classification: Fluvial (Permanent - Small)
Bankfull Width: 3m (Estimated to Nearest Metre)
Crossing Type: Other - cement culvert but no metal

Erosion at Site: No Structural Problems: None

Greater than 10% of the culvert diameter blocked by debris?: No Substrate in Culvert?: Yes Substrate Type: Rocks

For what length of culvert?: length of culvert What proportion has backwater?: 50%

Culvert Slope: level and uniform

Outlet Gap: none Embedded?: Yes

Pool Depth: none Scour pool apparent?: no

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: Rocks, of various sizes, visible throughout culvert channel. Culvert seems large for the size of the stream.





Photo No.: Photos-20180515-185122.jpg Description: Upstream



Photo No.: Photos-20180515-185140.jpg Description: Inlet



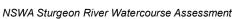
Photo No.: Photos-20180515-185331.jpg Description: Downstream



Photo No.: Photos-20180515-185357.jpg Description: Downstream



Photo No.: Photos-20180515-185433.jpg Description: Outlet







Inspection Date: May 09, 2018 **Watercourse Name:** Sturgeon River

GPS Co-ordinates:

UTM: 11 | **Easting:** 636,705 | **Northing:** 5,934,508

Stream Classification: Fluvial (Permanent - Small)
Bankfull Width: 1.5m (Estimated to Nearest Metre)

Crossing Type: Bridge - Permanent

Erosion at Site: No

Most Common Bridge Substructure Material: Timber

Total Deck Length: 5 m

Deck Width (Number of Lanes): 1

Decking Material: Wood Decking Pattern: Open

Curb Type: None - There is no curb, or the curb pattern has openings

Road Surface Material: Gravel Abutment Type: Log Pilings

Abutment Functioning?: Yes - in good condition and no materials eroding from underneath **Wingwall Functioning?:** Yes - in good condition but has materials eroding from the side

Armour: Riprap

Opening Blockage: 0%

Cause of blockage: Other - none Structural Problems: None

Bridge Signs: No, sign is not present

Grader markers or bridge reflectors?: Yes, sign is present

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: NW wing wall has vegetation coming around it, looks stable. Lots of downed barb

wire.







Photo No.: Photos-20180509-175223.jpg Description: Upstream



Photo No.: Photos-20180509-175251.jpg Description: Inlet



Photo No.: Photos-20180509-175321.jpg Description: Deck



Photo No.: Photos-20180509-175346.jpg Description: Downstream



Photo No.: Photos-20180509-175442.jpg Description: Outlet





Culvert(s) Diameter: 1) 1.9 m

Inspection Date: May 15, 2018 Watercourse Name: Atim Creek

GPS Co-ordinates:

UTM: 12 | **Easting:** 303,522 | **Northing:** 5,935,686

Stream Classification: Non-Fluvial Bankfull Width: 1m (Measured) Crossing Type: Culvert - Single

Erosion at Site: No Structural Problems: None

Greater than 10% of the culvert diameter blocked by debris?: No Substrate in Culvert?: Unknown Substrate Type: unknown

For what length of culvert?: unknown What proportion has backwater?: 75% Culvert Slope: Level and Uniform

Outlet Gap: none Embedded?: no

Pool Depth: none Scour pool apparent?: No

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low

Comments: Retaining wall on outlet. In a

neighborhood







Photo No.: Photos-20180515-182732.jpg Description: Inlet



Photo No.: Photos-20180515-182744.jpg Description: Upstream



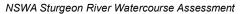
Photo No.: Photos-20180515-182857.jpg Description: Downstream



Photo No.: Photos-20180515-182932.jpg Description: Outlet



Photo No.: Photos-20180515-183116.jpg Description: Upstream again







Culvert(s) Diameter: 1) 1.5 m

Inspection Date: May 15, 2018 Watercourse Name: Atim Creek

GPS Co-ordinates:

UTM: 12 | Easting: 303,106 | Northing: 5,933,336

Stream Classification: Non-Fluvial Bankfull Width: 3m (Estimated to Nearest Metre) Crossing Type: Culvert - Single

Erosion at Site: No Structural Problems: None

Greater than 10% of the culvert diameter blocked by debris?: No Substrate in Culvert?: Unknown Substrate Type: unknown

For what length of culvert?: unknown What proportion has backwater?: 50% Culvert Slope: Level and Uniform

Outlet Gap: none Embedded?: No

Pool Depth: none Scour pool apparent?: No

Fish Passage Assessment: No Concerns Emergency Repair Required?: No

Overall Risk: Low Comments:



