



MAP BOOK

## Open Water Flood Inundation Map Library

*Athabasca Flood Hazard Study - Volume 2*

Submitted to:

**Alberta Environment and Parks**

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Submitted by:

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19117524

March 2020

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## Distribution List

5 copies: Alberta Environment and Parks

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100-Year Flood Inundation Extent

200-Year Flood Inundation Extent

350-Year Flood Inundation Extent

500-Year Flood Inundation Extent

750-Year Flood Inundation Extent

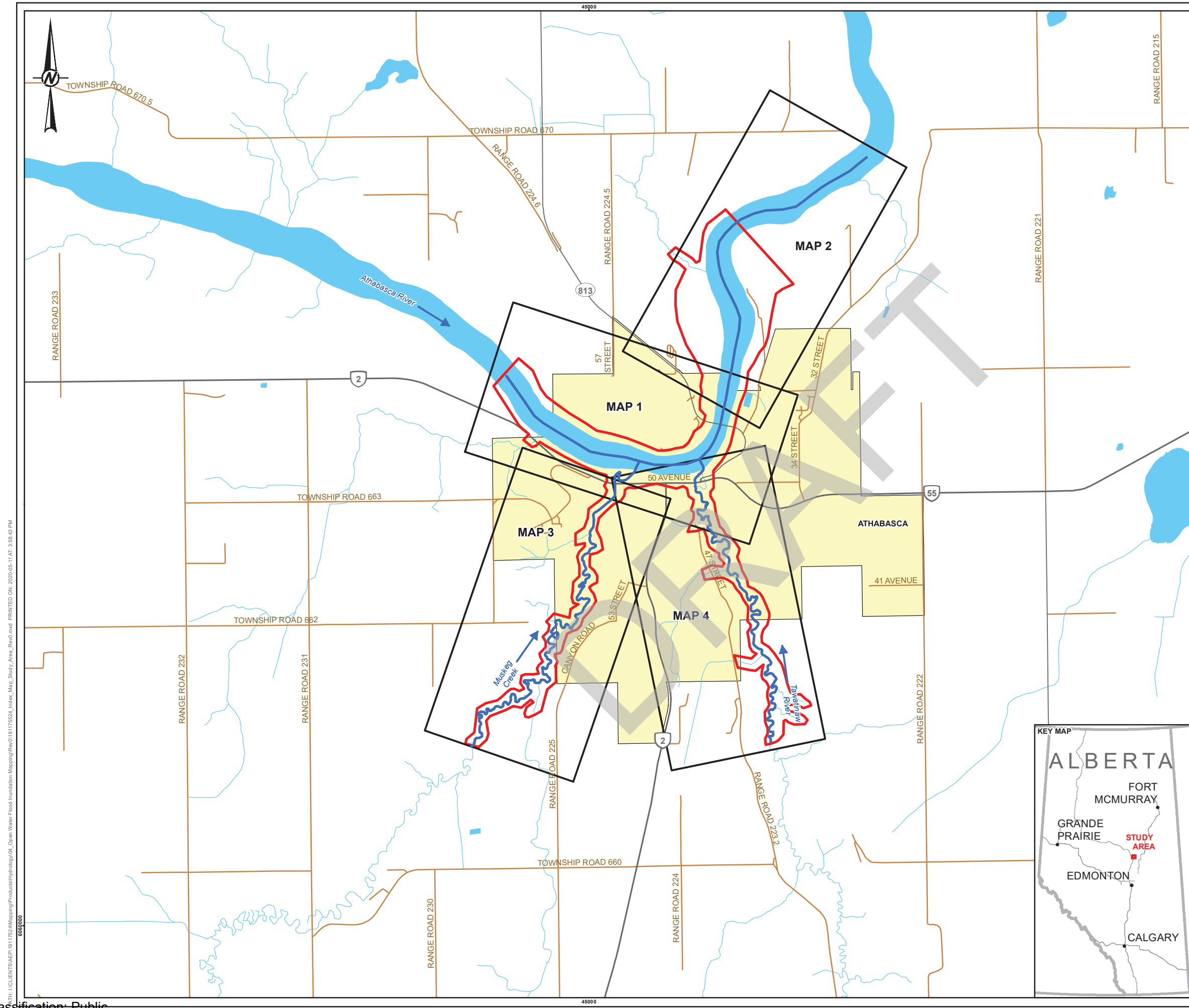
1,000-Year Flood Inundation Extent

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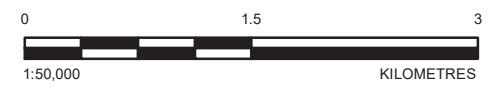
# OPEN WATER FLOOD INUNDATION INDEX MAP

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**LEGEND**

- PRIMARY HIGHWAY
- SECONDARY HIGHWAY
- LOCAL ROAD
- WATERCOURSE
- WATERBODY
- POPULATED PLACE
- SURVEY REACH
- MAPBOOK EXTENT
- FLOOD HAZARD STUDY AREA



**NOTE(S)**

- PLEASE REFER TO THE ACCOMPANYING **ATHABASCA FLOOD HAZARD STUDY REPORT** FOR IMPORTANT INFORMATION CONCERNING THESE MAPS.
- TO DETERMINE WHETHER OR NOT A PARTICULAR SITE IS SUBJECT TO FLOODING, REFERENCE SHOULD BE MADE TO THE COMPUTED FLOOD LEVELS IN CONJUNCTION WITH SITE-SPECIFIC SURVEYS WHERE DETAILED DEFINITION IS REQUIRED.
- NON-RIVERINE AND LOCAL SOURCES OF WATER HAVE NOT BEEN CONSIDERED. CHANNEL OBSTRUCTION, LOCAL STORMWATER INFLOW, GROUNDWATER SEEPAGE OR OTHER LAND DRAINAGE CAN CAUSE FLOOD LEVELS TO EXCEED THOSE INDICATED ON THE MAP. LANDS ADJACENT TO A FLOODED AREA MAY BE SUBJECT TO FLOODING FROM TRIBUTARY STREAMS NOT INDICATED ON THE MAPS.
- LINE WORK FOR BRIDGES AND FLOOD CONTROL STRUCTURES IS SHOWN ABOVE FLOOD INUNDATION AREAS, EVEN IN CASES WHERE BRIDGES OR FLOOD CONTROL STRUCTURES ARE INUNDATED.

**DEFINITIONS:**

**FLOOD INUNDATION MAPPING** - DELINEATES FLOOD INUNDATION AREAS, SHOWING THE EXTENT OF ONE OR MORE FLOOD SCENARIOS UNDER EXISTING CONDITIONS. DEPENDING ON THE PARTICULAR FLOOD SCENARIO, THE MAPPING MAY BE DIVIDED INTO MULTIPLE ZONES. FLOOD INUNDATION MAPPING IS TYPICALLY USED FOR NEAR REAL-TIME EMERGENCY RESPONSE PLANNING AND OPERATIONS.

**FLOOD INUNDATION AREA** - THE AREA INUNDATED DURING A PARTICULAR FLOOD SCENARIO UNDER EXISTING CONDITIONS. THE FLOOD INUNDATION AREA MAY BE DIVIDED INTO MULTIPLE ZONES, INCLUDING AREAS INUNDATED DUE TO POTENTIAL FLOOD CONTROL STRUCTURE FAILURE. FLOOD INUNDATION AREAS MAY CHANGE AS A RESULT OF FUTURE DEVELOPMENT OR FLOW OBSTRUCTIONS.

**FLOOD SCENARIO** - FLOW CONDITIONS THAT DESCRIBE A PARTICULAR FLOOD EVENT. FLOOD SCENARIOS TYPICALLY REPRESENT A RANGE OF FLOWS, BASED EITHER ON FLOOD FREQUENCY ANALYSIS OR SET FLOW INTERVALS. THE FLOOD SCENARIOS INCLUDED WITH THIS MAP SET INCLUDED THE 2-YEAR, 5-YEAR, 10-YEAR, 20-YEAR, 35-YEAR, 50-YEAR, 75-YEAR, 100-YEAR, 200-YEAR, 350-YEAR, 500-YEAR, 750-YEAR AND 1000-YEAR OPEN WATER FLOOD EVENTS, AND THE 50-YEAR, 100-YEAR AND 200-YEAR ICE JAM FLOOD EVENTS.

**REFERENCE(S)**

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**ALBERTA ENVIRONMENT AND PARKS**

PROJECT  
**ATHABASCA FLOOD HAZARD STUDY**

TITLE  
**OPEN WATER AND ICE JAM FLOOD INUNDATION INDEX MAP**

CONSULTANT	YYYY-MM-DD	2020-03-31
DESIGNED	NS	
PREPARED	PT	
REVIEWED	NS	
APPROVED	NS	

PROJECT NO. 19117524 CONTROL 4000 REV. 0 FIGURE 1



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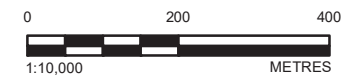
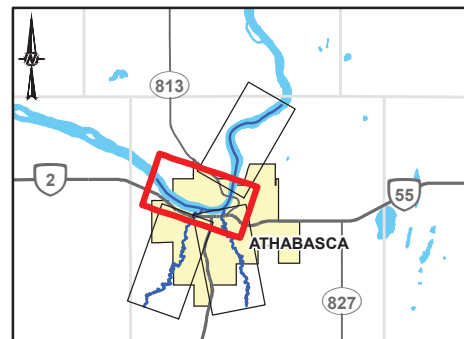
## 2-YEAR FLOOD INUNDATION EXTENT

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<b>LEGEND</b>		<b>2-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	2-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
	<b>HYDRAULIC STRUCTURES</b> CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 1,880 M <sup>3</sup> /S		
MUSKEG CREEK = 2.46 M <sup>3</sup> /S		
TAWATINAW RIVER = 5.50 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 1,886 M <sup>3</sup> /S		



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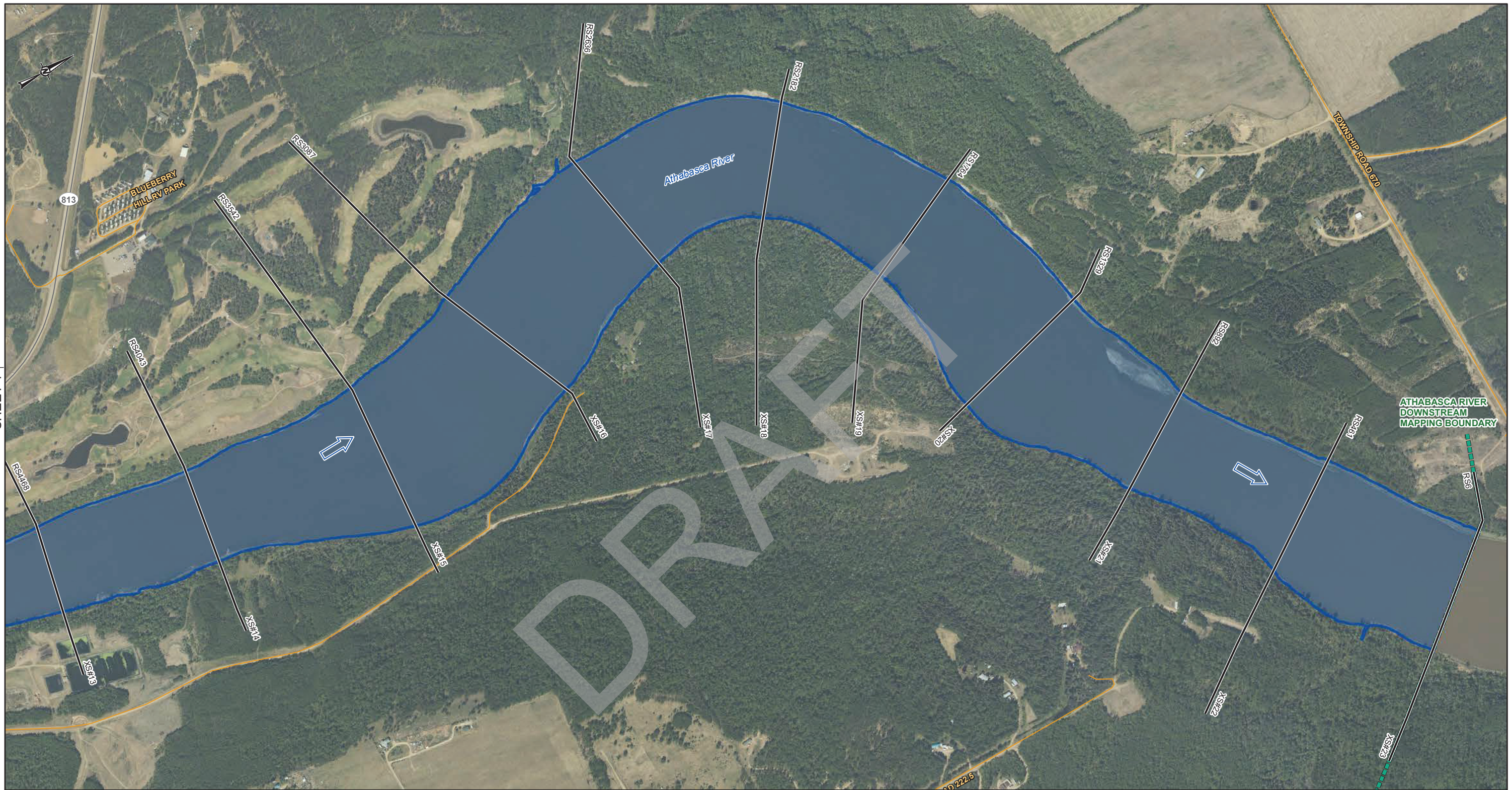
PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**2-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4



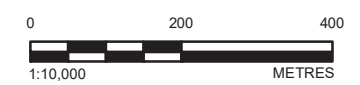
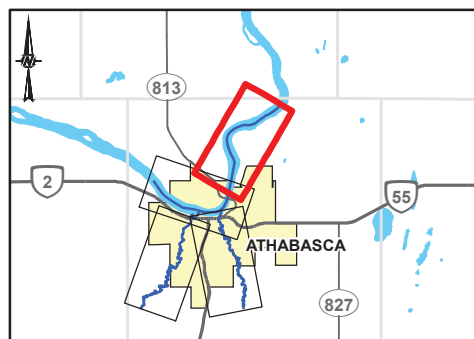
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<b>LEGEND</b>		
—	CROSS SECTION	
XS#10	CROSS SECTION NUMBER	2-YEAR FLOOD EXTENT
RS 4994	RIVER STATION (M)	2-YEAR FLOOD EXTENT
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
	<b>HYDRAULIC STRUCTURES</b> CULVERT	
	BRIDGE	
	<b>DISCHARGE</b> ATHABASCA RIVER BELOW TAWATINA RIVER = 1,886 M <sup>3</sup> /S	



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PROJECT		<b>ATHABASCA FLOOD HAZARD STUDY</b>	
TITLE		<b>2-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>	
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 2 OF 4



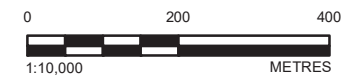
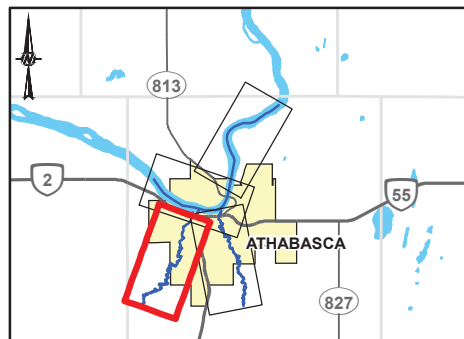


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**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ◻ CULVERT
  - ▬ BRIDGE
- 2-YEAR FLOOD INUNDATION EXTENT**
  - 2-YEAR FLOOD EXTENT
- DISCHARGE  
MUSKEG CREEK = 2.46 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**2-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4

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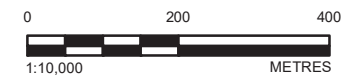
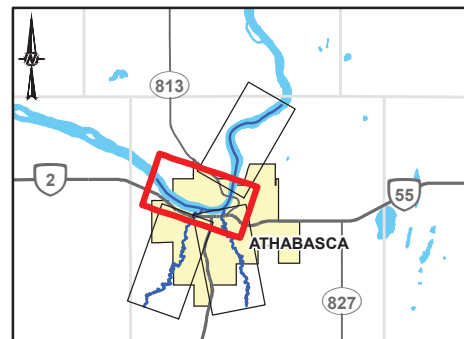
# 5-YEAR FLOOD INUNDATION EXTENT

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<b>LEGEND</b>		<b>5-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	5-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
<b>HYDRAULIC STRUCTURES</b>		
	CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 2,670 M <sup>3</sup> /S		
MUSKEG CREEK = 6.56 M <sup>3</sup> /S		
TAWATINAW RIVER = 15.1 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 2,685 M <sup>3</sup> /S		



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**5-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4





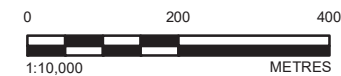
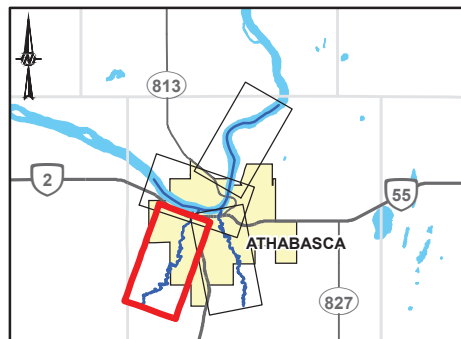




SHEET 1 ↑

**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - █ MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ◻ CULVERT
  - ▬ BRIDGE
- 5-YEAR FLOOD INUNDATION EXTENT**
  - 5-YEAR FLOOD EXTENT
- DISCHARGE  
MUSKEG CREEK = 6.56 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**5-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
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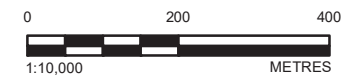
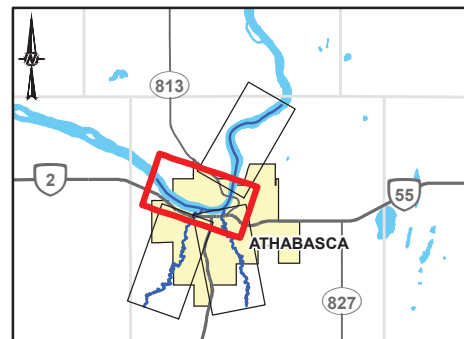
# 10-YEAR FLOOD INUNDATION EXTENT

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<b>LEGEND</b>		<b>10-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	10-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
<b>HYDRAULIC STRUCTURES</b>		
	CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 3,280 M <sup>3</sup> /S		
MUSKEG CREEK = 10.8 M <sup>3</sup> /S		
TAWATINAW RIVER = 24.5 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 3,305 M <sup>3</sup> /S		



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**10-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4





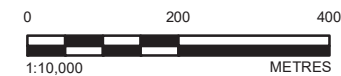
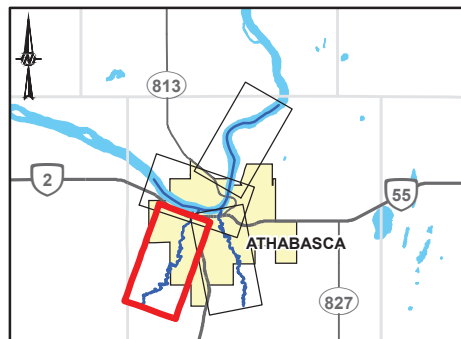




SHEET 1 ↑

**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - █ MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ⬢ CULVERT
  - ⌄ BRIDGE
- 10-YEAR FLOOD INUNDATION EXTENT**
  - █ 10-YEAR FLOOD EXTENT
- DISCHARGE  
MUSKEG CREEK = 10.8 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**10-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4

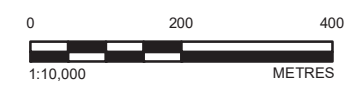
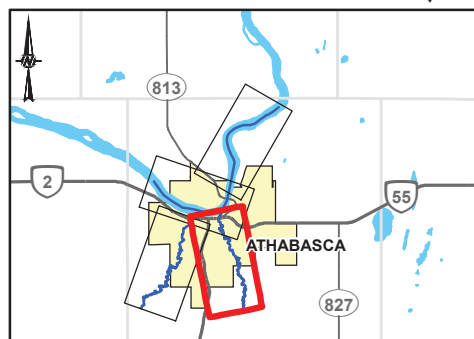




SHEET 1 ↑

↓ SHEET 3

LEGEND	
	CROSS SECTION
	CROSS SECTION NUMBER
	RIVER STATION (M)
	MAPPING BOUNDARY
	FLOW DIRECTION
	LOCAL ROAD
	PRIMARY HIGHWAY
	SECONDARY HIGHWAY
	CULVERT
	BRIDGE
	10-YEAR FLOOD INUNDATION EXTENT
	10-YEAR FLOOD EXTENT
DISCHARGE	
ATHABASCA RIVER ABOVE TAWATINA RIVER = 3,280 M <sup>3</sup>	
TAWATINAW RIVER = 24.5 M <sup>3</sup>	
ATHABASCA RIVER BELOW TAWATINA RIVER = 3,305 M <sup>3</sup> /S	



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PROJECT		ATHABASCA FLOOD HAZARD STUDY	
TITLE		10-YEAR OPEN WATER FLOOD INUNDATION EXTENT	
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 4 OF 4



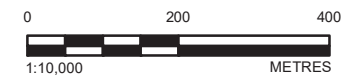
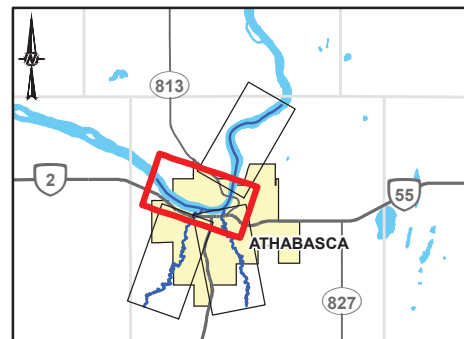
# 20-YEAR FLOOD INUNDATION EXTENT

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<b>LEGEND</b>		<b>20-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	20-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	20-YEAR FLOOD EXTENT
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
<b>HYDRAULIC STRUCTURES</b>		
	CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 3,940 M <sup>3</sup> /S		
MUSKEG CREEK = 16.3 M <sup>3</sup> /S		
TAWATINAW RIVER = 36.0 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 3,976 M <sup>3</sup> /S		



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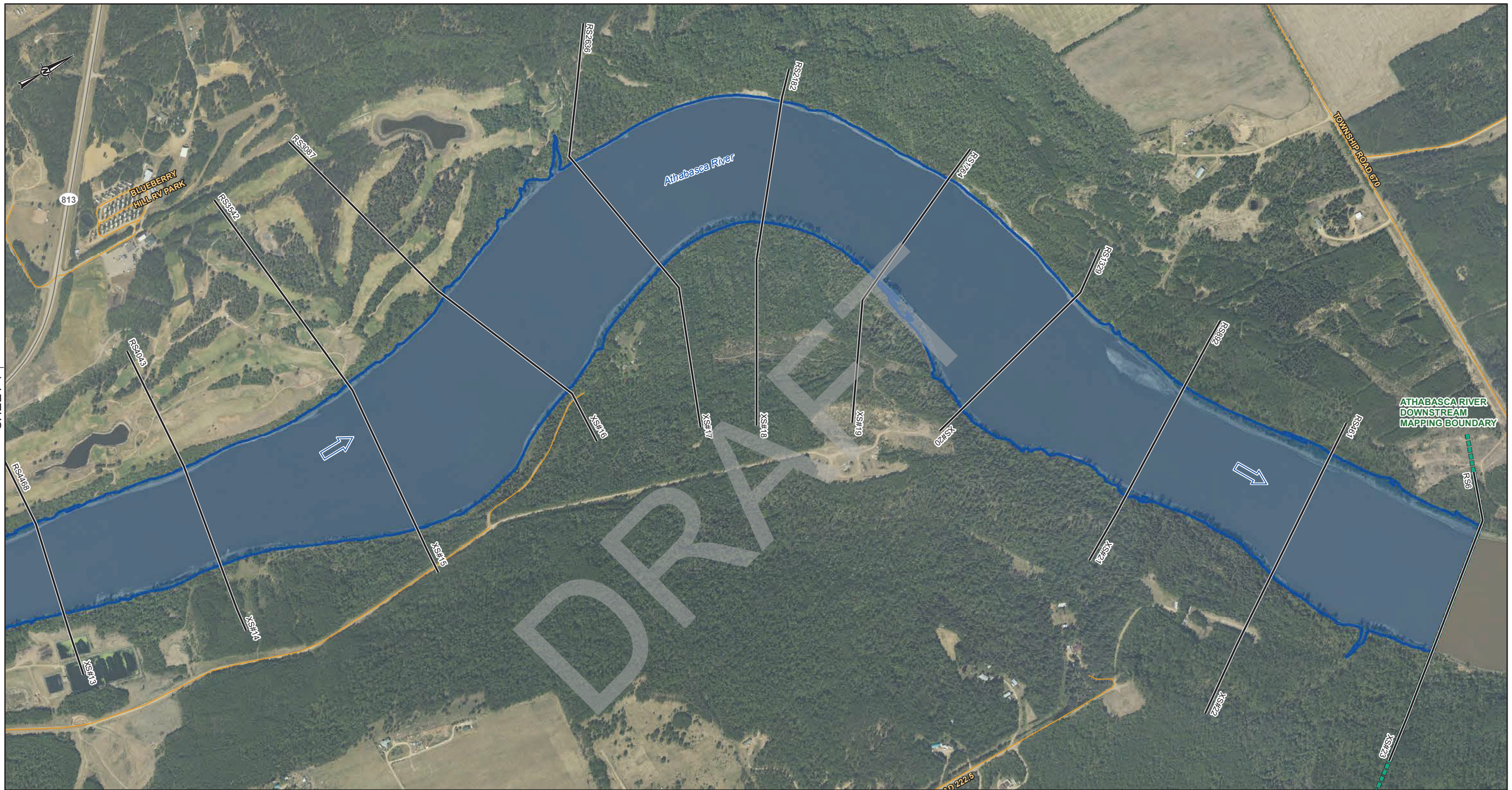
PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**20-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4



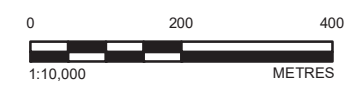
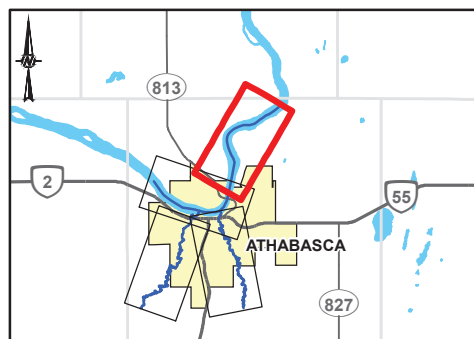
SHEET 1 ↑



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LEGEND	
	CROSS SECTION
	CULVERT
	20-YEAR FLOOD INUNDATION EXTENT
	LOCAL ROAD
	BRIDGE
	FLOW DIRECTION
	PRIMARY HIGHWAY
	SECONDARY HIGHWAY
	MAPPING BOUNDARY
	20-YEAR FLOOD EXTENT
	DISCHARGE

XS#10 CROSS SECTION NUMBER  
 RS 4994 RIVER STATION (M)  
 ATHABASCA RIVER BELOW TAWATINA RIVER = 3,976 M<sup>3</sup>/S



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REVIEWED	HZ
APPROVED	DL

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PROJECT		<b>ATHABASCA FLOOD HAZARD STUDY</b>	
TITLE		<b>20-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>	
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 2 OF 4

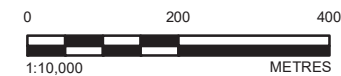
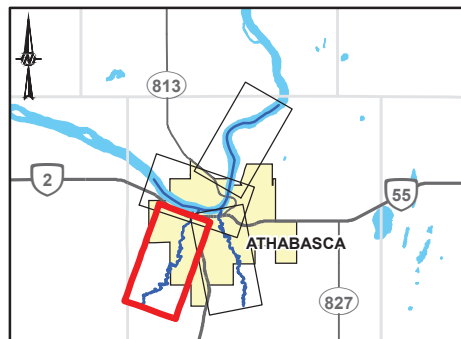




SHEET 1 ↑

**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ◻ CULVERT
  - BRIDGE
- 20-YEAR FLOOD INUNDATION EXTENT**
  - 20-YEAR FLOOD EXTENT
- DISCHARGE  
MUSKEG CREEK = 16.3 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**20-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4

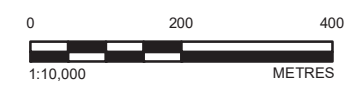
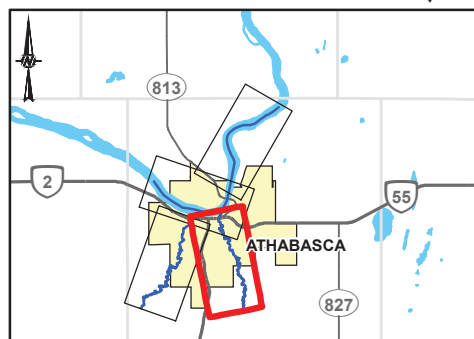




SHEET 1 ↑

SHEET 3 ↓

LEGEND		HYDRAULIC STRUCTURES		20-YEAR FLOOD INUNDATION EXTENT	
—	CROSS SECTION	◻	CULVERT	◻	20-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	—	BRIDGE		
RS 4994	RIVER STATION (M)				
—	MAPPING BOUNDARY				
→	FLOW DIRECTION				
—	LOCAL ROAD				
—	PRIMARY HIGHWAY				
—	SECONDARY HIGHWAY				
DISCHARGE					
ATHABASCA RIVER ABOVE TAWATINA RIVER = 3,940 M <sup>3</sup> /S					
TAWATINAW RIVER = 36.0 M <sup>3</sup> /S					
ATHABASCA RIVER BELOW TAWATINA RIVER = 3,976 M <sup>3</sup> /S					



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PROJECT			
ATHABASCA FLOOD HAZARD STUDY			
TITLE			
20-YEAR OPEN WATER FLOOD INUNDATION EXTENT			
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 4 OF 4



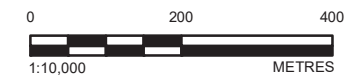
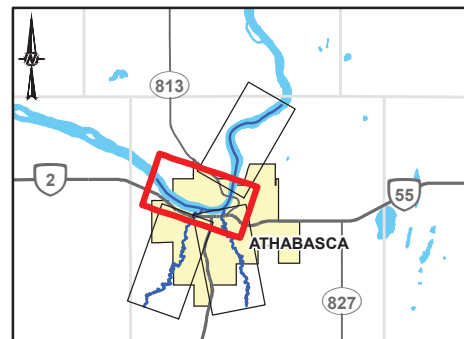
# 35-YEAR FLOOD INUNDATION EXTENT

DRAFT





<b>LEGEND</b>		<b>35-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	35-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
<b>HYDRAULIC STRUCTURES</b>		
	CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 4,530 M <sup>3</sup> /S		
MUSKEG CREEK = 22.0 M <sup>3</sup> /S		
TAWATINAW RIVER = 47.1 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 4,577 M <sup>3</sup> /S		



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**35-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

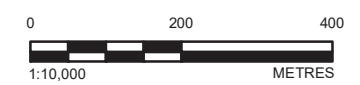
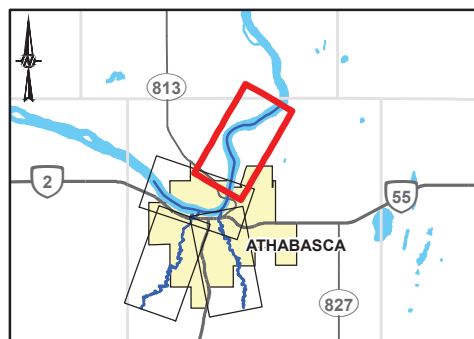
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4



SHEET 1 ↑



<b>LEGEND</b>		
— CROSS SECTION	<b>HYDRAULIC STRUCTURES</b>	<b>35-YEAR FLOOD INUNDATION EXTENT</b>
XS#10 CROSS SECTION NUMBER	◻ CULVERT	■ 35-YEAR FLOOD EXTENT
RS 4994 RIVER STATION (M)	— BRIDGE	
— MAPPING BOUNDARY		
→ FLOW DIRECTION		
— LOCAL ROAD		
— PRIMARY HIGHWAY		
— SECONDARY HIGHWAY		
		<b>DISCHARGE</b>
		ATHABASCA RIVER BELOW TAWATINA RIVER = 4,577 M <sup>3</sup> /S



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	APPROVED	DL

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PROJECT		ATHABASCA FLOOD HAZARD STUDY	
TITLE		<b>35-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>	
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 2 OF 4



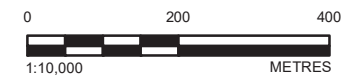
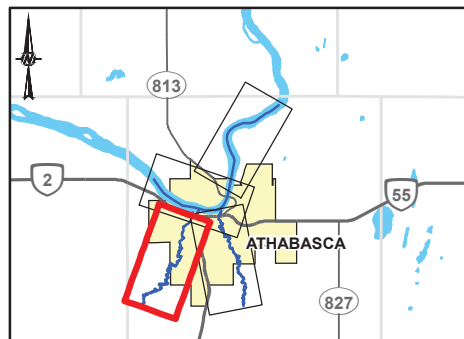


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**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - █ MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ◻ CULVERT
  - ▬ BRIDGE
- 35-YEAR FLOOD INUNDATION EXTENT**
  - ▭ 35-YEAR FLOOD EXTENT
- DISCHARGE  
MUSKEG CREEK = 22.0 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**35-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4

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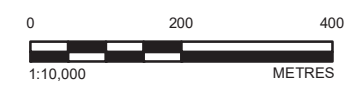
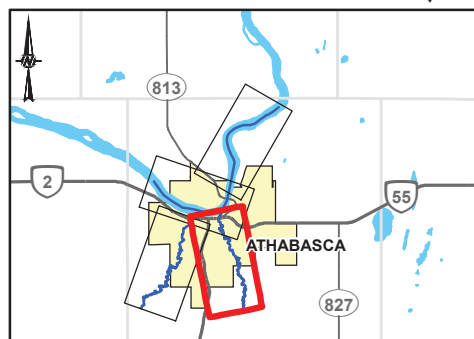




SHEET 1 ↑

↓ SHEET 3

LEGEND		HYDRAULIC STRUCTURES	35-YEAR FLOOD INUNDATION EXTENT
—	CROSS SECTION	◻	35-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	◻	CULVERT
RS 4994	RIVER STATION (M)	—	BRIDGE
—	MAPPING BOUNDARY		
→	FLOW DIRECTION		
—	LOCAL ROAD		
—	PRIMARY HIGHWAY		
—	SECONDARY HIGHWAY		
DISCHARGE			
ATHABASCA RIVER ABOVE TAWATINA RIVER = 4,530 M <sup>3</sup> /S			
TAWATINAW RIVER = 47.1 M <sup>3</sup> /S			
ATHABASCA RIVER BELOW TAWATINA RIVER = 4,577 M <sup>3</sup> /S			



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AND PARKS

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**GOLDER**

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PROJECT ATHABASCA FLOOD HAZARD STUDY	
TITLE <b>35-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>	
PROJECT NO. 19117524	CONTROL 4000
REV. 0	FIGURE SHEET 4 OF 4



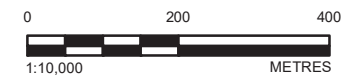
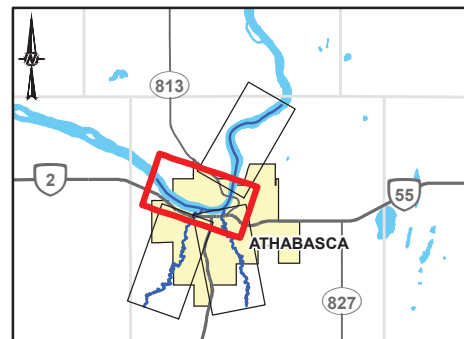
# 50-YEAR FLOOD INUNDATION EXTENT

DRAFT





<b>LEGEND</b>		<b>50-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	50-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
<b>HYDRAULIC STRUCTURES</b>		
	CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 4,920 M <sup>3</sup> /S		
MUSKEG CREEK = 26.4 M <sup>3</sup> /S		
TAWATINAW RIVER = 55.1 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 4,975 M <sup>3</sup> /S		



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**50-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

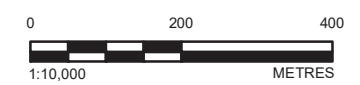
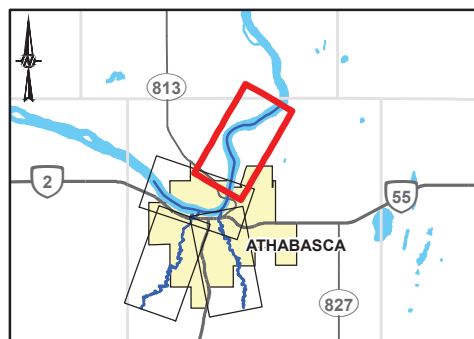
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4



SHEET 1 ↑



LEGEND	
—	CROSS SECTION
XS#10	CROSS SECTION NUMBER
RS 4994	RIVER STATION (M)
—	MAPPING BOUNDARY
→	FLOW DIRECTION
—	LOCAL ROAD
—	PRIMARY HIGHWAY
—	SECONDARY HIGHWAY
HYDRAULIC STRUCTURES	
⬡	CULVERT
⌌	BRIDGE
50-YEAR FLOOD INUNDATION EXTENT	
■	50-YEAR FLOOD EXTENT
DISCHARGE ATHABASCA RIVER BELOW TAWATINA RIVER = 4,975 M <sup>3</sup> /S	



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**50-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 2 OF 4

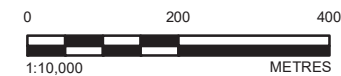
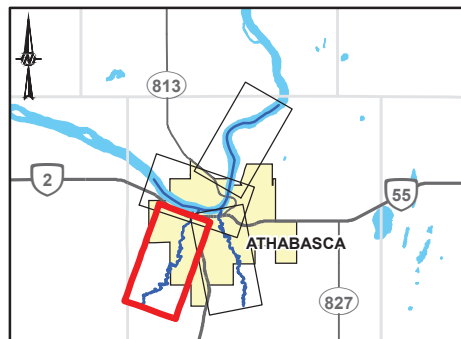




SHEET 1 ↑

**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - █ MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ◻ CULVERT
  - ▬ BRIDGE
- 50-YEAR FLOOD INUNDATION EXTENT**
  - ▭ 50-YEAR FLOOD EXTENT
- DISCHARGE**
  - MUSKEG CREEK = 26.4 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**50-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4

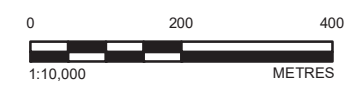
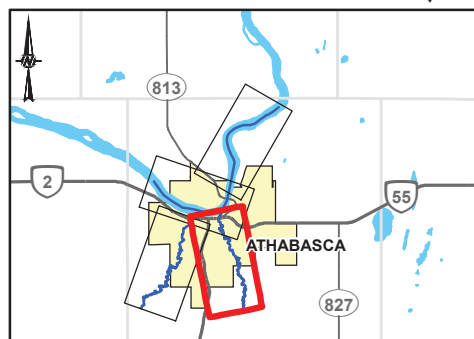




SHEET 1 ↑

↓ SHEET 3

LEGEND	
	CROSS SECTION
	CROSS SECTION NUMBER
	RIVER STATION (M)
	MAPPING BOUNDARY
	FLOW DIRECTION
	LOCAL ROAD
	PRIMARY HIGHWAY
	SECONDARY HIGHWAY
	HYDRAULIC STRUCTURES CULVERT
	BRIDGE
	50-YEAR FLOOD INUNDATION EXTENT 50-YEAR FLOOD EXTENT
DISCHARGE ATHABASCA RIVER ABOVE TAWATINA RIVER = 4,920 M <sup>3</sup> /S TAWATINAW RIVER = 55.1 M <sup>3</sup> /S ATHABASCA RIVER BELOW TAWATINA RIVER = 4,975 M <sup>3</sup> /S	



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**50-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 4 OF 4



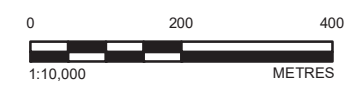
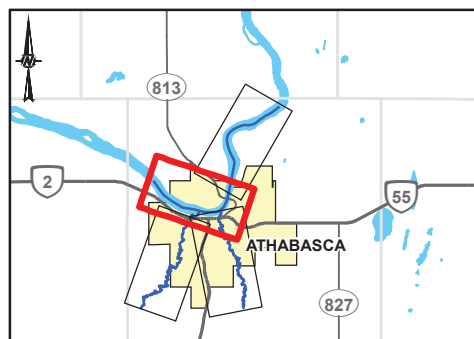
# 75-YEAR FLOOD INUNDATION EXTENT

DRAFT





LEGEND		75-YEAR FLOOD INUNDATION EXTENT
—	CROSS SECTION	75-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	75-YEAR FLOOD EXTENT
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
	CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 5,400 M <sup>3</sup> /S		
MUSKEG CREEK = 32.1 M <sup>3</sup> /S		
TAWATINAW RIVER = 65.2 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 5,465 M <sup>3</sup> /S		



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PROJECT			
ATHABASCA FLOOD HAZARD STUDY			
TITLE			
75-YEAR OPEN WATER FLOOD INUNDATION EXTENT			
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4

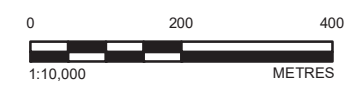
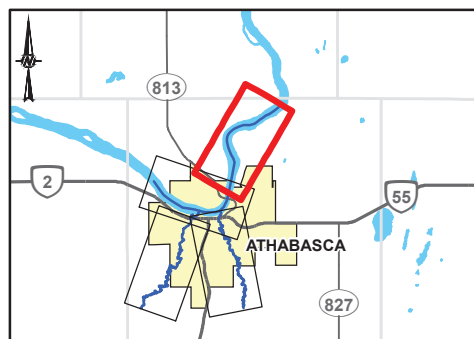


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<b>LEGEND</b>		
—	CROSS SECTION	
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
—	MAPPING BOUNDARY	
→	FLOW DIRECTION	
—	LOCAL ROAD	
—	PRIMARY HIGHWAY	
—	SECONDARY HIGHWAY	
⬡	<b>HYDRAULIC STRUCTURES</b>	
⬡	CULVERT	
⬡	BRIDGE	
⬡	<b>75-YEAR FLOOD INUNDATION EXTENT</b>	
⬡	75-YEAR FLOOD EXTENT	
	<b>DISCHARGE</b>	
	ATHABASCA RIVER BELOW TAWATINA RIVER = 5,465 M <sup>3</sup> /S	



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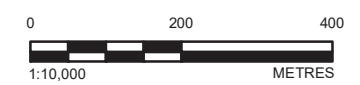
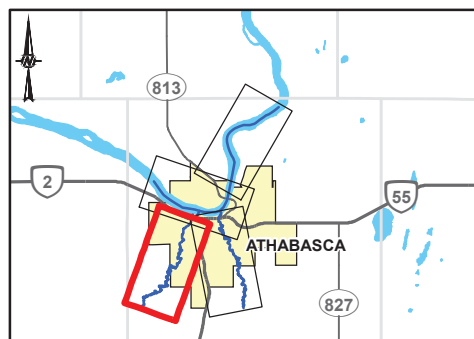
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 DATUM: NAD 83 CSRS PROJECTION: 3TM 114

PROJECT		ATHABASCA FLOOD HAZARD STUDY	
TITLE		75-YEAR OPEN WATER FLOOD INUNDATION EXTENT	
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 2 OF 4





LEGEND	
—	CROSS SECTION
XS#10	CROSS SECTION NUMBER
RS 4994	RIVER STATION (M)
—	MAPPING BOUNDARY
→	FLOW DIRECTION
—	LOCAL ROAD
—	PRIMARY HIGHWAY
—	SECONDARY HIGHWAY
HYDRAULIC STRUCTURES	
⬢	CULVERT
—	BRIDGE
75-YEAR FLOOD INUNDATION EXTENT	
■	75-YEAR FLOOD EXTENT
DISCHARGE MUSKEG CREEK = 32.1 M <sup>3</sup> /S	



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DATUM: NAD 83 CSRS PROJECTION: 3TM 114

PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**75-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4

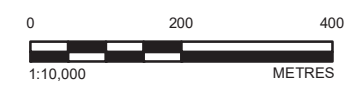
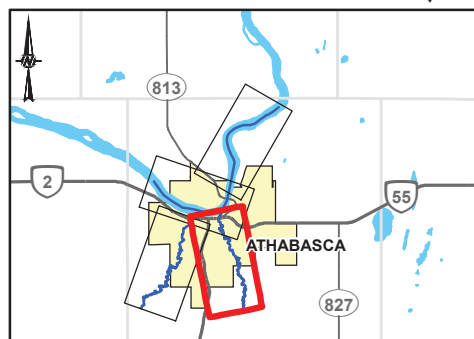




SHEET 1 ↑

↓ SHEET 3

LEGEND		HYDRAULIC STRUCTURES	75-YEAR FLOOD INUNDATION EXTENT
—	CROSS SECTION	◻	75-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	◻	CULVERT
RS 4994	RIVER STATION (M)	—	BRIDGE
—	MAPPING BOUNDARY		
→	FLOW DIRECTION		
—	LOCAL ROAD		
—	PRIMARY HIGHWAY		
—	SECONDARY HIGHWAY		
		DISCHARGE	
		ATHABASCA RIVER ABOVE TAWATINA RIVER = 5,400 M <sup>3</sup> /S	
		TAWATINAW RIVER = 65.2 M <sup>3</sup> /S	
		ATHABASCA RIVER BELOW TAWATINA RIVER = 5,465 M <sup>3</sup> /S	



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PROJECT		TITLE	
ATHABASCA FLOOD HAZARD STUDY		75-YEAR OPEN WATER FLOOD INUNDATION EXTENT	
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 4 OF 4



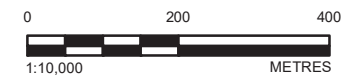
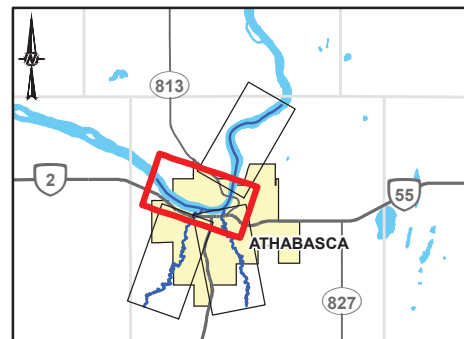
# 100-YEAR FLOOD INUNDATION EXTENT

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<b>LEGEND</b>		<b>100-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	100-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
<b>HYDRAULIC STRUCTURES</b>		
	CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 5,760 M <sup>3</sup> /S		
MUSKEG CREEK = 36.7 M <sup>3</sup> /S		
TAWATINAW RIVER = 73.1 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 5,833 M <sup>3</sup> /S		



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**100-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4

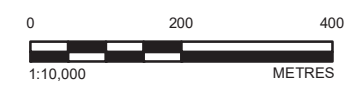
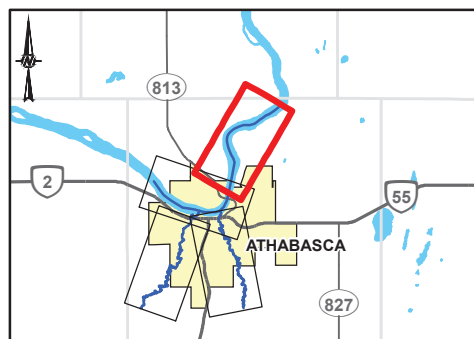


SHEET 1 ↑



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<b>LEGEND</b>		
— CROSS SECTION	<b>HYDRAULIC STRUCTURES</b>	<b>100-YEAR FLOOD INUNDATION EXTENT</b>
XS#10 CROSS SECTION NUMBER	◻ CULVERT	▭ 100-YEAR FLOOD EXTENT
RS 4994 RIVER STATION (M)	— BRIDGE	
▬ MAPPING BOUNDARY		
➔ FLOW DIRECTION		
— LOCAL ROAD		
— PRIMARY HIGHWAY		
— SECONDARY HIGHWAY		
		<b>DISCHARGE</b>
		ATHABASCA RIVER BELOW TAWATINA RIVER = 5,833 M <sup>3</sup> /S



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PROJECT		ATHABASCA FLOOD HAZARD STUDY	
TITLE		<b>100-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>	
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 2 OF 4

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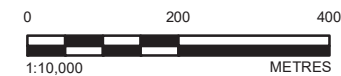
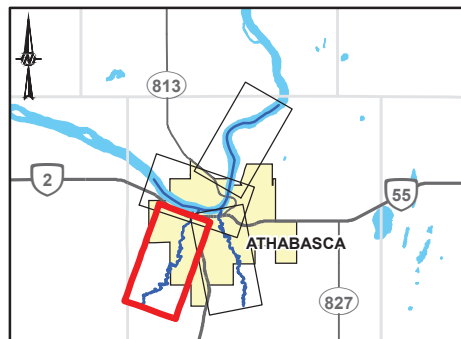




SHEET 1 ↑

**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ⬮ CULVERT
  - ⬮ BRIDGE
- 100-YEAR FLOOD INUNDATION EXTENT**
  - 100-YEAR FLOOD EXTENT
- DISCHARGE  
MUSKEG CREEK = 36.7 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**100-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4



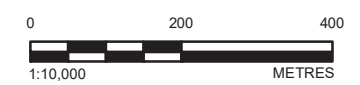
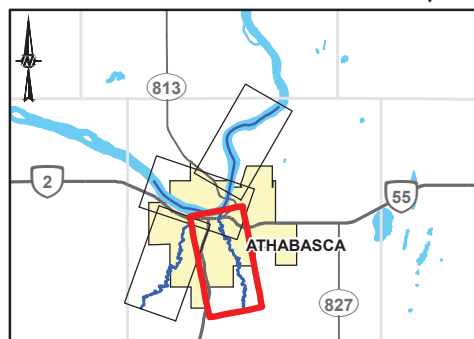


SHEET 1 ↑

↓ SHEET 3

LEGEND		HYDRAULIC STRUCTURES	100-YEAR FLOOD INUNDATION EXTENT
—	CROSS SECTION	◻	100-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	◻	100-YEAR FLOOD EXTENT
RS 4994	RIVER STATION (M)	—	100-YEAR FLOOD EXTENT
—	MAPPING BOUNDARY	—	100-YEAR FLOOD EXTENT
→	FLOW DIRECTION	—	100-YEAR FLOOD EXTENT
—	LOCAL ROAD	—	100-YEAR FLOOD EXTENT
—	PRIMARY HIGHWAY	—	100-YEAR FLOOD EXTENT
—	SECONDARY HIGHWAY	—	100-YEAR FLOOD EXTENT
		◻	CULVERT
		—	BRIDGE

**DISCHARGE**  
 ATHABASCA RIVER ABOVE TAWATINA RIVER = 5,760 M<sup>3</sup>/S  
 TAWATINAW RIVER = 73.1 M<sup>3</sup>/S  
 ATHABASCA RIVER BELOW TAWATINA RIVER = 5,833 M<sup>3</sup>/S



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 DATUM: NAD 83 CSRS PROJECTION: 3TM 114

PROJECT ATHABASCA FLOOD HAZARD STUDY	
TITLE <b>100-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>	
PROJECT NO. 19117524	CONTROL 4000
REV. 0	FIGURE SHEET 4 OF 4



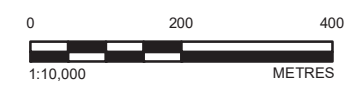
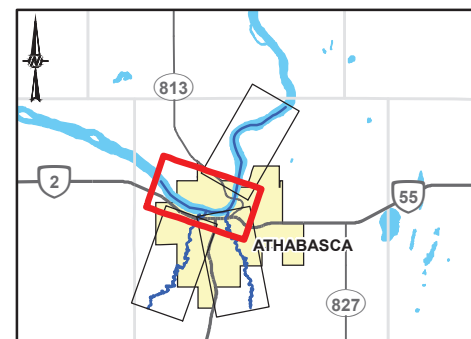
# 200-YEAR FLOOD INUNDATION EXTENT

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<b>LEGEND</b>		<b>200-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	200-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
<b>HYDRAULIC STRUCTURES</b>		
	CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 6,700 M <sup>3</sup> /S		
MUSKEG CREEK = 50.2 M <sup>3</sup> /S		
TAWATINAW RIVER = 94.3 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 6,794 M <sup>3</sup> /S		



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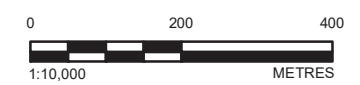
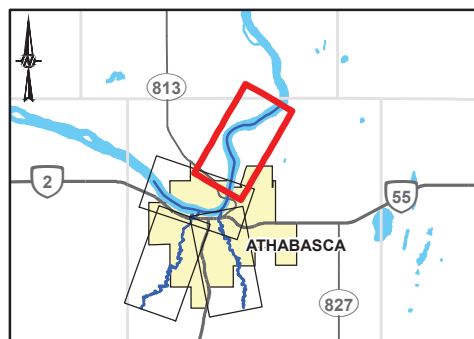
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<b>TITLE</b>		200-YEAR OPEN WATER FLOOD INUNDATION EXTENT	
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4



SHEET 1 ↑



LEGEND	
—	CROSS SECTION
XS#10	CROSS SECTION NUMBER
RS 4994	RIVER STATION (M)
—	MAPPING BOUNDARY
→	FLOW DIRECTION
—	LOCAL ROAD
—	PRIMARY HIGHWAY
—	SECONDARY HIGHWAY
HYDRAULIC STRUCTURES	
⬡	CULVERT
⌌	BRIDGE
200-YEAR FLOOD INUNDATION EXTENT	
■	200-YEAR FLOOD EXTENT
DISCHARGE ATHABASCA RIVER BELOW TAWATINA RIVER = 6,794 M <sup>3</sup> /S	



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PROJECT ATHABASCA FLOOD HAZARD STUDY	
TITLE <b>200-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>	
PROJECT NO. 19117524	CONTROL 4000
REV. 0	FIGURE SHEET 2 OF 4

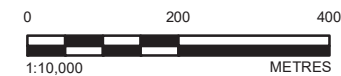
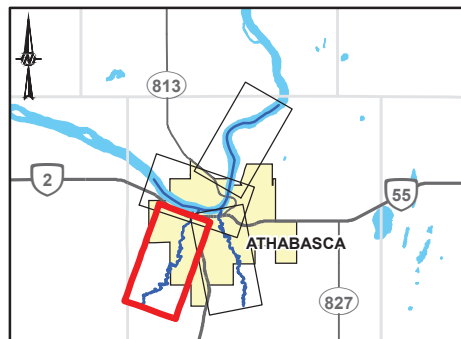




SHEET 1 ↑

**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - █ MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ⬢ CULVERT
  - ⌌ BRIDGE
- 200-YEAR FLOOD INUNDATION EXTENT**
  - ▭ 200-YEAR FLOOD EXTENT
- DISCHARGE**
  - MUSKEG CREEK = 50.2 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**200-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4







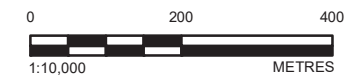
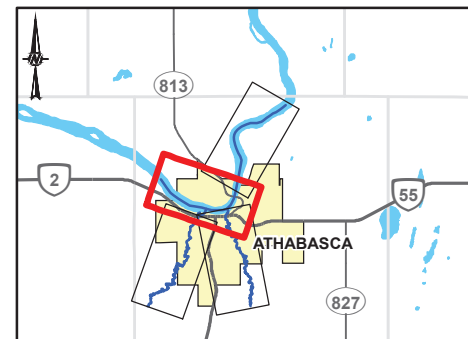
# 350-YEAR FLOOD INUNDATION EXTENT

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<b>LEGEND</b>		<b>350-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	350-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
<b>HYDRAULIC STRUCTURES</b>		
	CULVERT	
	BRIDGE	
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 7,540 M <sup>3</sup> /S		
MUSKEG CREEK = 64.0 M <sup>3</sup> /S		
TAWATINAW RIVER = 114 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 7,654 M <sup>3</sup> /S		



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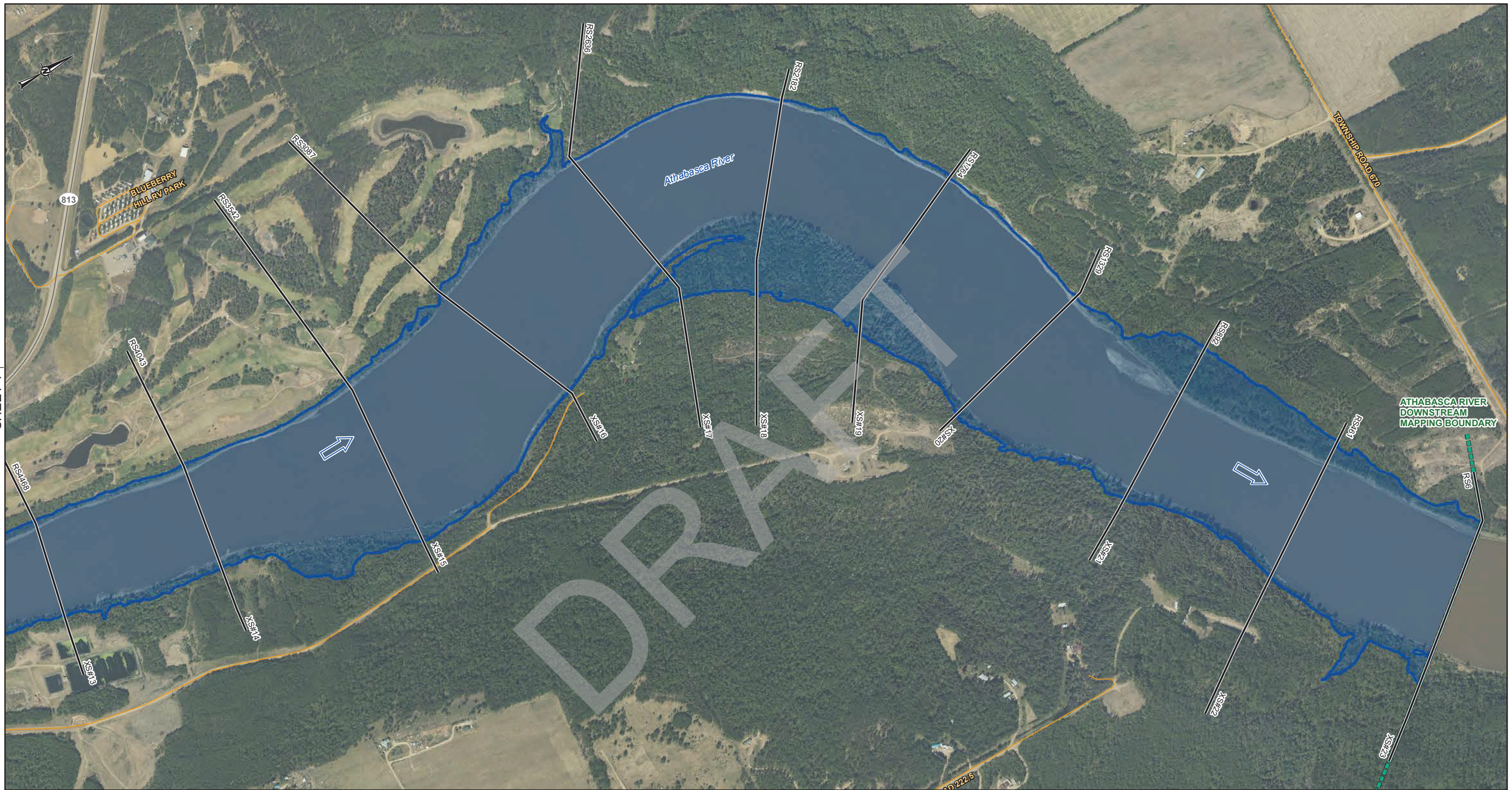
PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**350-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4

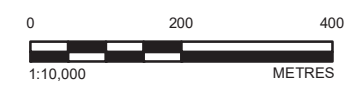
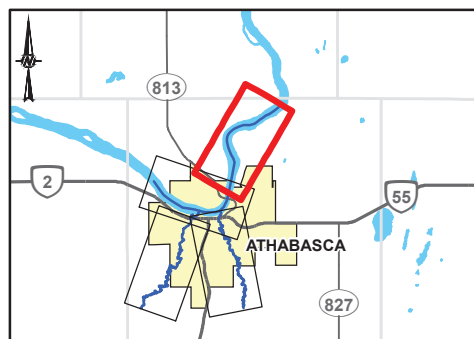


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<b>LEGEND</b>		
— CROSS SECTION	<b>HYDRAULIC STRUCTURES</b>	<b>350-YEAR FLOOD INUNDATION EXTENT</b>
XS#10 CROSS SECTION NUMBER	◻ CULVERT	■ 350-YEAR FLOOD EXTENT
RS 4994 RIVER STATION (M)	— BRIDGE	
— MAPPING BOUNDARY		<b>DISCHARGE</b>
→ FLOW DIRECTION		ATHABASCA RIVER BELOW TAWATINA RIVER = 7,654 M <sup>3</sup> /S
— LOCAL ROAD		
— PRIMARY HIGHWAY		
— SECONDARY HIGHWAY		



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DATUM: NAD 83 CSRS PROJECTION: 3TM 114

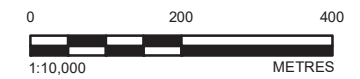
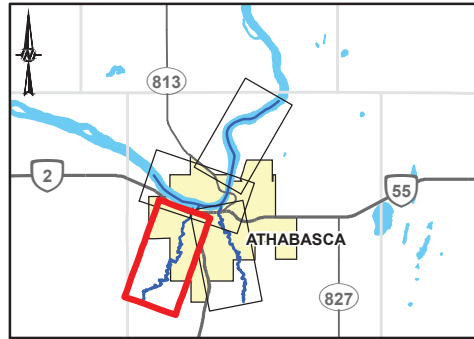
PROJECT	ATHABASCA FLOOD HAZARD STUDY		
TITLE	<b>350-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>		
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 2 OF 4

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LEGEND	
—	CROSS SECTION
XS#10	CROSS SECTION NUMBER
RS 4994	RIVER STATION (M)
—	MAPPING BOUNDARY
→	FLOW DIRECTION
—	LOCAL ROAD
—	PRIMARY HIGHWAY
—	SECONDARY HIGHWAY
⬡	HYDRAULIC STRUCTURES
⬡	CULVERT
⬡	BRIDGE
⬡	350-YEAR FLOOD INUNDATION EXTENT
⬡	350-YEAR FLOOD EXTENT
DISCHARGE	MUSKEG CREEK = 64.0 M <sup>3</sup> /S



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DATUM: NAD 83 CSRS PROJECTION: 3TM 114

PROJECT	ATHABASCA FLOOD HAZARD STUDY		
TITLE	350-YEAR OPEN WATER FLOOD INUNDATION EXTENT		
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4







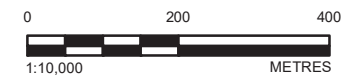
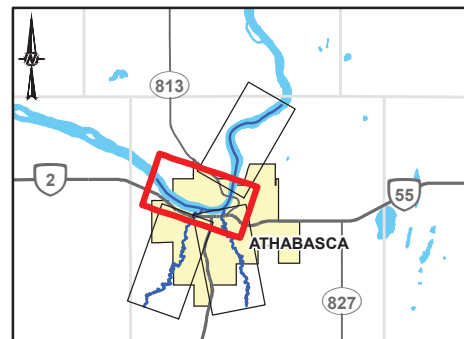
# 500-YEAR FLOOD INUNDATION EXTENT

DRAFT





LEGEND		500-YEAR FLOOD INUNDATION EXTENT
—	CROSS SECTION	500-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	
	MAPPING BOUNDARY	
	FLOW DIRECTION	
	LOCAL ROAD	
	PRIMARY HIGHWAY	
	SECONDARY HIGHWAY	
HYDRAULIC STRUCTURES		
	CULVERT	
	BRIDGE	
DISCHARGE		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 8,120 M <sup>3</sup> /S		
MUSKEG CREEK = 74.3 M <sup>3</sup> /S		
TAWATINAW RIVER = 129 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 8,249 M <sup>3</sup> /S		



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DATUM: NAD 83 CSRS PROJECTION: 3TM 114

PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**500-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B





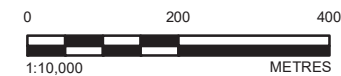
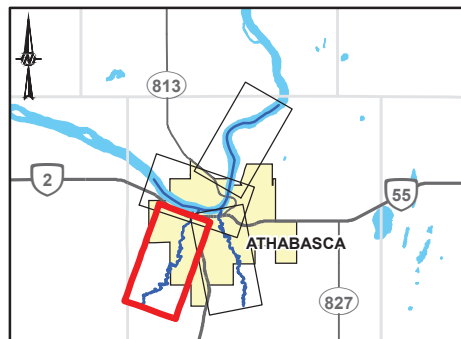




SHEET 1 ↑

**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - █ MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ◻ CULVERT
  - ▬ BRIDGE
- 500-YEAR FLOOD INUNDATION EXTENT**
  - 500-YEAR FLOOD EXTENT
- DISCHARGE  
MUSKEG CREEK = 74.3 M<sup>3</sup>/S



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DATUM: NAD 83 CSRS PROJECTION: 3TM 114

PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**500-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B 26mm







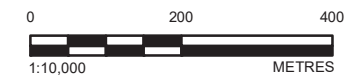
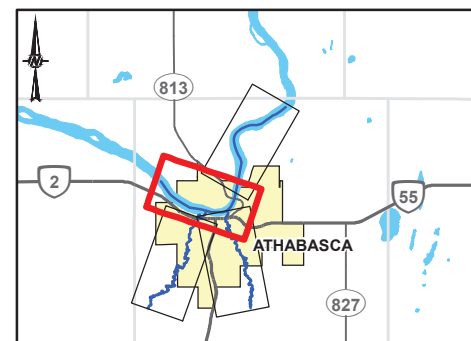
# 750-YEAR FLOOD INUNDATION EXTENT

DRAFT





<b>LEGEND</b>		<b>750-YEAR FLOOD INUNDATION EXTENT</b>
—	CROSS SECTION	750-YEAR FLOOD EXTENT
XS#10	CROSS SECTION NUMBER	
RS 4994	RIVER STATION (M)	<b>DISCHARGE</b>
	MAPPING BOUNDARY	ATHABASCA RIVER ABOVE TAWATINA RIVER = 8,820 M <sup>3</sup> /S
	FLOW DIRECTION	MUSKEG CREEK = 87.9 M <sup>3</sup> /S
	LOCAL ROAD	TAWATINAW RIVER = 146 M <sup>3</sup> /S
	PRIMARY HIGHWAY	ATHABASCA RIVER BELOW TAWATINA RIVER = 8,966 M <sup>3</sup> /S
	SECONDARY HIGHWAY	
	<b>HYDRAULIC STRUCTURES</b>	
	CULVERT	
	BRIDGE	



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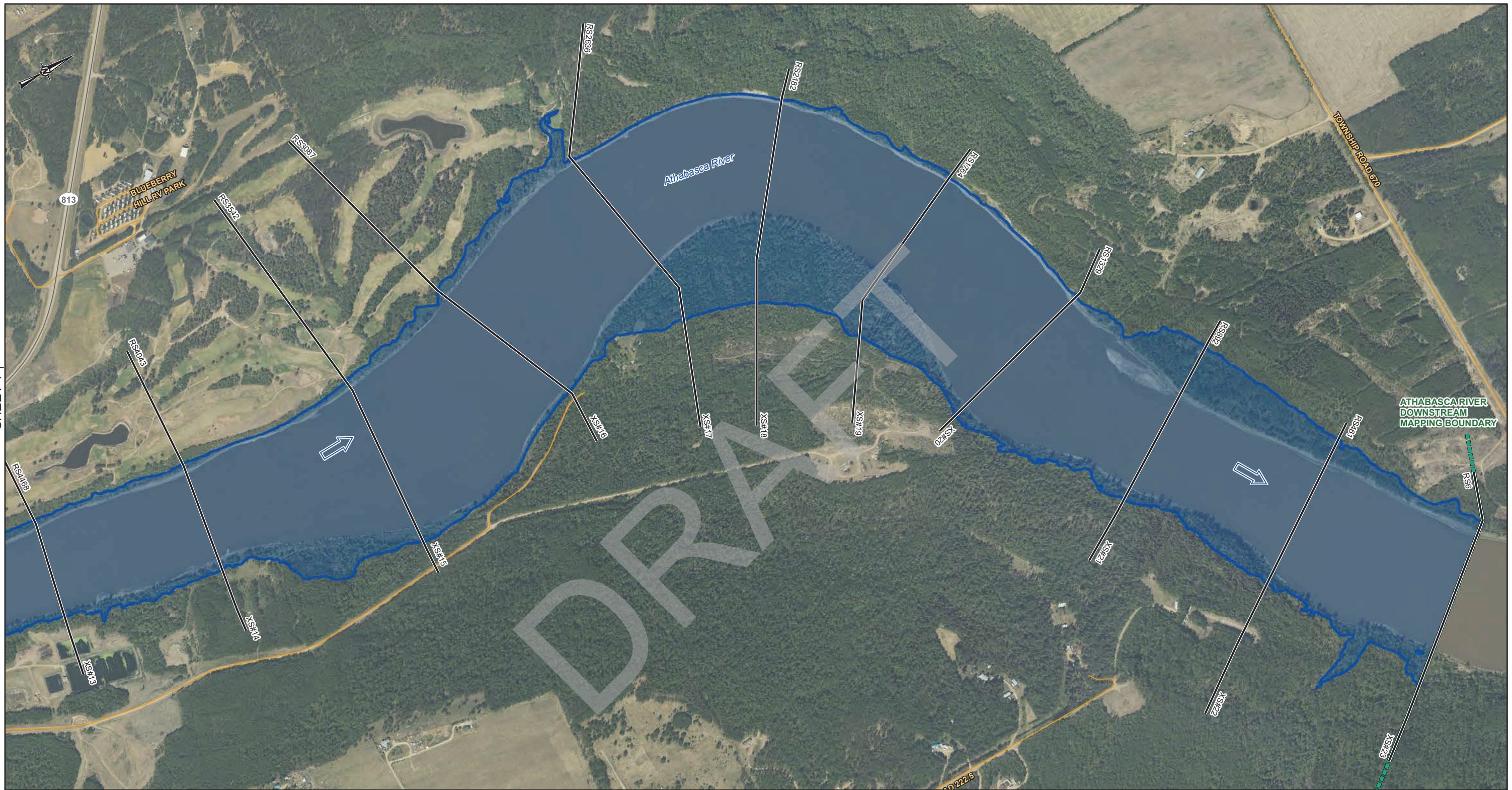
PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**750-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

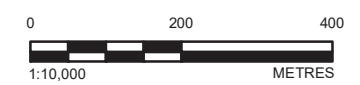
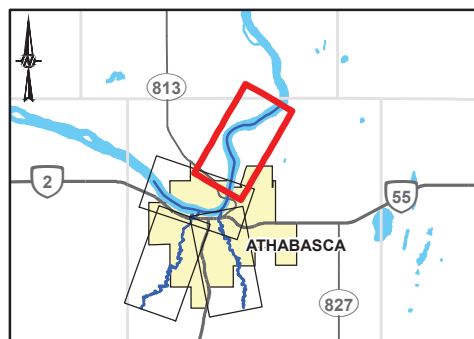
PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4



SHEET 1 ↑



LEGEND	
	CROSS SECTION
	CROSS SECTION NUMBER
	RIVER STATION (M)
	MAPPING BOUNDARY
	FLOW DIRECTION
	LOCAL ROAD
	PRIMARY HIGHWAY
	SECONDARY HIGHWAY
<b>HYDRAULIC STRUCTURES</b>	
	CULVERT
	BRIDGE
<b>750-YEAR FLOOD INUNDATION EXTENT</b>	
	750-YEAR FLOOD EXTENT
<b>DISCHARGE</b>	
ATHABASCA RIVER BELOW TAWATINA RIVER = 8,966 M <sup>3</sup> /S	



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DATUM: NAD 83 CSRS PROJECTION: 3TM 114

PROJECT ATHABASCA FLOOD HAZARD STUDY			
TITLE <b>750-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>			
PROJECT NO. 19117524	CONTROL 4000	REV. 0	FIGURE SHEET 2 OF 4

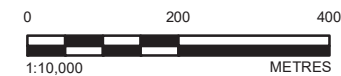
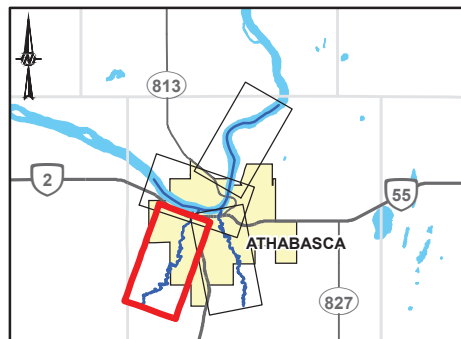




SHEET 1 ↑

**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ◻ CULVERT
  - BRIDGE
- 750-YEAR FLOOD INUNDATION EXTENT**
  - 750-YEAR FLOOD EXTENT
- DISCHARGE**
  - MUSKEG CREEK = 87.9 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**750-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A4 (8 297mm)







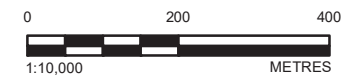
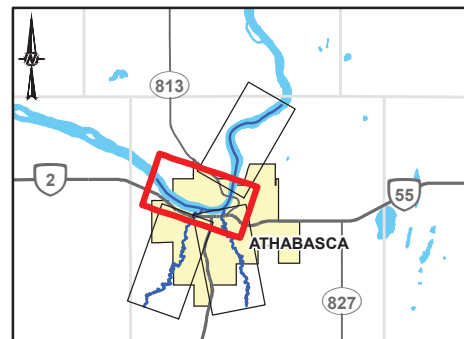
# 1,000-YEAR FLOOD INUNDATION EXTENT

DRAFT





<b>LEGEND</b>	<b>HYDRAULIC STRUCTURES</b>	<b>1000-YEAR FLOOD INUNDATION EXTENT</b>
— CROSS SECTION	◻ CULVERT	▭ 1000-YEAR FLOOD EXTENT
XS#10 CROSS SECTION NUMBER	— BRIDGE	
RS 4994 RIVER STATION (M)		
— MAPPING BOUNDARY		
➔ FLOW DIRECTION		
— LOCAL ROAD		
— PRIMARY HIGHWAY		
— SECONDARY HIGHWAY		
<b>DISCHARGE</b>		
ATHABASCA RIVER ABOVE TAWATINA RIVER = 9,340 M <sup>3</sup> /S		
MUSKEG CREEK = 98.8 M <sup>3</sup> /S		
TAWATINAW RIVER = 160 M <sup>3</sup> /S		
ATHABASCA RIVER BELOW TAWATINA RIVER = 9,500 M <sup>3</sup> /S		



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DATUM: NAD 83 CSRS PROJECTION: 3TM 114

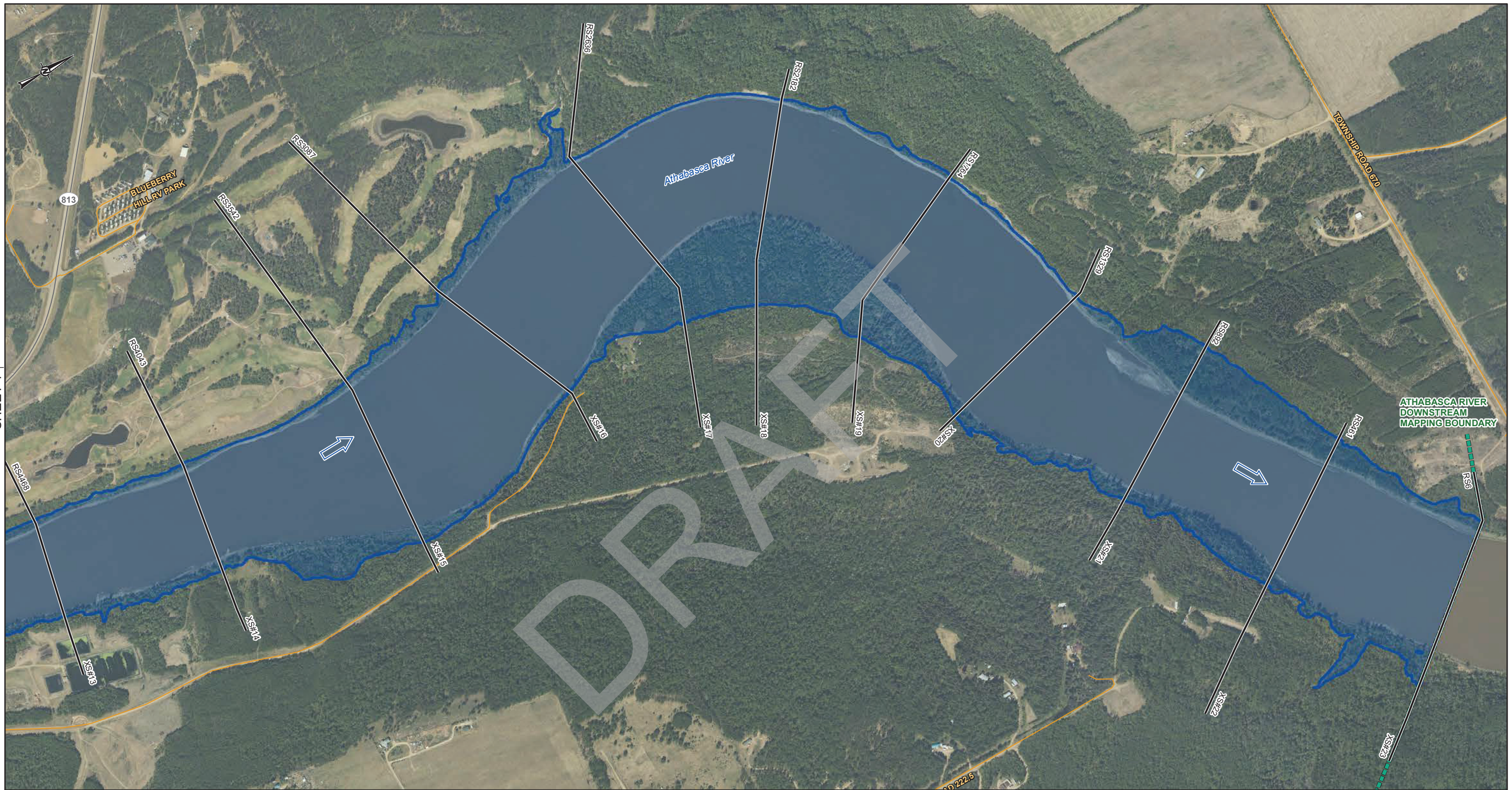
PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**1000-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 1 OF 4

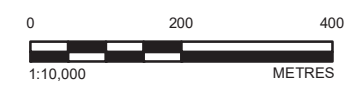
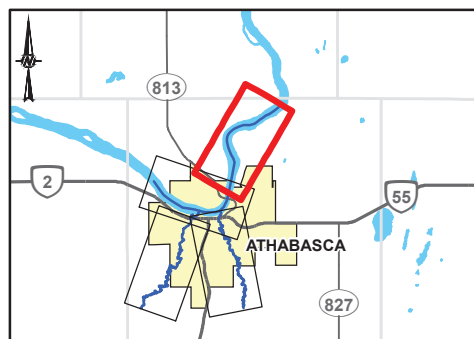


SHEET 1 ↑



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<b>LEGEND</b>		
— CROSS SECTION	<b>HYDRAULIC STRUCTURES</b>	<b>1000-YEAR FLOOD INUNDATION EXTENT</b>
XS#10 CROSS SECTION NUMBER	◻ CULVERT	▭ 1000-YEAR FLOOD EXTENT
RS 4994 RIVER STATION (M)	— BRIDGE	
— MAPPING BOUNDARY		
→ FLOW DIRECTION		
— LOCAL ROAD		
— PRIMARY HIGHWAY		
— SECONDARY HIGHWAY		
		<b>DISCHARGE</b>
		ATHABASCA RIVER BELOW TAWATINA RIVER = 9,500 M <sup>3</sup> /S



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DATUM: NAD 83 CSRS PROJECTION: 3TM 114

PROJECT ATHABASCA FLOOD HAZARD STUDY	
TITLE <b>1000-YEAR OPEN WATER FLOOD INUNDATION EXTENT</b>	
PROJECT NO. 19117524	CONTROL 4000
REV. 0	FIGURE SHEET 2 OF 4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A4 (811 x 1156 mm) TO A3 (841 x 1191 mm)

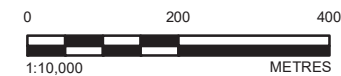
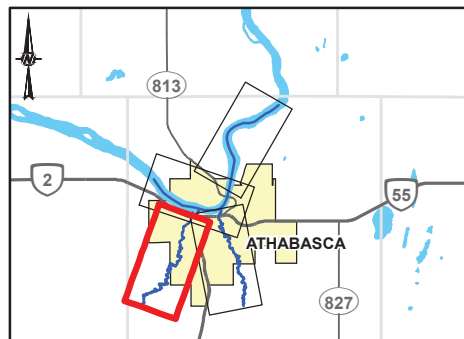




SHEET 1 ↑

**LEGEND**

- CROSS SECTION
  - XS#10 CROSS SECTION NUMBER
  - RS 4994 RIVER STATION (M)
  - MAPPING BOUNDARY
  - ➔ FLOW DIRECTION
  - LOCAL ROAD
  - PRIMARY HIGHWAY
  - SECONDARY HIGHWAY
- HYDRAULIC STRUCTURES**
  - ⏏ CULVERT
  - ⌌ BRIDGE
- 1000-YEAR FLOOD INUNDATION EXTENT**
  - 1000-YEAR FLOOD EXTENT
- DISCHARGE**
  - MUSKEG CREEK = 98.8 M<sup>3</sup>/S



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PROJECT  
ATHABASCA FLOOD HAZARD STUDY

TITLE  
**1000-YEAR OPEN WATER FLOOD INUNDATION EXTENT**

PROJECT NO.	CONTROL	REV.	FIGURE
19117524	4000	0	SHEET 3 OF 4







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