# UPPER BOW RIVER HAZARD STUDY
# OPEN WATER FLOOD HAZARD IDENTIFICATION

## FINAL REPORT



Prepared for:

Alberta Government

Alberta Environment and Parks

17 November 2022

NHC Ref. No. 3001178

nhc
northwest hydraulic consultants
water resource specialists

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Prepared for:

**Alberta Environment and Parks**
Edmonton, Alberta

Prepared by:

**Northwest Hydraulic Consultants Ltd.**
North Vancouver, BC

17 November 2022

NHC Ref No. 3001178

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# EXECUTIVE SUMMARY

Alberta Environment and Parks (AEP) retained Northwest Hydraulic Consultants Ltd. (NHC) in September 2015 to complete a river hazard study for the Bow River. The roughly 118 km long study reach extends from the Banff National Park boundary, located approximately 5 km upstream of the Town of Canmore, to Bearspaw Dam, near the City of Calgary western boundary. Within the Town of Canmore, the study area incorporates Policeman Creek, a channel roughly 6.5 km long situated on the Bow River floodplain and running parallel to the Bow River main channel. In addition, the study area includes three tributaries: the lower 1 km long reach of Exshaw Creek at the Hamlet of Exshaw; the lower 6 km of Bighill Creek at the Town of Cochrane; and the lower 5 km of Jumpingpound Creek at the Town of Cochrane.

The study is being conducted under the provincial Flood Hazard Identification Program (FHIP). Project stakeholders include the provincial government, local authorities, and the public.

The overall objectives of this project are to identify and assess river related hazards and enhance public safety along the Bow River and the three tributaries included in the study area. The intent is to reduce potential future flood damages and disaster assistance costs to the federal, provincial, and local governments, including First Nations. New floodplain maps will inform land use planning decisions, assist with developing flood mitigation options and facilitate emergency response planning.

The Upper Bow River Hazard Study has been structured into eight major project components. This report summarizes the work of the fourth component: Open Water Flood Hazard Identification. The open water floodway criteria maps provided with this report are the key deliverable for this project component. Open water flood hazard identification involves defining the open water flood hazard area, which is comprised of floodway and flood fringe zones. Key provincial Flood Hazard Identification Program guidelines and criteria pertaining to the flood hazard identification process are described in this report. The applicable and governing floodway determination criteria for each cross section in the study area are also documented herein.

Most developed areas and critical infrastructure along the study reaches are situated outside of the open water floodway boundaries, with the exception of the Canmore Wastewater Treatment Plant and some low-lying parklands in Canmore and Cochrane. The open water flood fringe includes all other directly inundated areas under design flood conditions. Notable areas of protected flood fringe include portions of the Canmore Golf Club, Riverside Park, Rundle Crescent and residential areas south and west of Centennial Park in Canmore. Other notable areas of flood fringe include portions of the Trans Canada Highway and Highway 1A at Lac des Arcs, an industrial area at Exshaw between Diamond Drive and the Bow River, a portion of the Bow Meadows community in Cochrane, Riverfront Park near the mouth of Bighill Creek, a portion of the Girl Guide Camp Jubilee in Cochrane, and other low-lying areas adjacent to the Bow River and tributary channels within the study area.

# CREDITS AND ACKNOWLEDGEMENTS

Northwest Hydraulic Consultants Ltd. (NHC) would like to express appreciation to Alberta Environment and Parks (AEP) for initiating this project, making available extensive background information and providing advice and support throughout the survey, modelling, and mapping work. Key AEP representatives were Jane Eaket, P.Eng. (Project Manager) and Peter Onyshko, P.Eng. (Alternate Project Manager).

The following NHC personnel were part of the study team and participated in the open water flood hazard identification component of the study. Monica Mannerström, P.Eng. (Project Manager) ensured the overall direction of the project. Vanessa O'Connor, P.Eng. (Hydraulic Modeller) and Sarah North, GISP (GIS Analyst) were responsible for completing the open water flood hazard identification. Modelling assistance was provided by Vanessa Bennett, E.I.T. and mapping assistance was provided by Makamum Mahmood, P. Eng. Robyn Andrishak, P.Eng. provided senior technical input and guidance.

This report was authored by Robyn Andrishak and Sarah North. Dan Healy reviewed the report.

# TABLE OF CONTENTS

## LIST OF TABLES



## LIST OF FIGURES



## LIST OF MAPS AND DRAWINGS

# 1 INTRODUCTION

## 1.1 Project Background

Alberta Environment and Parks (AEP) retained Northwest Hydraulic Consultants Ltd. (NHC) in September 2015 to complete a river hazard study for the Bow River, along a reach extending from the Banff National Park boundary at the upstream end to Bearspaw Dam at the downstream end. The study is being conducted under the provincial Flood Hazard Identification Program (FHIP).

The Bow River has been exposed to severe flooding in the past, with three extreme events occurring from the late 1800s to early 1900s, two around 1930, and, more recently, in 2013.

For the Bow River reach within the current study limits, provincial flood hazard mapping was previously prepared for Cochrane (Alberta Environment, 1990), Canmore (W-E-R Agra, 1993), and Municipal District (M.D.) of Bighorn (Acres, 1996). The Cochrane study was completed by Alberta Environment in 1986 with an addendum issued in 1990 (Alberta Environment, 1986; Alberta Environment, 1990). The study reach covered 21 km of the Bow River (from Bearspaw Dam to upstream of the Town of Cochrane boundary) and the lower 4.5 to 5 km reaches of Jumpingpound and Bighill Creeks (two tributaries discharging to the Bow River within the Town of Cochrane limits). The M.D. of Bighorn study, completed by Acres International Ltd., includes a 15 km reach of the Bow River from the west boundary of Bow Valley Provincial Park to Dead Man's Flats and includes the lower one kilometre reach of Exshaw Creek. The Canmore study completed by W-E-R Agra Ltd. covered a 20 km reach of Bow River from Dead Man's Flats, through the Town of Canmore (including Policeman Creek), to the Banff National Park boundary.

AEP identified a need to update and expand the coverage of this mapping following the 2013 floods. Stakeholders of the present project are the Government of Alberta, the Town of Canmore, the M.D. of Bighorn, Stoney Nakoda First Nation, Rocky View County, the Town of Cochrane, and the public.

## 1.2 Project Objectives

The overall objectives of this project are to identify and assess river related hazards and enhance public safety along the Bow River and three tributaries included in the study area. The intent is to reduce potential future flood damages and disaster assistance costs to the federal, provincial, and local governments, including First Nations. New floodplain maps will inform land use planning decisions, assist with developing flood mitigation options and facilitate emergency response planning.

Specific study components, as outlined in the AEP Upper Bow River Hazard Study Terms of Reference, are:

- survey and base data collection;
- hydraulic model development, calibration and validation;
- open water flood inundation map production;

- open water flood hazard identification;
- ice jam assessment and associated flood hazard identification;
- governing flood hazard map production;
- flood risk assessment and inventory; and
- channel stability investigation.

The results of each component will be summarized in individual stand-alone reports. This report describes the results from the open water flood hazard identification phase of the project and forms the fourth of the Upper Bow River Hazard Study reports.

The main goals of this component are to (1) determine the floodway boundary for the open water design flood event and (2) prepare associated open water floodway criteria maps. The primary tasks, services, and deliverables associated with this work project phase include:

- open water design flood selection;
- floodway determination;
- open water design flood levels and design flood profile creation;
- open water floodway criteria map production;
- open water design flood water surface TIN development; and
- open water design flood water surface elevation and depth grid creation.

The open water floodway criteria maps are a key component of the overall study, as they support the governing flood hazard map production and flood risk assessment and inventory study components.

## 1.3 Study Area and Reach

From the Bow River headwaters at Bow Lake (Elev. 1940 m), just north of Lake Louise, the river flows in a south-easterly to easterly direction over nearly 600 km before draining into the South Saskatchewan River. The Upper Bow River study area comprises a roughly 118 km long reach, extending from the Banff National Park boundary, located approximately 5 km upstream of the Town of Canmore, to Bearspaw Dam, near the City of Calgary western boundary. Within the Town of Canmore, the study area incorporates Policeman Creek, an inlet controlled high water channel roughly 6.5 km long situated on the floodplain and running parallel to the Bow River main channel. In addition, the study area includes three tributaries:

- the lower 1 km long reach of Exshaw Creek at the Hamlet of Exshaw;
- the lower 6 km of Bighill Creek at the Town of Cochrane; and
- the lower 5 km of Jumpingpound Creek at the Town of Cochrane.

Flow is regulated both on the Bow River main stem and on several tributaries. In addition to the Bearspaw Dam at the downstream end, the Ghost, Horseshoe Falls, and Kananaskis dams also impound the river. The study area is shown in Figure 1.


STONEY NO. 142B

M.D. OF BIGHORN

STONEY NO. 142, 143, 144

CANMORE

ROCKY VIEW COUNTY

TSUU T'INA NATION NO. 145

CALGARY

COCHRANE

MORLEY

EXSHAW

SEEBE

Ghost River

Ghost Reservoir

Ghost Dam

Horseshoe Dam

Kananaskis Dam

Bearspaw Dam

Bighill Creek

Jumpingpound Creek

Policeman Creek

Exshaw Creek

Bow River

Lac des Arcs

STUDY LIMIT

KM 115
KM 110
KM 105
KM 100
KM 95
KM 90
KM 85
KM 80
KM 75
KM 70
KM 65
KM 60
KM 55
KM 50
KM 45
KM 40
KM 35
KM 30
KM 25
KM 20
KM 15
KM 10
KM 5
KM 0



Alberta Government

nhc northwest hydraulic consultants

Model Stream Network (with stationing)

Dam

Summer Village

Town

City

First Nation Reserve

County or Municipal District

DATA SOURCES: Basemap from Esri & NRCAN.

SCALE - 1:200,000

0 1 2 3 4 5 6 7 8 KM

N

Coordinate System: NAD 1983 3TM 114
Units: METRES

Job: 3001178

Date: 05-JUN-2018

UPPER BOW RIVER HAZARD STUDY

**STUDY AREA**

FIGURE 1

MSN, \\mainfile-van\Projects\Active\3001178 Upper Bow River Flood Hazard Study\90 GIS\3001178_MSN_Fig_T4_StudyArea1.mxd

# 2 AVAILABLE DATA

The open water floodway criteria maps were prepared using information compiled for previous components of the Upper Bow River Hazard Study. Descriptions of the data used for this flood hazard identification component are provided below.

## 2.1 Flood Frequencies

An open water hydrology assessment of the study area was completed by Golder Associates (2017). The *Bow, Elbow, Highwood, and Sheep River Hydrology Assessment* includes a summary of the flood hydrology and provides estimates of naturalized and regulated flows at key locations. For the modelling described in the Hydraulic Model Creation and Calibration Report (NHC, 2018a), natural and naturalized flood peaks were used when generating water surface profiles, in accordance with the terms of reference and FHIP Guidelines (Alberta Environment, 2011). Details on the methods and distributions used to estimate the flood frequencies are provided by Golder Associates (2017). Table 1 summarizes the final natural and naturalized flood flows relevant to the current study. The location of the hydrometric stations listed in Table 1 are shown in Figure 2.

## 2.2 DTM & Aerial Imagery

### 2.2.1 LiDAR-Derived DTM

A digital terrain model (DTM) based on airborne LiDAR data was supplied by AEP for this study. The DTM was based on data collected for the study area by Airborne Imaging Inc. on September 10th and 11th and October 5th and 11th, 2015 (Airborne Imaging, 2016). The western portion of the study area was flown primarily on September 10th and 11th while the eastern portion of the study area was flown on October 5th and 11th. A complete description of the DTM data and its comparison to the ground survey data can be found in Section 2.8 of the Survey and Base Data Collection Report (NHC, 2017), provided under separate cover.

The DTM, supplied in GeoTIF format tiles, was used to derive flood depth grids, as described in Sections 3 and 5. LiDAR sensors have limited penetration of water, so the LiDAR-derived DTM does not represent bathymetric elevations for submerged portions of river beds or other water features.

### 2.2.2 Aerial Imagery

Orthoshop Geomatics Ltd. (OGL) collected colour aerial imagery for the study area on June 3rd, 2016 and used this imagery to generate colour-balanced ortho-rectified mosaics. A complete description of the aerial imagery acquisition and data processing procedures can be found in the Survey and Base Data Collection Report (NHC, 2017), provided under separate cover.

The orthophoto imagery was used as a base image for production of the open water flood inundation map library.

**Table 1 Natural and naturalized flood frequency discharges**

| WSC Station Name or Location of Interest | Peak Instantaneous Flood Frequency Discharge Estimates ($m^3/s$) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1000-yr | 750-yr | 500-yr | 350-yr | 200-yr | 100-yr | 75-yr | 50-yr | 35-yr | 20-yr | 10-yr | 5-yr | 2-yr |
| **Probability of Exceedance in Any Given Year (%)** | **0.1** | **0.13** | **0.2** | **0.29** | **0.5** | **1.0** | **1.3** | **2.0** | **2.9** | **5.0** | **10** | **20** | **50** |
| Bow River at Canmore | 1090 | 1050 | 993 | 940 | 861 | 770 | 734 | 684 | 642 | 577 | 499 | 425 | 323 |
| Bow River above Kananaskis | 1270 | 1210 | 1130 | 1060 | 957 | 843 | 798 | 738 | 689 | 614 | 527 | 446 | 338 |
| Bow River below Kananaskis | 1770 | 1660 | 1510 | 1400 | 1230 | 1050 | 983 | 894 | 822 | 719 | 606 | 505 | 380 |
| Bow River near Seebe (05BE004) | 1760 | 1650 | 1510 | 1400 | 1240 | 1060 | 994 | 906 | 834 | 731 | 616 | 513 | 384 |
| Bow River Above Ghost Reservoir | 1860 | 1750 | 1600 | 1480 | 1310 | 1120 | 1050 | 959 | 883 | 774 | 652 | 543 | 406 |
| Bow River below Ghost Dam (Ghost Reservoir Outflow 05BE006) | 2390 | 2230 | 2030 | 1850 | 1610 | 1350 | 1260 | 1130 | 1030 | 878 | 718 | 577 | 408 |
| Bow River near Cochrane (05BH005) | 3270 | 3020 | 2690 | 2420 | 2060 | 1680 | 1540 | 1360 | 1220 | 1010 | 800 | 619 | 413 |
| Bearspaw Reservoir Inflow | 3580 | 3290 | 2920 | 2620 | 2220 | 1790 | 1630 | 1440 | 1280 | 1060 | 829 | 634 | 415 |
| Policeman Creek at Canmore | 22.4 | 20.5 | 18.2 | 16.3 | 13.6 | 10.8 | 9.80 | 8.47 | 7.41 | 5.92 | 4.32 | 2.96 | 1.40 |
| Exshaw Creek at Exshaw | 67.9 | 62.1 | 54.9 | 48.9 | 40.6 | 31.9 | 28.7 | 24.7 | 21.4 | 16.9 | 21.1 | 8.18 | 3.82 |
| Jumpingpound Creek at Cochrane | 1030 | 936 | 815 | 711 | 568 | 425 | 374 | 310 | 260 | 193 | 127 | 76.8 | 30.0 |
| Bighill Creek at Cochrane | 48.4 | 45.6 | 41.8 | 38.4 | 33.3 | 27.4 | 25 | 21.8 | 19.1 | 15.1 | 10.5 | 6.55 | 2.29 |

TransAlta/WSC 05BD004
**CASCADE POWER DIVERSION NEAR BANFF**
1942 - Present
*Power Plant (1942 - 1976) and Recorder (1977 - 2016)

TransAlta Plant Log
**HORSESHOE DAM**
Reservoir WL and Q d/s from 2012 - Present

**KANANASKIS DAM**
Reservoir WL and Q d/s not available

TransAlta/WSC 05BE005
**GHOST LAKE NEAR COCHRANE**
1970 - Present
WL only

TransAlta Plant Log
**GHOST DAM**
Reservoir WL from 1985 - Present and gauge 05BE005

WSC 05BH005
**BOW RIVER NEAR COCHRANE**
1917 - 1930 (seasonal)
* gauge location was changed when gauge reinstalled in 2006

WSC 05BH005 (real-time)
**BOW RIVER NEAR COCHRANE**
2006 - Present (seasonal)
* gauge location was changed when gauge reinstalled in 2006

WSC 05BB001 (real-time)
**BOW RIVER AT BANFF**
1909 - Present

TransAlta Plant Log
**BEARSPAW DAM**
Reservoir WL and Q d/s from 1985 - Present

WSC 05BC001 (real-time)
**SPRAY RIVER AT BANFF**
1910 - Present

WSC 05BH009
**JUMPINGPOUND CREEK NEAR THE MOUTH**
1965 - 2006
* active gauge 05BH015 is approx. 9 km upstream

WSC 05BH015
**JUMPINGPOUND AT TOWNSHIP ROAD No 252**
2006 - Present
* discontinued gauge 05BH009 is approx. 9 km downstream

WSC 05BE008
**BOW RIVER AT CANMORE**
1976 - 1985

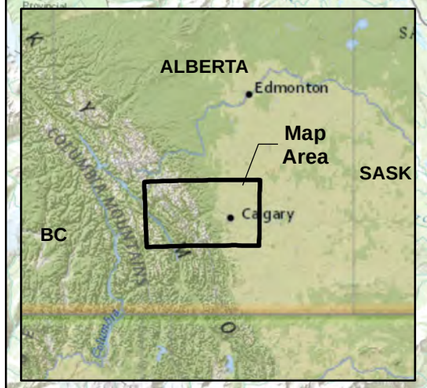
WSC 05BE006
**BOW RIVER BELOW GHOST DAM**
1933 - 1989
* discontinuous and/or seasonal coverage
* active gauge 05BE999 is approx. 8 km upstream

WSC 05BE003
**BOW RIVER NEAR KANANASKIS**
1912 - 1922

TransAlta/WSC 05BE999
**GHOST TAILRACE**
1988 - Present
* discontinued gauge 05BE006 is approx. 8 km downstream

TransAlta/WSC 05BE004
**BOW RIVER NEAR SEEBE**
1923 - Present
* some uncorrected data (1963 - 1977)

WSC 05BE001
**BOW RIVER NEAR MORLEY**
1910 - 1911




Headwaters Bow
Cascade
Ghost
Bighill
Bow River
Exshaw
Jumpingpound
Spray
Kananaskis

Hydrometric Station
- Active
- Discontinued
- Not Referenced in Study

Drainage Basin
- Within Study Area
- Outside Study Area

Study Reach
Stream
Dam

*DATA SOURCES: Basemap from Esri & NRCAN. Stream network from National Hydro Network (NHN). Watershed boundaries from NHN and NHC. Hydrometric stations from Water Survey of Canada.*

SCALE - 1:650,000
0 5 10 15 20 25 KM
N

*Coordinate System: NAD 1983 3TM 114*
*Units: METRES*

*Job: 3001178* | *Date: 05-JUN-2018*

*UPPER BOW RIVER HAZARD STUDY*

***LOCATION MAP***

*FIGURE 2*

MSN, \\mainfile-van\Projects\Active\3001178 Upper Bow River Flood Hazard Study\90 GIS\3001178_MSN_Fig_T4_LocationMap1.mxd

## 2.3 HEC-RAS Model

A calibrated HEC-RAS model was developed for the 118 km study reach of the Bow River. In addition, a 5 km reach of Jumpingpound Creek, a 6 km reach of Bighill Creek, and a 1 km reach of Exshaw Creek are included in the model. Policeman Creek is modelled as a separate branch in Canmore and connected to the Bow River. In total, 656 cross sections are specified in the model. For details see the Hydraulic Model Creation and Calibration Report (NHC, 2018a), provided under separate cover.

The calibrated hydraulic model was used to determine the design flood levels and flow velocities required for the open water floodway criteria maps.

## 2.4 Flood Control Structures

There are two flood control structures (dikes) located along the Bow River in Canmore, one along the Bow River in Cochrane, and one along Jumpingpound Creek in Cochrane (Table 2).

In Canmore, the flood control dikes were constructed by Alberta Environment in 1977 in response to the flood of 1974. The Town Dike, located on the left (northeast) side of the river, protects a large portion of downtown Canmore, extending from the Canmore Golf and Curling Club to upstream of the wastewater treatment plant. The Mine Dike protects the area on the right (southwest) side of the river and extends from the TransAlta Rundle Plant outlet to West Canmore Park near the intersection of Rummel Place and Three Sisters Drive.

In Cochrane, the Jumpingpound Creek Dike was constructed in 2015 and runs along the right (east) bank of the creek downstream of the George Fox Trail Bridge. The Riverfront Park nature playground berm is a ring dike surrounding the playground located on the north side of the Bow River downstream of the Highway 22 bridge.

**Table 2 Flood control structures**

| Name | Owner | Length (m) | Description |
|---|---|---|---|
| Riverfront Park nature playground berm | Cochrane | 220 | North side of Bow River, downstream of Hwy. 22 bridge, surrounding playground |
| Jumpingpound Creek Dike | Cochrane | 168 | East side of Jumpingpound Creek downstream of George Fox Trail Bridge |
| Canmore Mine Dike | AEP | 1109 | Southwest side of Bow River through Canmore |
| Canmore Town Dike | AEP | 5176 | Northeast side of Bow River through Canmore |

## 2.5 Other Features

The majority of major infrastructure and populated areas within the study area are found in Canmore, Cochrane, and Exshaw. Other features of note within the study area include:

- The Canadian Pacific Railway (CPR) and Highway 1 and 1A parallel the river, and in some locations, the embankments and side slope armoring encroach on the river channel. There are many culverts through road or railway embankments.
- Four dams owned and operated by TransAlta are located within the study reach. Details of the dams are provided in Table 3.
- A 950 m long river training structure located approximately 200 m southwest of the Highway 1 bridge downstream of Canmore, tied into the highway embankment on the north. The structure includes a series of riprapped groynes and at least two culverts allow conveyance of low flows through the structure. The purpose of this structure is to direct flow through the Highway 1 bridge opening.
- A berm between Exshaw Creek and the cement plant west of the creek.
- Two dikes in Lac des Arcs, built in 1994, control the Lac des Arcs water level during the winter to reduce dust from blowing lake bed sediments when water levels are low.
- The Cochrane Riverfront Park berm is located on the left (north) bank of the Bow River downstream of the Highway 22 Bridge but is not a dedicated flood control structure.

**Table 3 List of dams**

| Name | Stream | River Station (m) | Year Built |
|---|---|---|---|
| Bearspaw Dam | Bow River | 0 | 1954 |
| Ghost Dam | Bow River | 42,150 | 1929 |
| Horseshoe Dam | Bow River | 73,850 | 1911 |
| Kananaskis Dam | Bow River | 77,490 | 1913 |

# 3 FLOODWAY DETERMINATION

Flood hazard identification involves delineation of floodway and flood fringe zones for a specified design flood. A description of key terms from the FHIP Guidelines (Alberta Environment, 2011), incorporating technical changes implemented in 2021 regarding how floodways are mapped in Alberta, is provided in Sections 3.1 and 3.2 below.

## 3.1 Open Water Design Flood Selection

The design flood for open water flood hazard identification in Alberta is typically associated with a natural or naturalized (non-regulated) peak instantaneous discharge that has a one percent chance of being equaled or exceeded in any given year. This is a flood with a statistical 100-year return period, also referred to as a "one in one hundred year flood" using common terminology.

For this study, the naturalized 100-year flood was selected as the open water design flood. The corresponding peak instantaneous flood frequency discharge estimates from Table 1 were used for each flow zone within the study reach.

## 3.2 Floodway and Flood Fringe Terminology

### Flood Hazard Area

The flood hazard area is the area of land that would be flooded during the design flood. It is composed of the floodway and the flood fringe zones, which are defined below.

### Flood Hazard Mapping

Flood hazard mapping identifies the area flooded for the design flood and is typically divided into floodway and flood fringe zones. Flood hazard maps can also show additional flood hazard information, including areas of high hazard within the flood fringe and incremental areas at risk for more severe floods, like the 200-year and 500-year floods. Flood hazard mapping is typically used for long-term flood hazard area management and land-use planning.

### Floodway

When a floodway is first defined on a flood hazard map, it typically represents the area of highest flood hazard where flows are deepest, fastest, and most destructive during the 100-year design flood. The floodway generally includes the main channel of a stream and a portion of the adjacent overbank area. Previously mapped floodways do not typically become larger when a flood hazard map is updated, even if the flood hazard area gets larger or design flood levels get higher.

### Flood Fringe

The flood fringe is the portion of the flood hazard area outside of the floodway. The flood fringe typically represents areas with shallower, slower, and less destructive flooding during the 100-year design flood. However, areas with deep or fast moving water may also be identified as high hazard flood fringe within the flood fringe. Areas at risk behind flood berms may also be mapped as protected flood fringe areas.

### Design Flood Levels

Design flood levels are the computed water levels associated with the design flood.

## 3.3 Open Water Floodway Determination Criteria

In areas being mapped for the first time, the floodway typically represents the area of highest hazard where flows are deepest, fastest, and most destructive during the design flood. The following criteria, based on those described in current FHIP guidelines, are used to delineate the floodway in such cases:

- Areas in which the depth of water exceeds 1 m or the flow velocities are greater than 1 m/s shall be part of the floodway.
- Exceptions may be made for small backwater areas, ineffective flow areas, and to support creation of a hydraulically smooth floodway.
- In no case should the floodway extend into the main river channel area.
- For reaches of supercritical flow, the floodway boundary should correspond to the edge of inundation or the main channel, whichever is larger.

When a flood hazard map is updated, an existing floodway will not change in most circumstances. Exceptions to this would be: (1) a floodway could get larger if a main channel shifts outside of a previously-defined floodway or (2) a floodway could get smaller if an area of previously-defined floodway is no longer flooded by the design flood.

Areas of deeper or faster moving water outside of the floodway are identified as high hazard flood fringe. These high hazard flood fringe zones are identified in all areas, whether they are newly-mapped or have an existing floodway. The depth and velocity criteria used to define high hazard flood fringe zones will be aligned with the 1 m depth and 1 m/s velocity floodway determination criteria for newly-mapped areas.

All areas protected by dedicated flood berms that are not overtopped during the design flood are excluded from the floodway. Areas behind flood berms will still be mapped as flooded if they are overtopped, but areas at risk of flooding behind dedicated flood berms that are not overtopped will be mapped as a protected flood fringe zone.

The floodway limits and governing criteria for each cross section are tabulated in Appendix A**.** The floodway boundary intersects cross sections at the floodway limits. In some instances the floodway boundary is coincident with the inundation limits. This condition typically occurs when a floodway limit (defined by the usual criteria) is very close to the extent of inundation and there is no practical width of flood fringe – along steep valley walls or high slopes, for example.

The floodway boundary extending between cross sections was delineated based on the adjacent governing criteria and drawn such that the resulting lines followed a *hydraulically-smooth* path.

The open water floodway boundary along previously mapped reaches was determined by the previously mapped floodway and adjusted according to the aforementioned exceptions. Previously mapped reaches included: the Bow River through Canmore, Exshaw, and Cochrane; Exshaw Creek; Jumpingpound Creek; and Bighill Creek. Elsewhere, in previously unmapped areas, the floodway was typically based on the 1 m depth or 1 m/s velocity criteria, with the exception of the reservoirs along the Bow River where the inundation limits were used to define the floodway. The Bow River floodway was generally based on the 1 m depth or 1 m/s velocity criteria; the Policeman Creek floodway was typically the channel boundary or 1 m/s velocity criteria; for Exshaw Creek, the floodway was based on the inundation limit; and, the Jumpingpound and Bighill creek floodways were generally based on the inundation limit or the previous floodway criterion.

## 3.4 Open Water Design Flood Profile

The open water design flood levels presented in Appendix B were extracted from the calibrated HEC-RAS model. The Open Water Design Flood Profile (Sheets 1 to 10) is included in the Maps and Drawings section of this report.

# 4 FLOODWAY CRITERIA MAPS

Floodway criteria maps are a tool for determining floodway and flood fringe extents for the design flood, including boundaries of high hazard flood fringe and protected flood fringe areas. The Open Water Floodway Criteria Maps (Sheets 1 to 35) provided in the Maps and Drawings section of this report show:

- inundation extents of the 100-year open water design flood;
- areas where the depth of water is 1 m or greater and the corresponding 1 m depth contour;
- the portions of each cross section where the computed velocity is 1 m/s or faster;
- the proposed floodway boundary, as well as the associated floodway limits corresponding to the floodway determination criteria;
- isolated areas of non-flooded, high ground (i.e., “dry areas”) within the design flood extent;
- the location and extent of all cross sections used in the HEC-RAS model; and
- the previously-mapped floodway boundary (where it exists).

Additional information concerning the flood criteria map production is provided below.

## 4.1 Methodology

The calibrated HEC-RAS model was used to generate water surface elevations and flow velocities for the selected open water design flood. The water surface elevations and the supplied DTM were used to determine the resulting inundated areas. Additional details on the methodology used for generating the inundation mapping products are included in the Open Water Flood Inundation Mapping Report (NHC, 2018b), provided under separate cover.

### Flood Depth Determination

A flood depth grid was created while generating the design flood extents. This flood depth grid was used to identify areas meeting or exceeding the 1 m depth criterion and to generate 1 m depth contour lines. Since the LiDAR-derived DTM indicates the approximate water surface elevation for rivers, reservoirs, and other ground covered by water at the time of the LiDAR survey, depth values are not representative in these areas. As a result, areas of depth greater than or equal to 1 m and the corresponding 1 m depth contour lines could not be mapped within several areas: the reservoirs along the Bow River, the backwater inundation reach of the Ghost River, and some portions of Policeman Creek (between approximately RS 3,141 and RS 4,885). It is noted, however, that the maximum channel depth indicated by the HEC-RAS model for several of the Policeman Creek cross sections is less than 1 m. In addition, accurate depth mapping was not required within the reservoirs because the inundation limit was proposed for the floodway boundary in these areas.

### Flow Velocity Computations

Since a one-dimensional computational modelling approach was used for this study, flow velocities are only available at the cross section locations. HEC-RAS can apportion channel and overbank discharge into

a maximum of 45 sub-sections (vertical bins) at any cross section location. Discharge is apportioned based on the computed water level and a weighted flow area approach. This provides a convenient means to estimate the lateral variation in velocity across a section; however, the resolution of these data are fairly coarse, based on the maximum number of sub-sections and the typical width of cross sections in the model.

For this study, the model was configured to compute the flow and velocity distribution at cross sections such that the widths of each vertical bin in the overbank areas were as consistent as possible to each other, both among the left and right overbank areas and among the cross sections. This was done to reduce the possibility of bias associated with vertical bins of varying and inconsistent widths. Due to the variable cross section lengths between tributaries and different reaches of the Bow River, reaches were assessed separately. Also, since HEC-RAS only allows for the number of vertical bins dividing the left and right overbank areas to be specified, not their widths, the left overbank, the channel, and the right overbank were considered separately to minimize the width of the vertical bins.

The following approach was taken for each reach:

- The cross section having the longest left or right overbank area was identified as limiting and used to determine the minimum width of the vertical bins. For example, if the longest left overbank area was 840 m wide and 43 vertical bins were allocated (at least one bin must be reserved for the main channel section, and one for the right overbank area), then the target width for each vertical bin would be 20 m.
- The number of vertical bins for each cross section were then determined by taking the width of the left, channel or right overbank area and dividing that by the target width. For shorter cross sections, the total number of vertical bins would be less than 45, but the width of the vertical bins would be approximately 20 m. Some variation due to rounding to the nearest whole number of vertical bins was unavoidable.

Each cross section was assigned a given number of left, channel, and right overbank vertical bins based on this approach. Details are summarized in Table 4 and Table 5.

**Table 4 Summary of flow velocity vertical bin widths**

| | Reach | Bow River (below Ghost Dam) | Bow River (between Ghost and Kananaskis dams) | Bow River (above Kananaskis Dam) | Policeman Creek | Jumpingpound Creek | Exshaw Creek | Bighill Creek |
|---|---|---|---|---|---|---|---|---|
| Maximum Width (m) | Cross Section | 734 | 1096 | 2376 | 1440 | 389 | 1833 | 1066 |
| | Left Overbank | 601 | 776 | 1682 | 1078 | 270 | 686 | 611 |
| | Right Overbank | 615 | 542 | 1577 | 695 | 207 | 1345 | 462 |
| Target Bin Width (m) | | 14.3 | 18.0 | 39.1 | 25.1 | 6.3 | 31.3 | 14.2 |
| Left Overbank Bin Width (m) | Min | 8.1 | 10.3 | 20.6 | 24.4 | 5.3 | 16.4 | 10.0 |
| | Average | 13.6 | 17.1 | 36.7 | 24.8 | 6.1 | 28.4 | 13.1 |
| | Max | 14.3 | 18.0 | 39.1 | 25.1 | 6.3 | 31.3 | 14.2 |
| Right Overbank Bin Width (m) | Min | 11.7 | 12.7 | 21.4 | 3.0 | 5.1 | 17.5 | 10.4 |
| | Average | 13.7 | 17.1 | 36.7 | 21.7 | 6.0 | 29.6 | 13.0 |
| | Max | 14.3 | 18.0 | 39.1 | 25.1 | 6.3 | 31.3 | 14.2 |

**Table 5 Number of vertical bins used to estimate flow distributions at cross sections**

| | Reach | Bow River (below Ghost Dam) | Bow River (between Ghost and Kananaskis dams) | Bow River (above Kananaskis Dam) | Policeman Creek | Jumpingpound Creek | Exshaw Creek | Bighill Creek |
|---|---|---|---|---|---|---|---|---|
| Left Overbank Number of Bins | Min | 2 | 2 | 1 | 5 | 4 | 2 | 2 |
| | Average | 14 | 13 | 16 | 32 | 20 | 12 | 14 |
| | Max | 43 | 43 | 43 | 43 | 43 | 22 | 43 |
| Right Overbank Number of Bins | Min | 2 | 3 | 1 | 0 | 2 | 2 | 2 |
| | Average | 12 | 14 | 14 | 10 | 12 | 21 | 10 |
| | Max | 43 | 43 | 41 | 28 | 33 | 43 | 33 |
| Number of XS with > 40 Bins | Left Overbank | 2 | 6 | 4 | 2 | 2 | 0 | 6 |
| | Right Overbank | 1 | 5 | 1 | 0 | 0 | 1 | 0 |

The velocity distributions were computed by HEC-RAS by running three simulations as listed in Table 6.

**Table 6 List of HEC-RAS simulations to compute the velocity distributions**

| Simulation | Maximum Number of Bins | | |
|---|---|---|---|
| | Left Overbank | Channel | Right Overbank |
| Left Overbank | 43 | 1 | 1 |
| Channel | 1 | 43 | 1 |
| Right Overbank | 1 | 1 | 43 |

In each case, the velocity was assumed to have a constant value across each vertical bin, which is how the data are displayed graphically in HEC-RAS, rather than interpolating between the midpoints of each vertical bin. The vertical bins where computed velocities were equal or greater than 1 m/s were imported to GIS and plotted along each cross section line.

## 4.2 Areas in the Floodway

For the most part, developed areas and critical infrastructure along the Bow River study reach are situated outside of the floodway. Notable areas within the Bow River and tributary reach floodway boundaries include:

***Canmore***

- Policeman Creek and some adjacent low-lying areas of its floodplain;
- the Canmore Wastewater Treatment Plant;

***M.D. of Bighorn***

- the extent of Exshaw Creek that is expected to be inundated under design flood conditions;

***Cochrane***

- a portion of Riverfront Park near the mouth of Bighill Creek; and
- Jumpingpound and Bighill creeks and adjacent low-lying areas of their floodplains.

The floodway boundaries were also carried into the mouths of small tributaries, following the governing criteria established for adjacent cross sections on the Bow River.

More information regarding existing infrastructure and property within the floodway can be found in the Flood Risk Assessment and Inventory Report (NHC, 2022), provided under separate cover.

## 4.3 Areas in the Flood Fringe

The flood fringe includes all inundated areas outside the floodway at design flood levels. Areas behind flood control structures are mapped as flooded if they are overtopped, but areas at risk of flooding behind dedicated flood control structures that are not overtopped are identified as a protected flood

fringe zone. The only areas of protected flood fringe, where existing flood control structures are not overtopped, are found in Canmore. These include:

- portions of the Canmore Golf Club;
- Riverside Park along River Road;
- Rundle Crescent and adjacent areas behind the Canmore Mine Dike;
- residential areas south and west of Centennial Park behind the Canmore Town Dike;

Other significant areas of flood fringe include:

***Canmore***

- low-lying areas adjacent to the Bow River and Policeman Creek;

***M.D. of Bighorn***

- portions of the Trans Canada Highway and Highway 1A at Lac des Arcs;
- an industrial area at Exshaw between Diamond Drive and the Bow River;

***Cochrane***

- a portion of the Bow Meadows community near the mouth of Jumpingpound Creek;
- Riverfront Park near the mouth of Bighill Creek;
- a portion of the Girl Guide Camp Jubilee;
- other low-lying areas adjacent to Jumpingpound and Bighill Creeks.

The high hazard flood fringe includes areas outside of the floodway that are directly inundated and deeper than 1 m and/or flowing faster than 1 m/s. The additional areas determined to be high hazard flood fringe are insignificant.

More information regarding infrastructure and property within the flood fringe can be found in the Flood Risk Assessment and Inventory Report (NHC, 2022), provided under separate cover.

# 5 CONCLUSIONS

The objectives of this study are to assess river flood-related hazards along a 118 km long reach of the Bow River (including Policeman Creek), 1 km of Exshaw Creek, 6 km of Bighill Creek, and 5 km of Jumpingpound Creek. The Upper Bow River Hazard Study was divided into eight major project components. This report summarizes the work of the open water flood hazard identification component, for which the open water floodway boundary has been identified based on the current FHIP Guidelines, incorporating technical changes implemented in 2021 regarding how floodways are mapped in Alberta. The reports for the three previous work components, (1) survey and base data collection, (2) hydraulic model creation and calibration, and (3) open water flood inundation map production, should be read in conjunction with this report, as they provide additional pertinent supporting information.

The floodway criteria maps provided with this report document the open water flood hazard identification criteria and resulting floodway boundaries. Most developed areas and critical infrastructure along the study reaches are situated outside of the open water floodway boundaries. The Canmore Wastewater Treatment Plant and some low-lying parklands in Canmore and Cochrane are situated within the floodway. Notable areas of protected flood fringe include portions of the Canmore Golf Club, Riverside Park, Rundle Crescent and residential areas south and west of Centennial Park in Canmore. Other notable areas of flood fringe include portions of the Trans Canada Highway and Highway 1A at Lac des Arcs, an industrial area at Exshaw between Diamond Drive and the Bow River, a portion of the Bow Meadows community in Cochrane, Riverfront Park near the mouth of Bighill Creek, a portion of the Girl Guide Camp Jubilee in Cochrane, and other low-lying areas adjacent to the Bow River and tributary channels within the study area.

# 6 REFERENCES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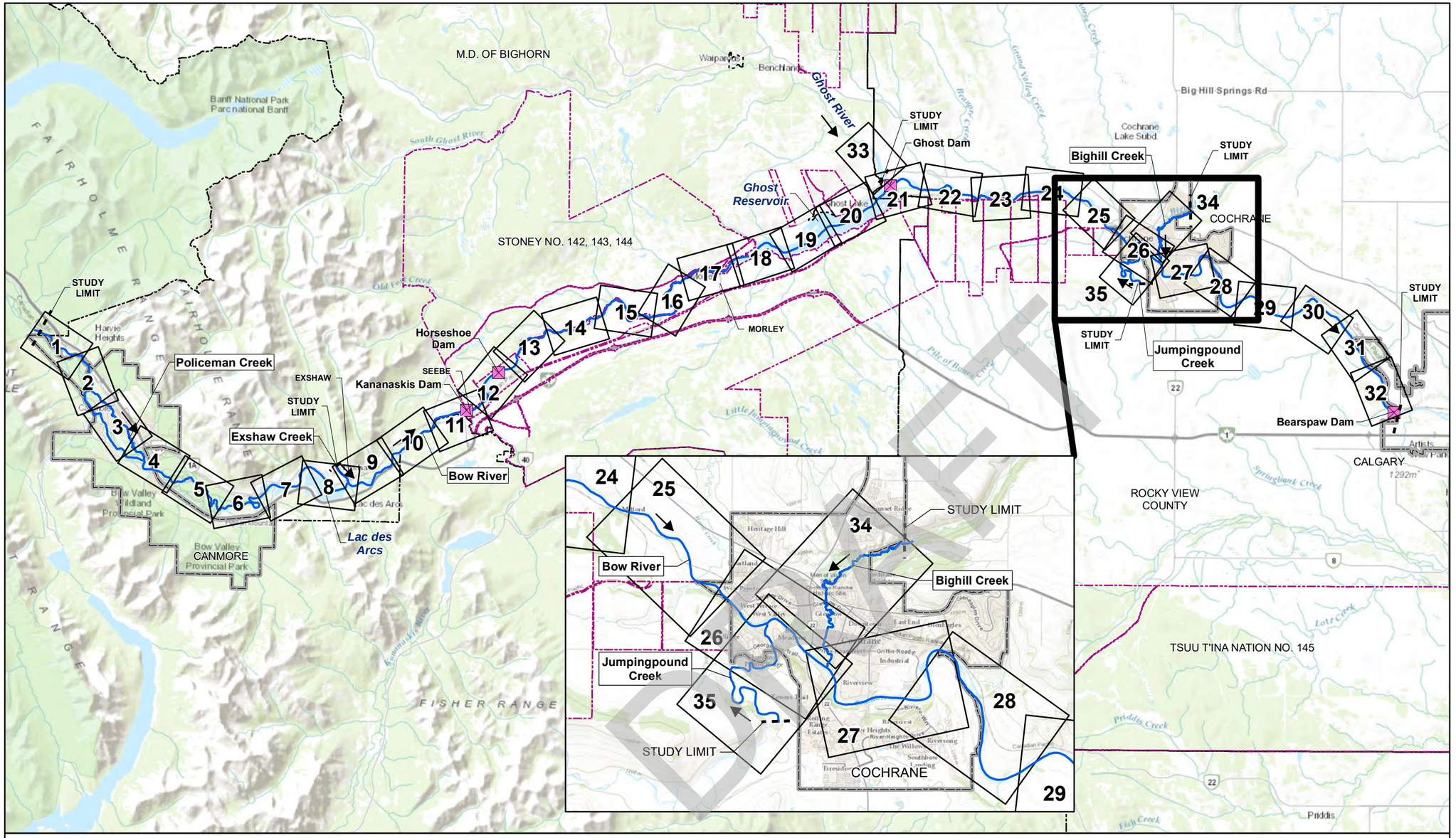
# MAPS AND DRAWINGS





- Dam
- Summer Village
- Town
- City
- First Nation Reserve
- County or Municipal District

**Notes to Users:**

1. Please refer to the accompanying **Upper Bow River Hazard Study – Open Water Flood Hazard Identification Report** for important information concerning these maps.
2. Within the flood inundation areas shown on this map, there may be isolated pockets of high ground. 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.
3. Non-riverine and local sources of water have not been considered, and structures such roads, railways or barriers such as levees can restrict water flow and affect local flood levels. 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.
4. Exshaw Creek is subject to debris flows during extreme events. Debris flows can cause flood levels to exceed those indicated on the map.
5. Backwater flood inundation along the Ghost River, Kananaskis River and other tributaries that were not modelled was considered using simulated water levels from the Bow River.
6. Full supply level (maximum operating water level) was assumed at Kananaskis, Horseshoe, Ghost, and Bearspaw dams.
7. 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 Hazard Map** - A flood hazard map is a specific type of flood map that identifies the area flooded for the 1:100 design flood, and divides that flood hazard area into floodway and flood fringe zones. Flood hazard maps can also show additional flood hazard information, including the incremental areas at risk for more severe floods like the 1:200 and 1:500 floods. Flood hazard maps are typically used for long-term flood hazard area management and land-use planning.

**Design Flood** - The design flood standard in Alberta is the 1:100 flood, which is a flood that has a 1% chance of being equaled or exceeded in any given year. The design flood is typically based on the 1:100 open water flood, but it can also reflect 1:100 ice jam flood levels or be based on a historical flood event. Different sized floods have different chances of occurring – for example, a 1:200 flood has a 0.5% chance of occurring in any given year and a 1:500 flood has a 0.2% chance of occurring in any given year – but only the 1:100 design flood is used to define the floodway and flood fringe zones on flood hazard maps.

**Floodway** - When a floodway is first defined on a flood hazard map, it typically represents the area of highest flood hazard where flows are deepest, fastest, and most destructive during the 1:100 design flood. When a flood hazard map is updated, the floodway will not get larger in most circumstances to maintain long-term regulatory certainty, even if the flood hazard area gets larger or design flood levels get higher.

**Flood Fringe** - The flood fringe is the area outside of the floodway that is flooded or could be flooded during the 1:100 design flood. The flood fringe typically represents areas with shallower, slower, and less destructive flooding, but it may also include "high hazard flood fringe" areas. Areas at risk of flooding behind flood berms may also be mapped as "protected flood fringe" areas.

**High Hazard Flood Fringe** - The high hazard flood fringe identifies areas within the flood fringe with deeper or faster moving water than the rest of the flood fringe. High hazard flood fringe areas are likely to be most significant for flood maps that are being updated, but they may also be included in new flood maps.

**Protected Flood Fringe** - The protected flood fringe identifies areas that could be flooded if dedicated flood berms fail or do not work as designed during the 1:100 design flood, even if they are not overtopped. Protected flood fringe areas are part of the flood fringe and do not differentiate between areas with deeper or faster moving water and shallower or slower moving water.

**Data Sources and References:**

1. Orthophoto imagery acquired by ORTHOSHOP Geomatics Ltd. (3 June 2016) for Alberta Environment and Parks.
2. Base data from Town of Canmore, M.D. Bighorn, Town of Cochrane, Alberta Environment and Parks, AltaLIS and Natural Resources Canada.
3. Additional base mapping from Esri.

SCALE - 1:250,000

0 2 4 6 8 10 KM

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*Coordinate System: NAD 1983 3TM 114*
*Units: METRES*

| Engineer | GIS | Reviewer |
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| 3001178 | 02-NOV-2022 |

*UPPER BOW RIVER HAZARD STUDY*

# *OPEN WATER FLOODWAY CRITERIA INDEX MAP*

*INDEX MAP*

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Index_2022MRUpdate.mxd

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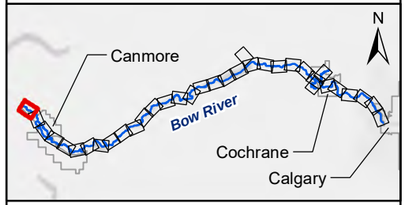


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
- BRIDGE
- CROSS SECTION
- RS 12,345 RIVER STATION
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- FLOOD CONTROL STRUCTURE
- OTHER FEATURE
- DAM
- 100-YEAR OPEN WATER DESIGN FLOOD EXTENT
- DEPTH >= 1 m
- PROTECTED FLOOD
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- MAJOR ROAD
- LOCAL ROAD
- CITY
- TOWN
- SUMMER VILLAGE
- COUNTY OR MUNICIPAL DISTRICT
- FIRST NATION RESERVE

SCALE - 1:10,000

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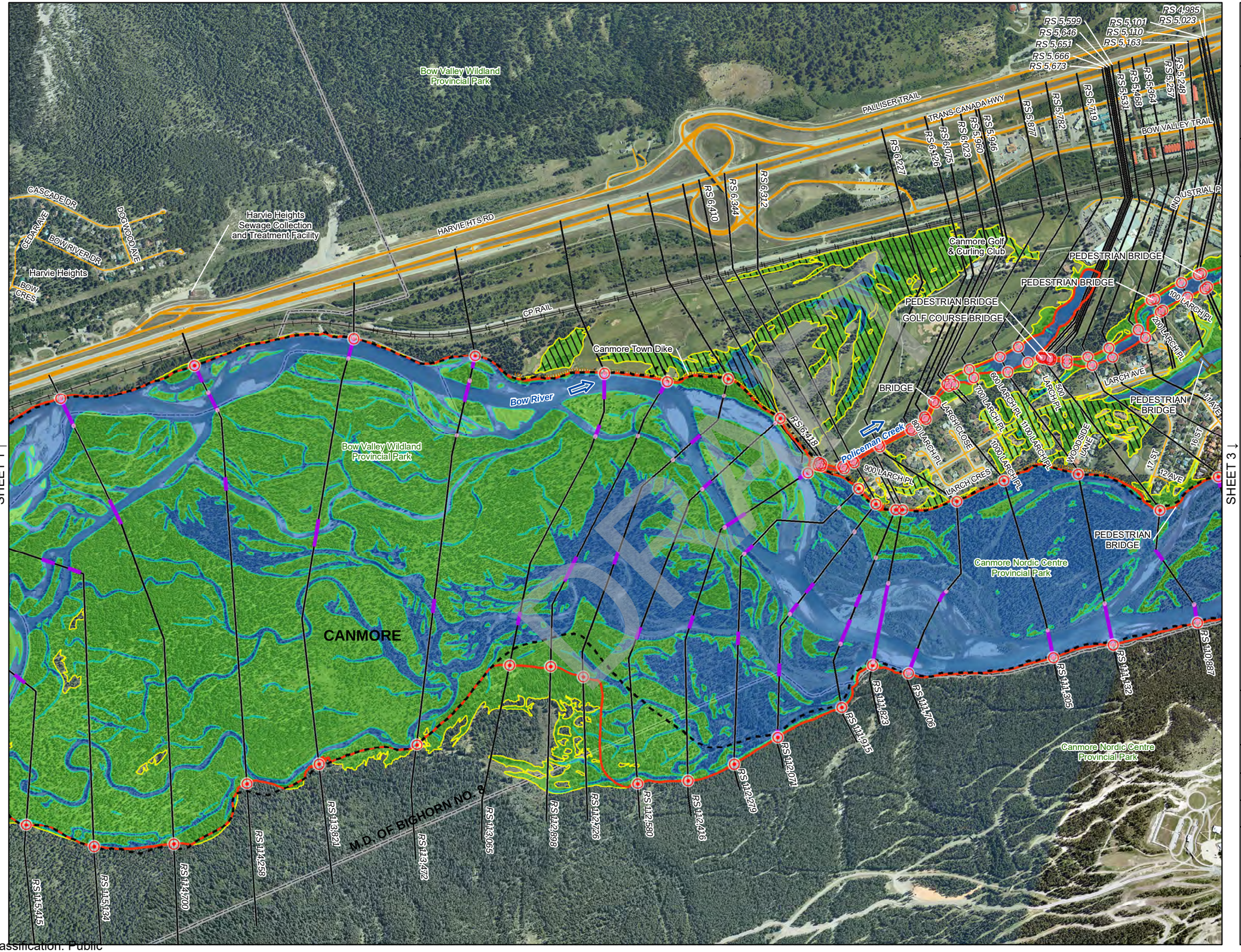
UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 1 OF 35

SHEET 2 ↓

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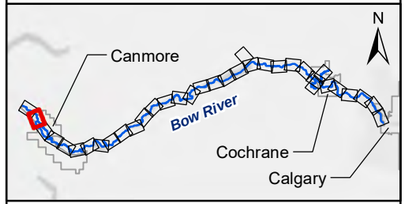


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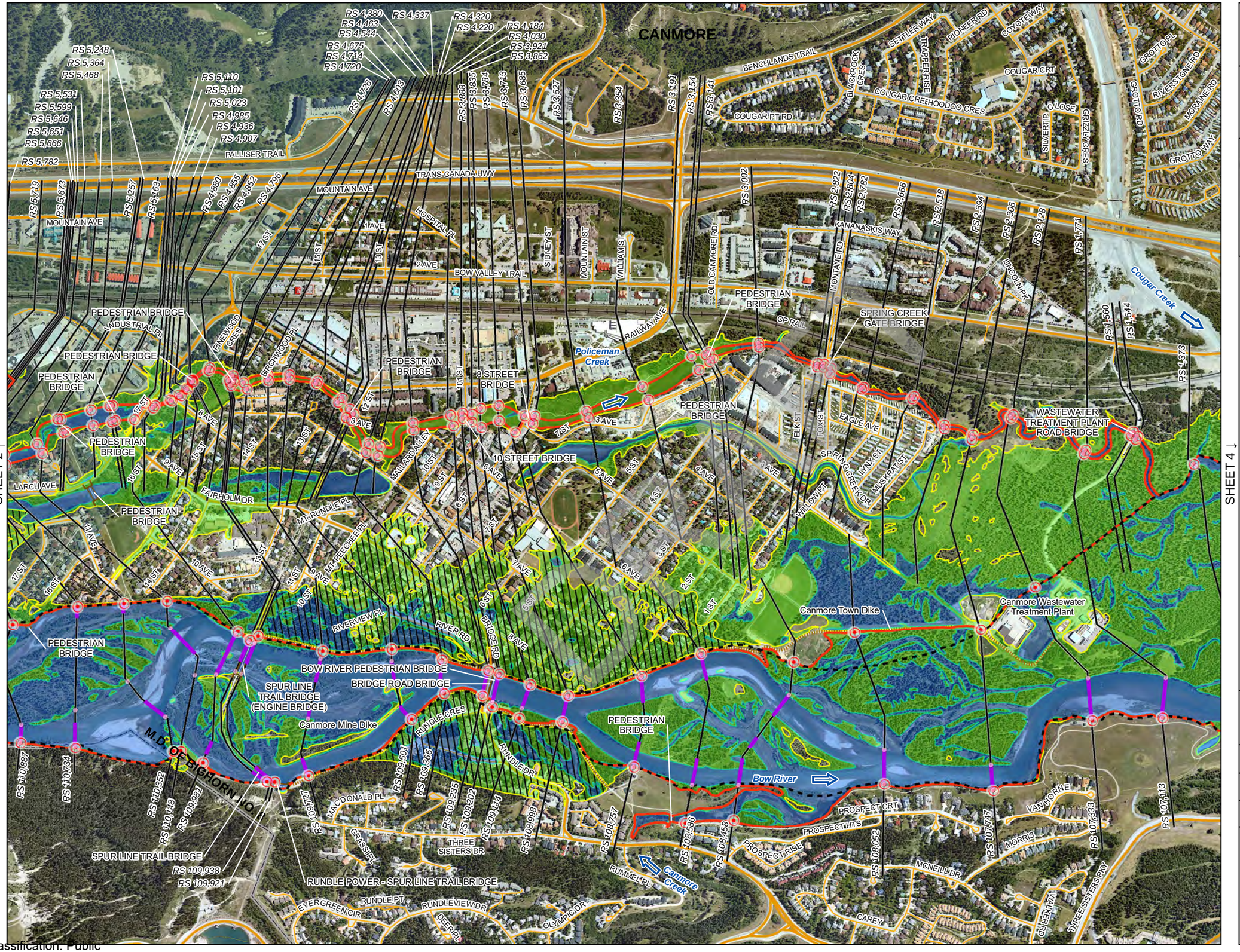
UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 2 OF 35

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← SHEET 4

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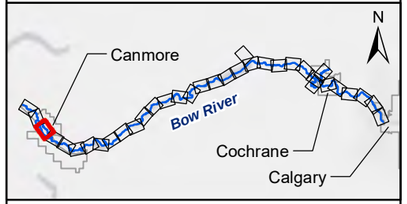


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UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 3 OF 35

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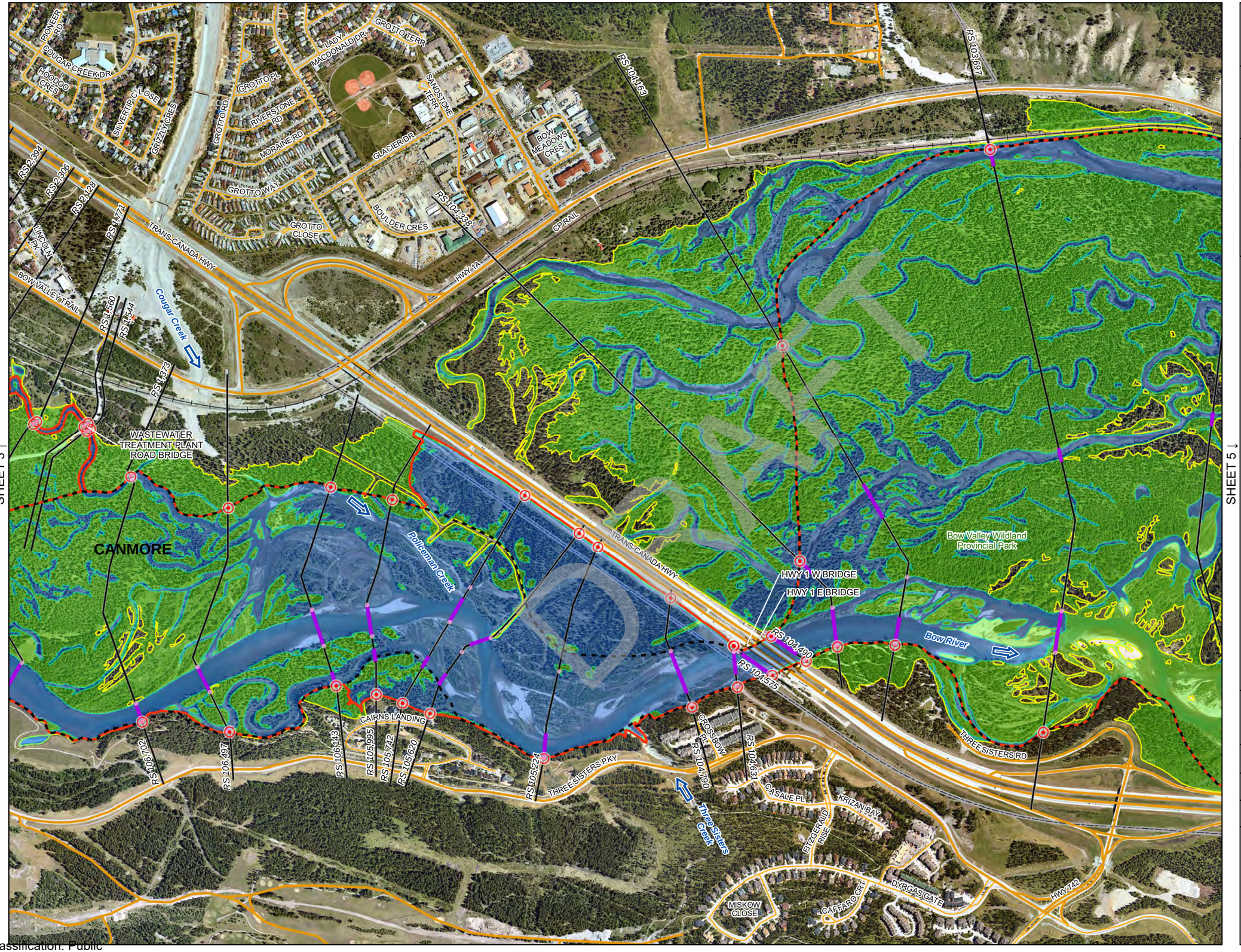


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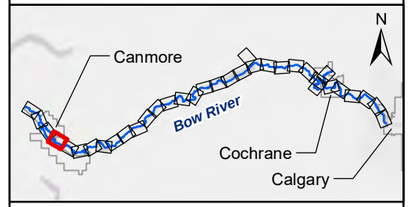


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UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 4 OF 35

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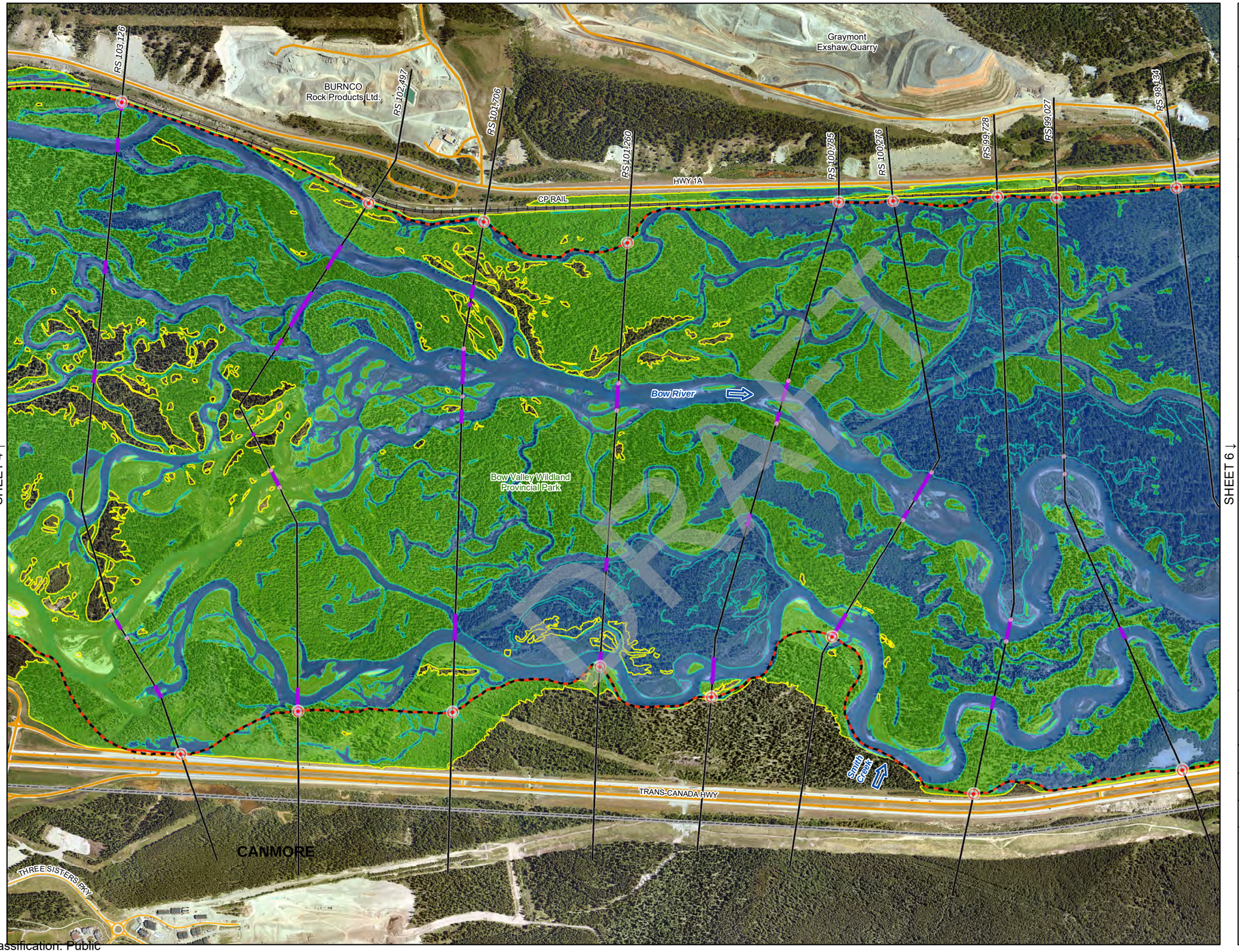


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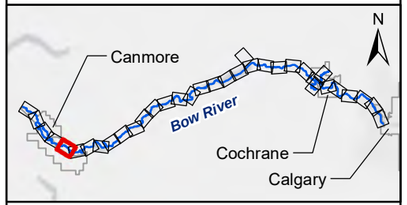


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UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 5 OF 35

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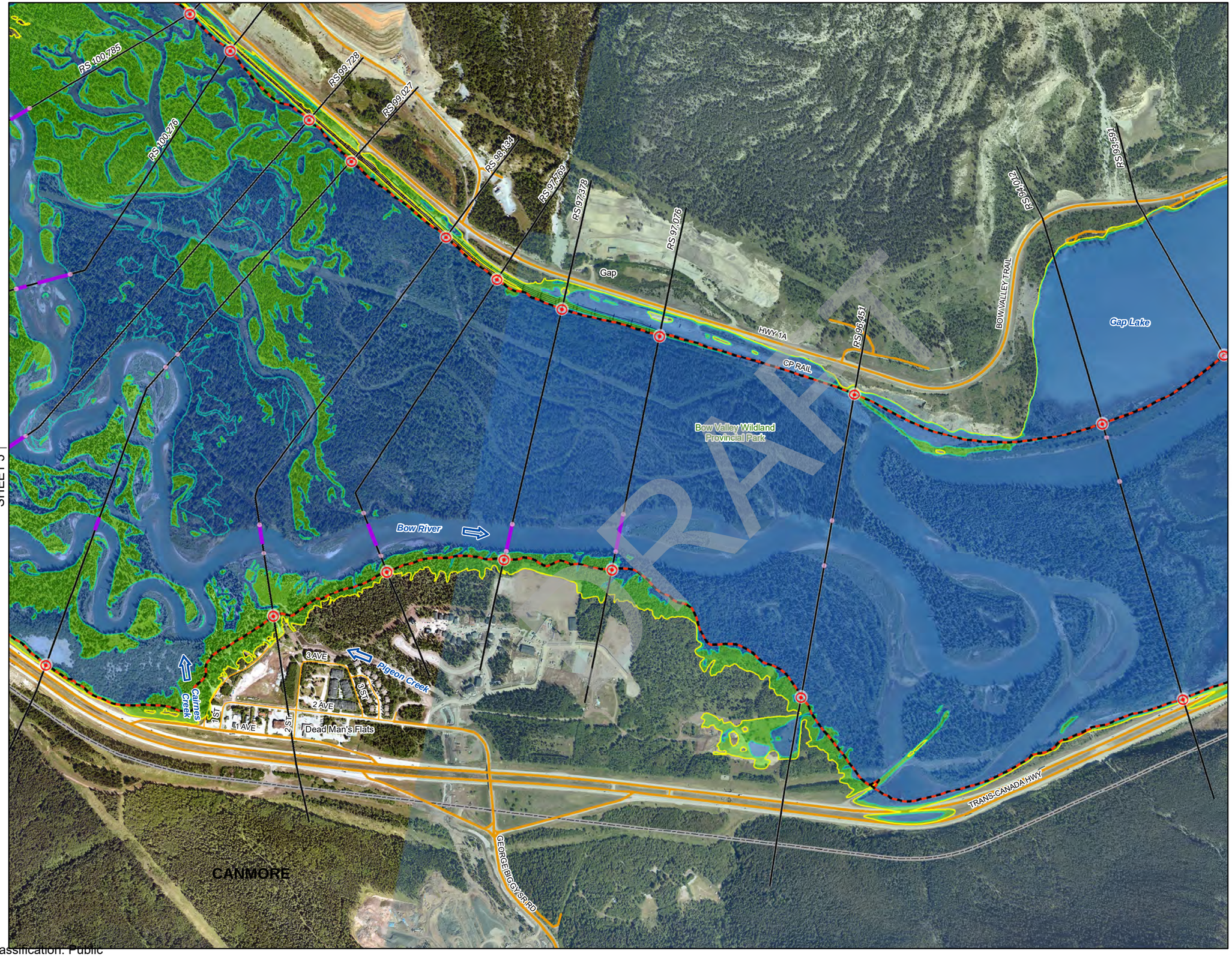


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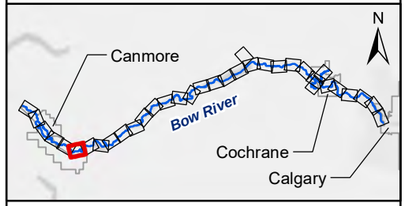


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- LOCAL ROAD
- CITY
- TOWN
- SUMMER VILLAGE
- COUNTY OR MUNICIPAL DISTRICT
- FIRST NATION RESERVE

SCALE - 1:10,000

0 100 200 300 400 M

N

Coordinate System: NAD 1983 3TM 114
Units: METRES

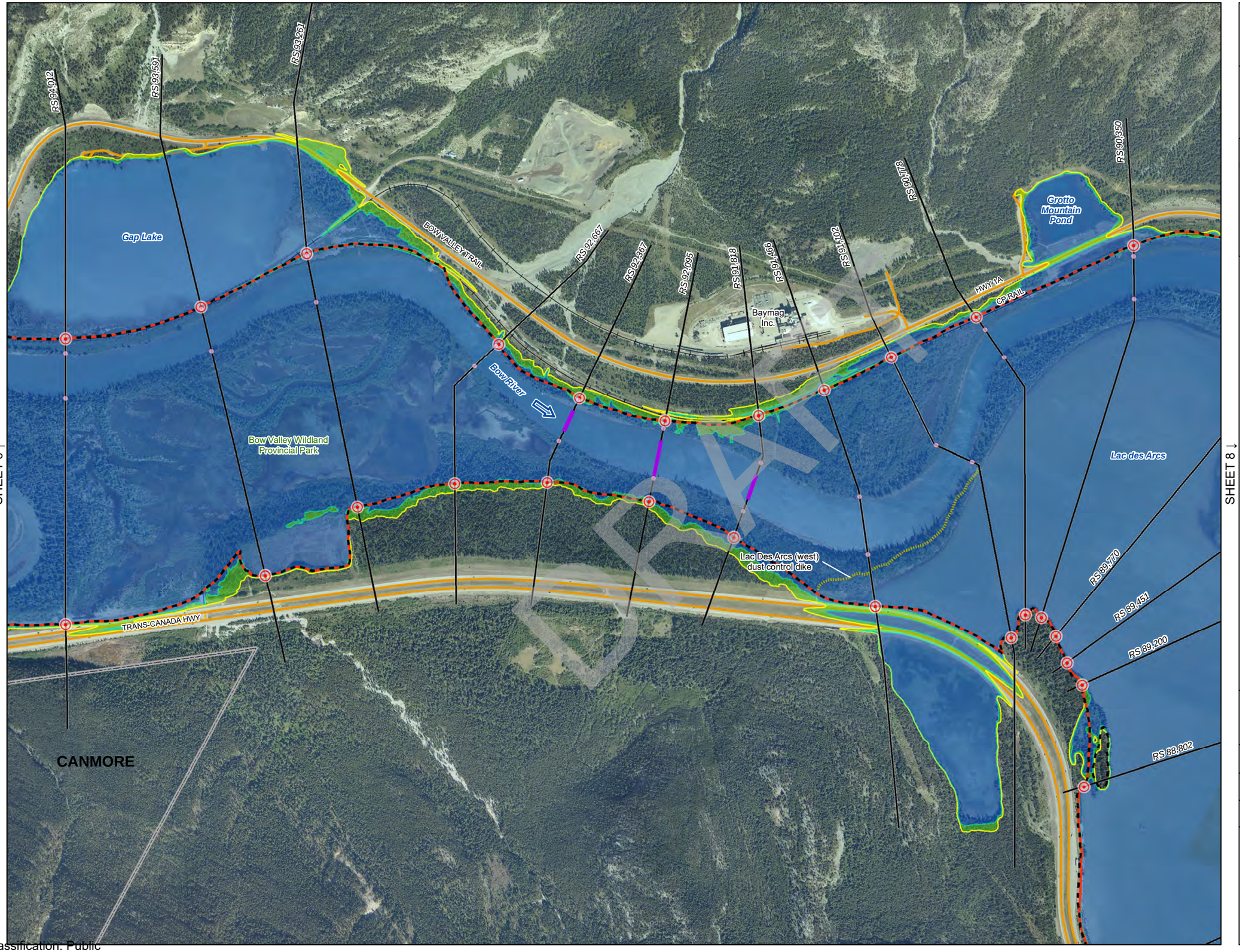
| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 6 OF 35

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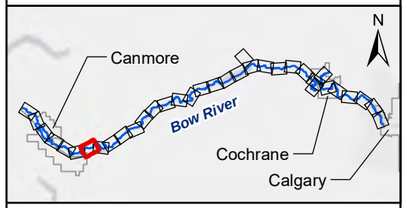



- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
- BRIDGE
- CROSS SECTION
- RS 12,345 RIVER STATION
- STUDY LIMIT
- FLOOD CONTROL STRUCTURE
- OTHER FEATURE
- DAM
- 100-YEAR OPEN WATER DESIGN FLOOD EXTENT
- DEPTH >= 1 m
- PROTECTED FLOOD
- RAILWAY
- MAJOR ROAD
- LOCAL ROAD
- CITY
- TOWN
- SUMMER VILLAGE
- COUNTY OR MUNICIPAL DISTRICT
- FIRST NATION RESERVE

SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

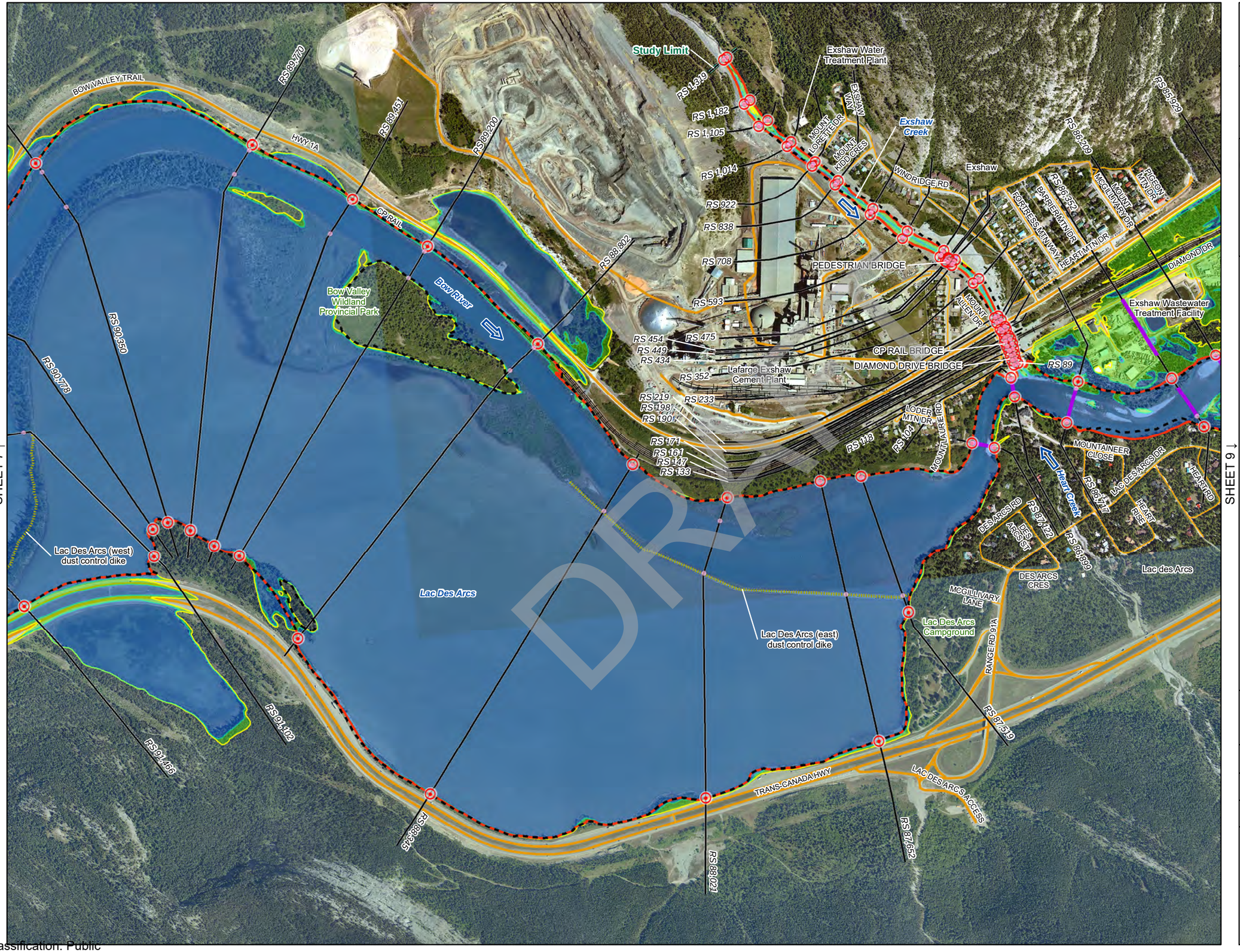
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 7 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd



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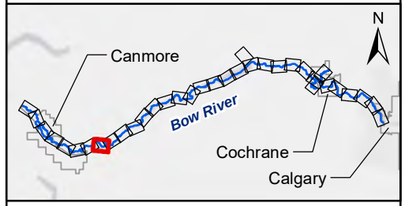


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
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- FIRST NATION RESERVE

SCALE - 1:10,000

0 100 200 300 400 M

N

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

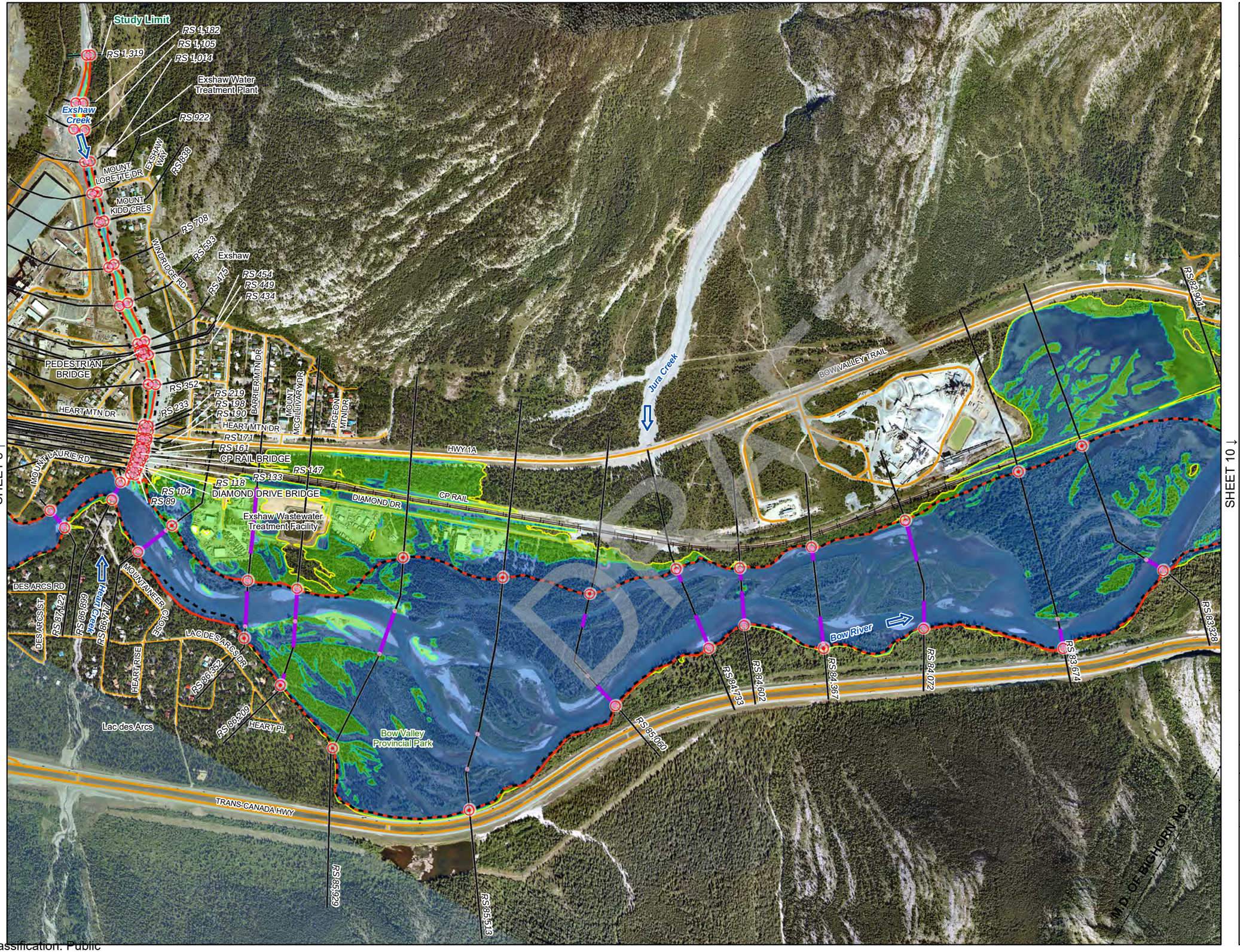
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 8 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

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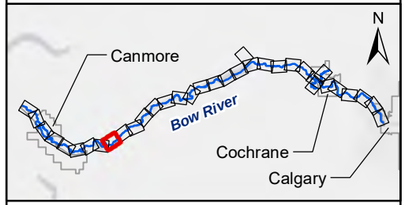


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
- BRIDGE
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SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

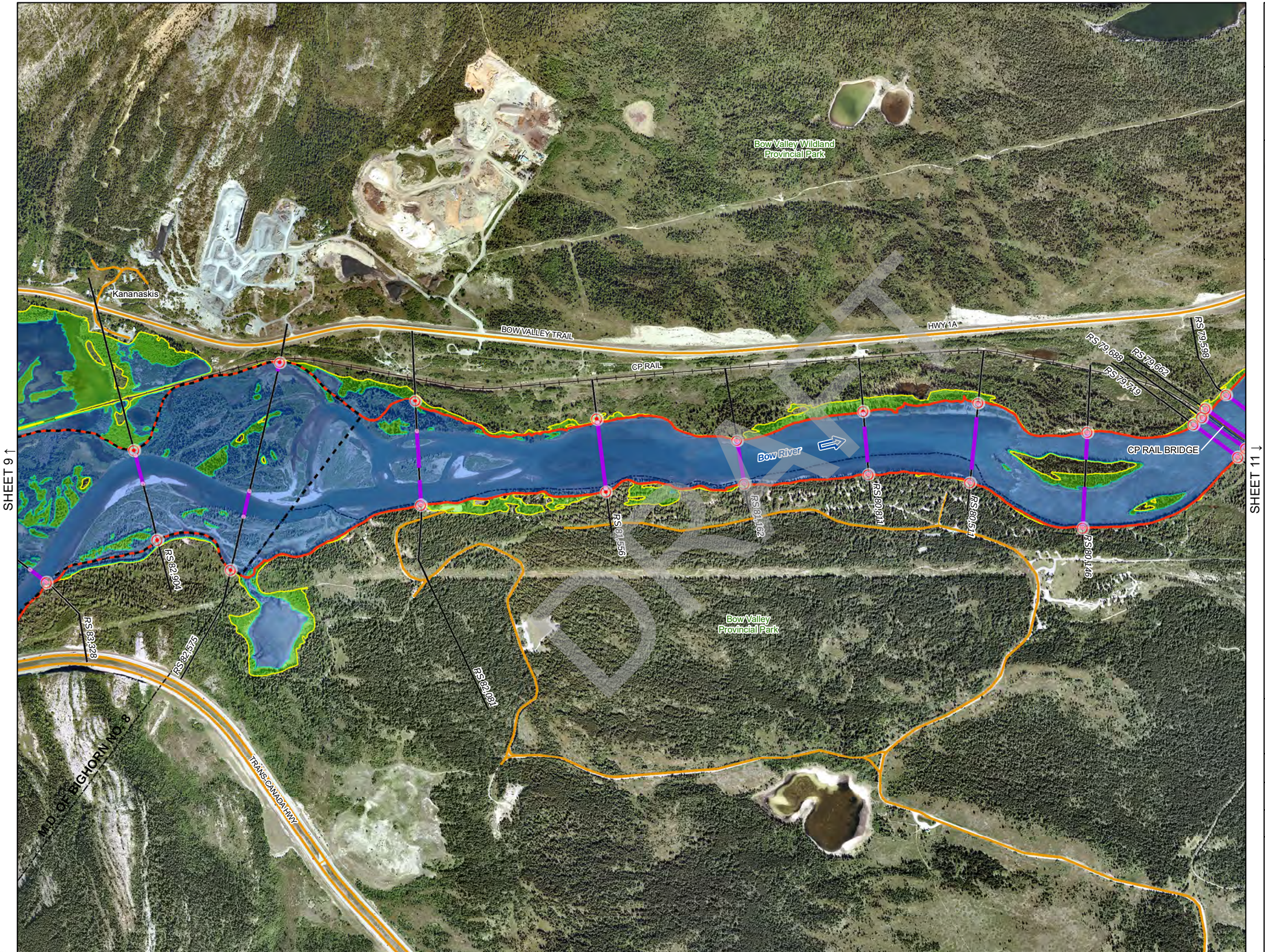
| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

## OPEN WATER FLOODWAY CRITERIA MAP

SHEET 9 OF 35

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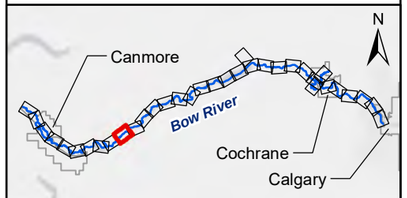


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
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SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

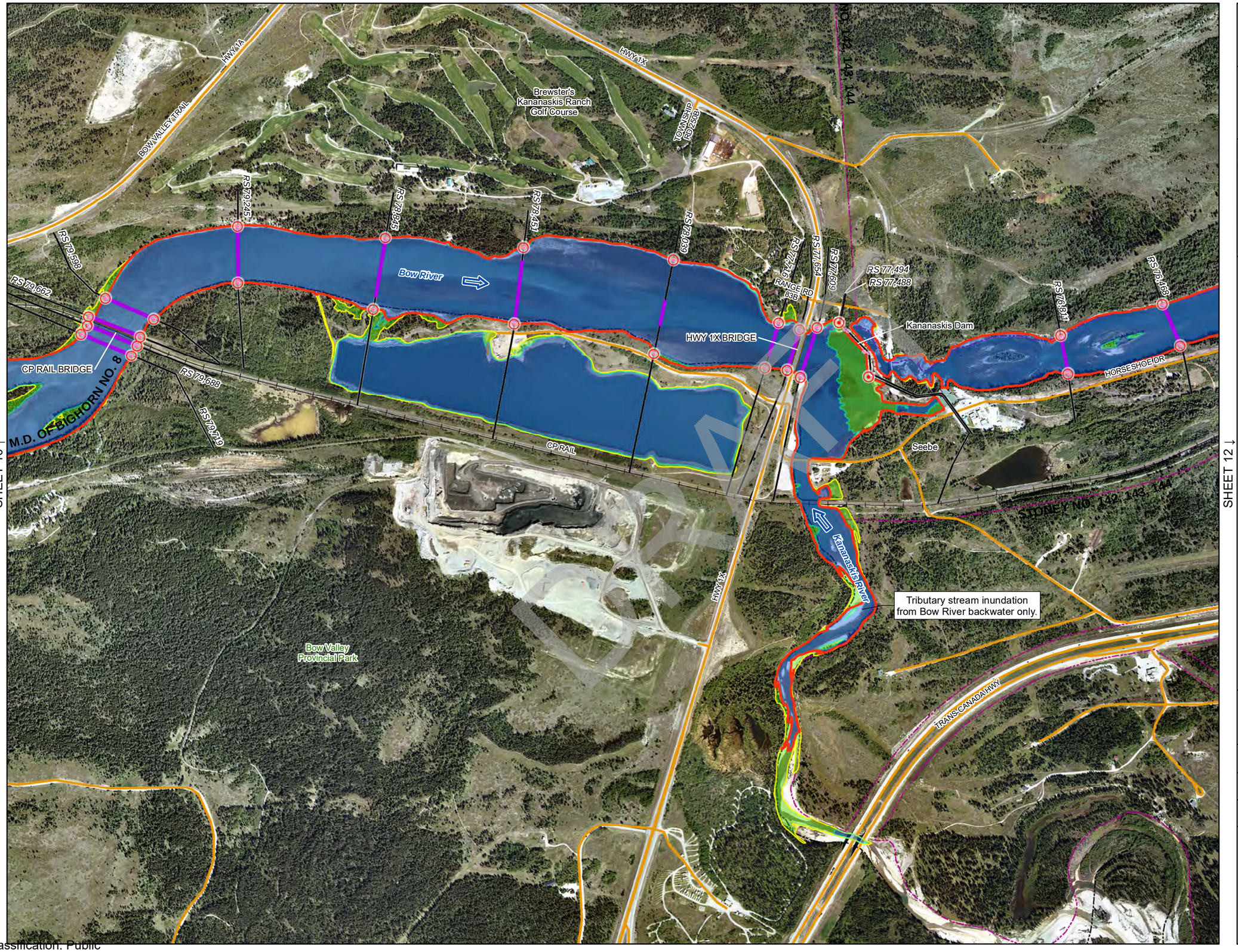
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 10 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

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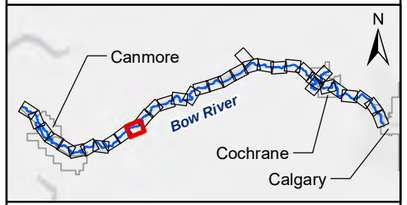


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
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SCALE - 1:10,000

0 100 200 300 400 M

N

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
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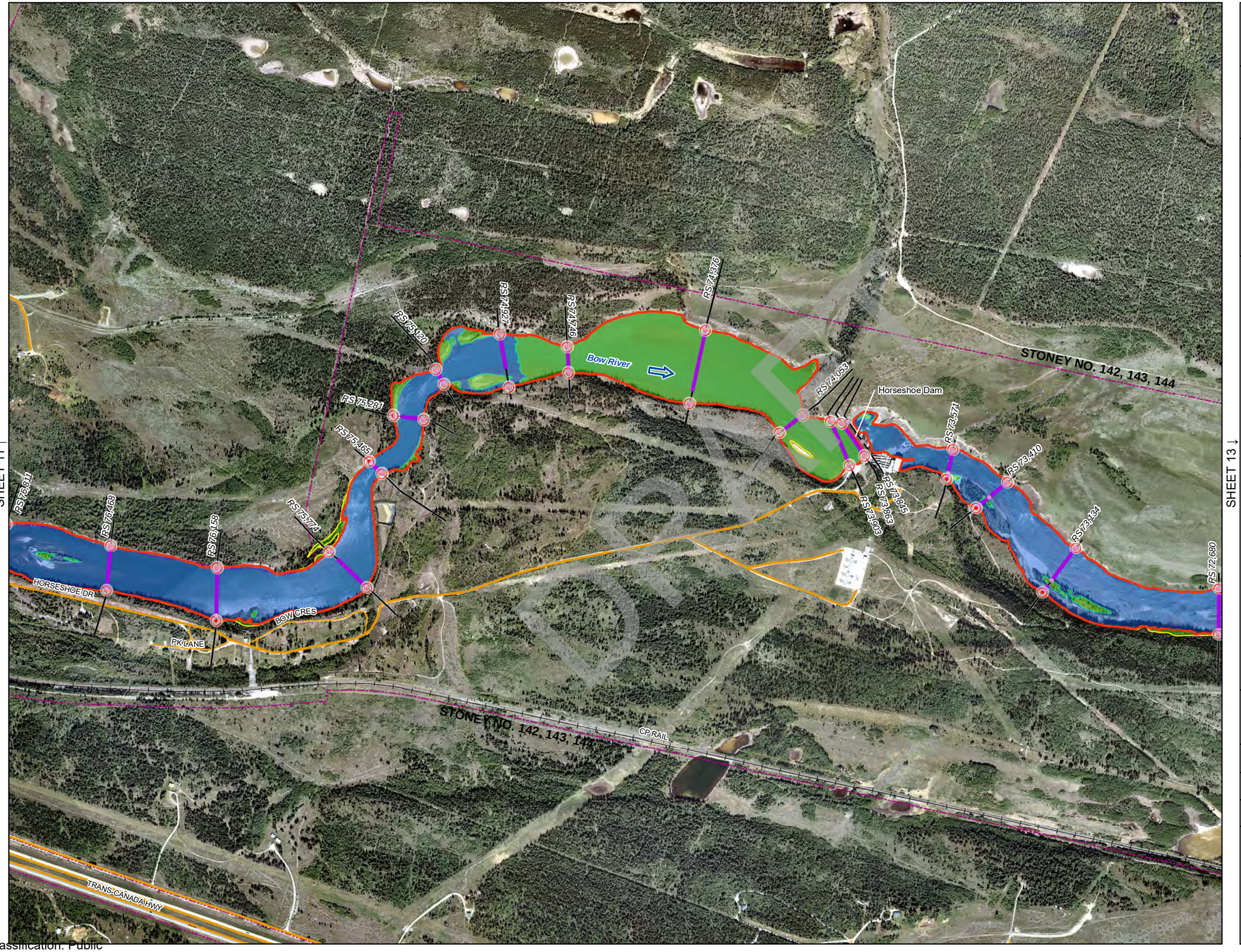
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 11 OF 35

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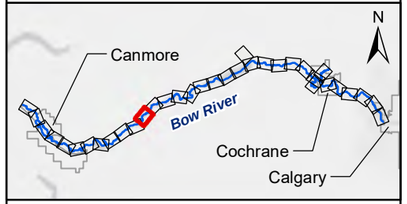


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
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SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

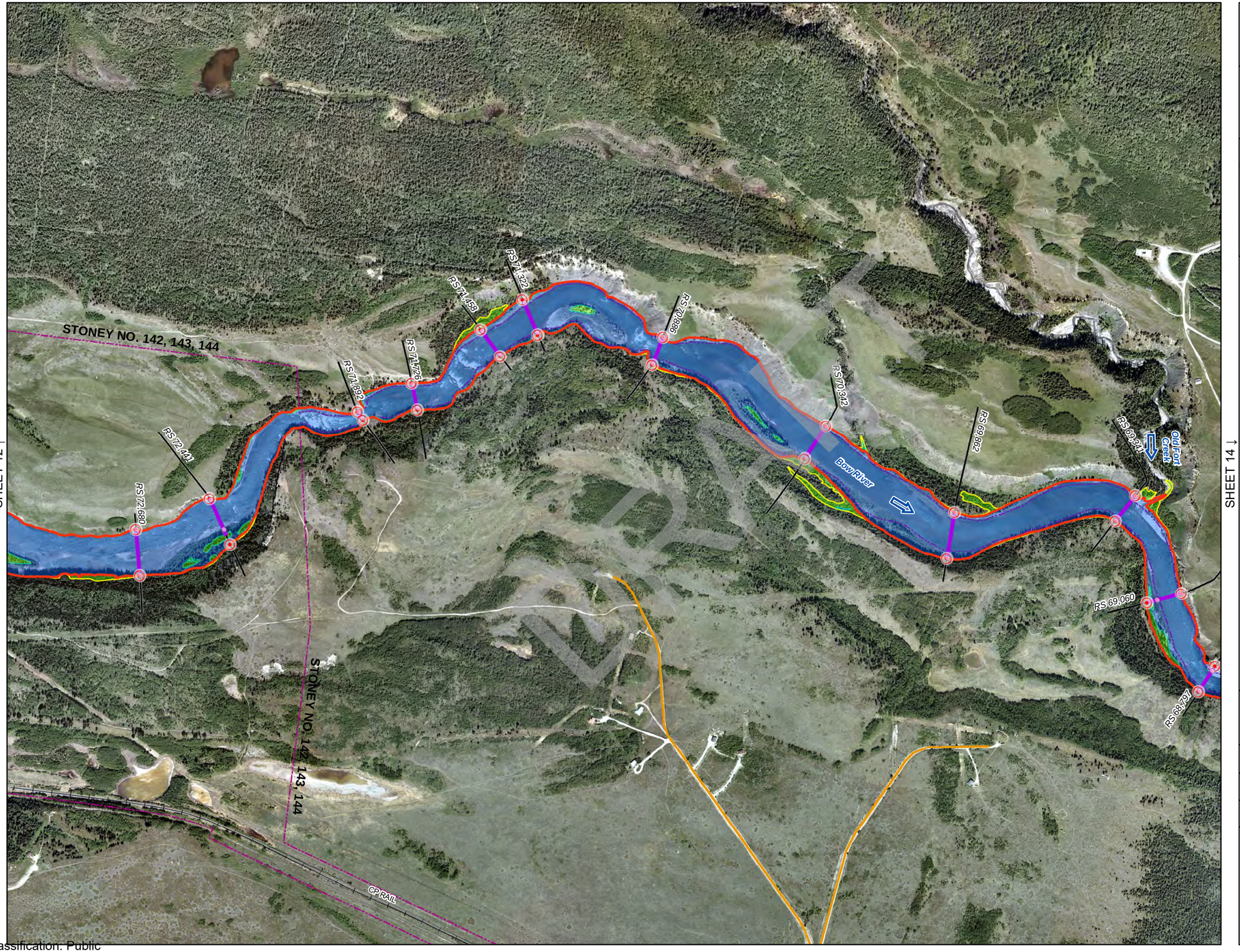
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 12 OF 35

MMM_P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd




SHEET 12 ↑

SHEET 14 ↓

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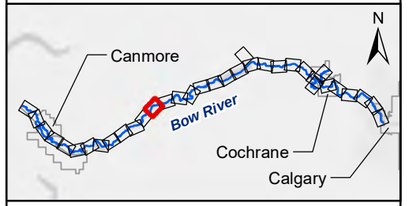


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
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- FIRST NATION RESERVE

SCALE - 1:10,000

0 100 200 300 400 M

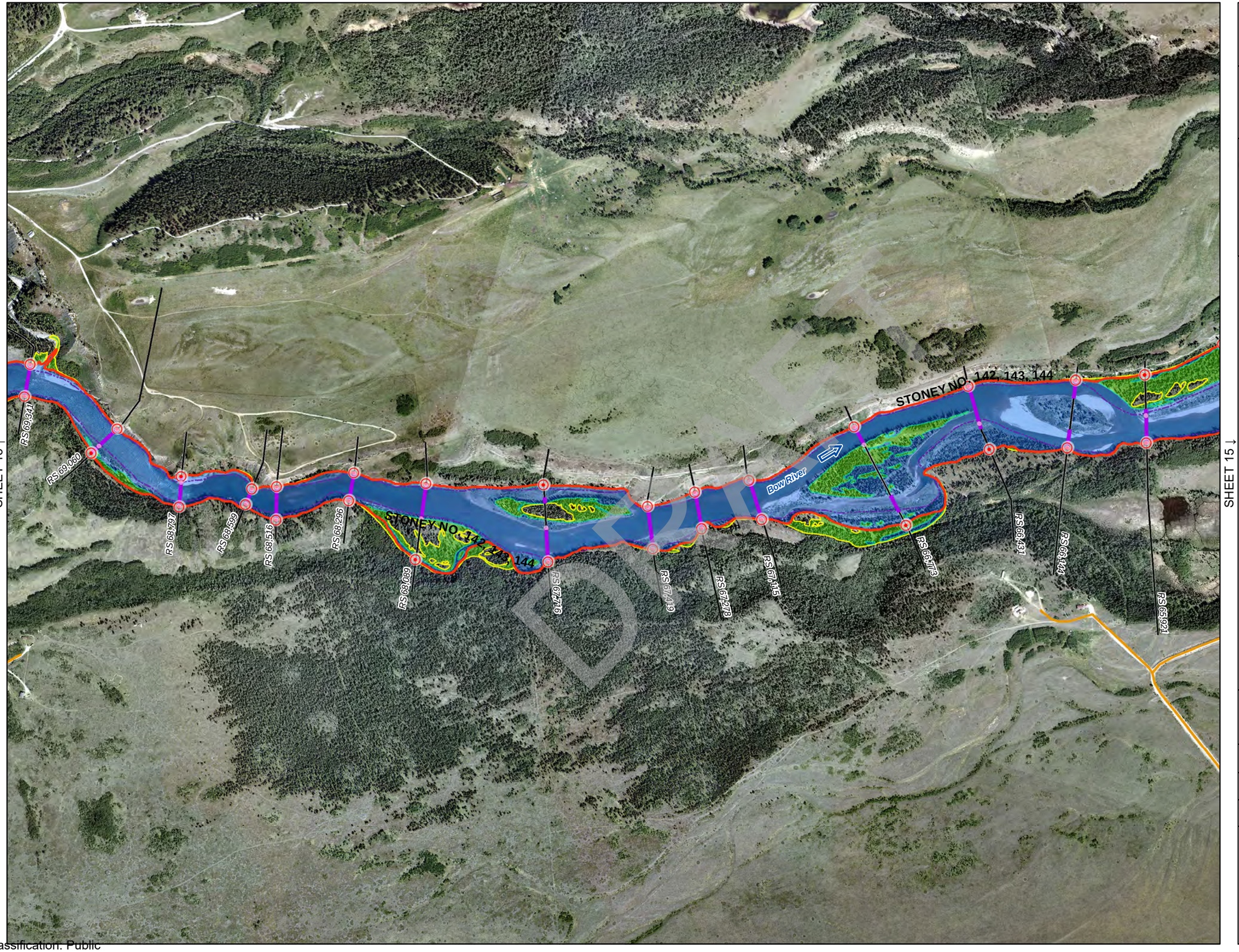
Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

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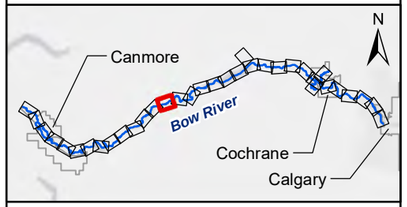


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
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SCALE - 1:10,000

0 100 200 300 400 M

N

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

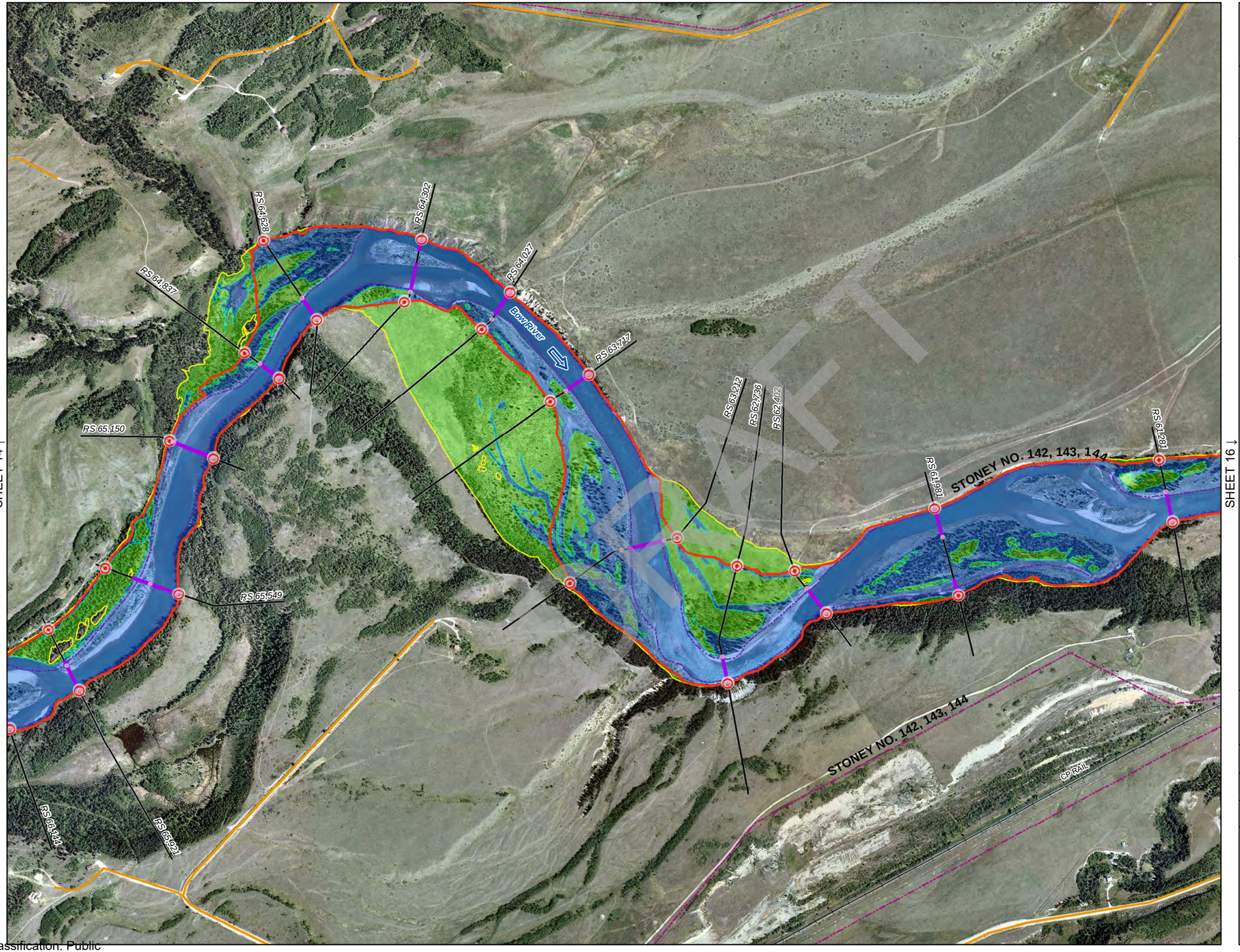
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 14 OF 35

MMM_P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd




SHEET 14 ↑

SHEET 16 ↓



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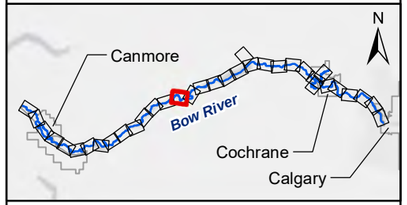


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
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SCALE - 1:10,000

0 100 200 300 400 M

N

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

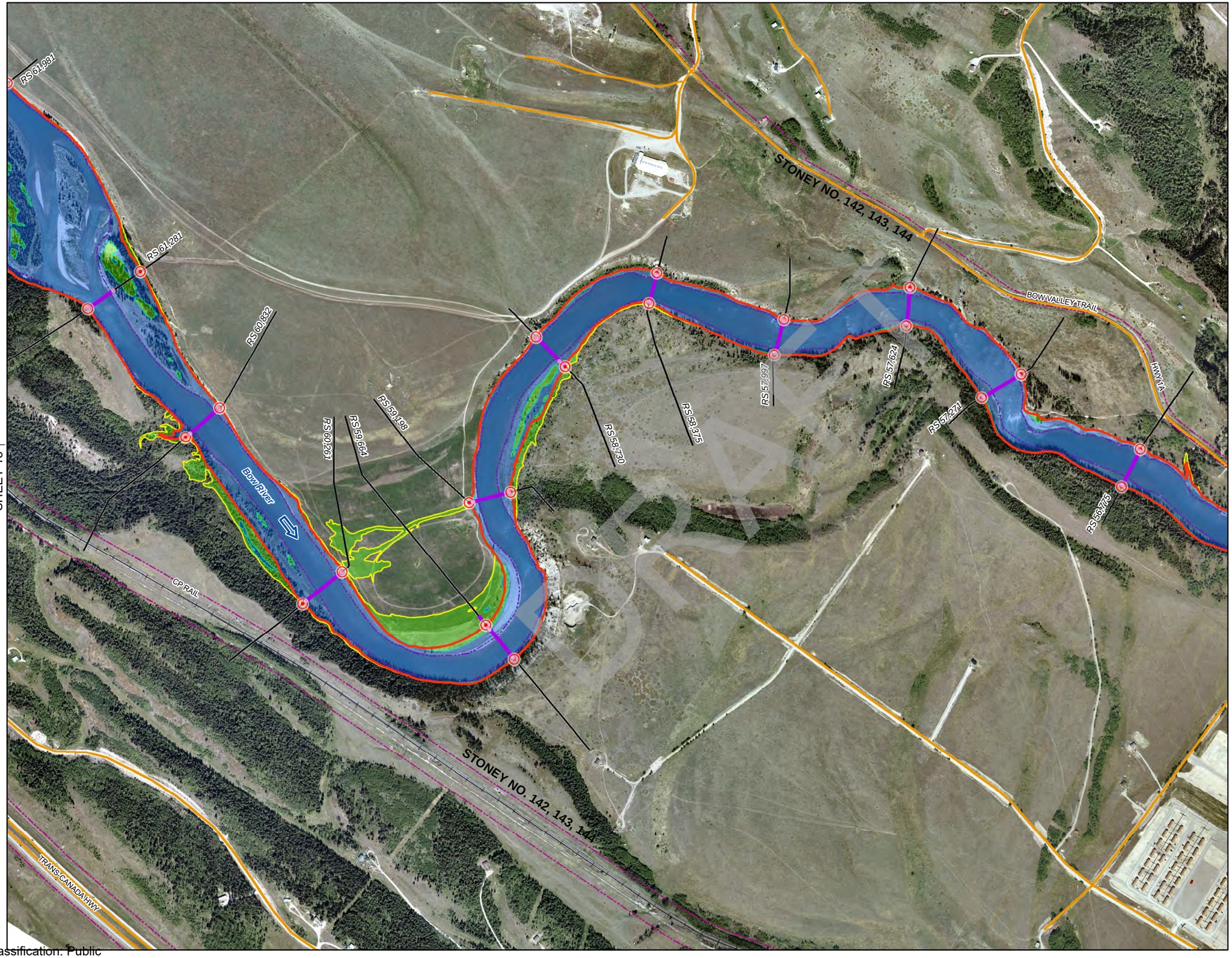
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 15 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

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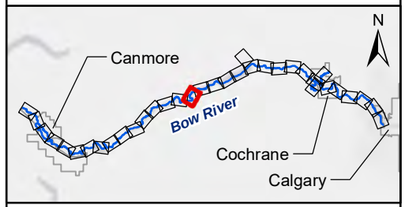


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
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SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

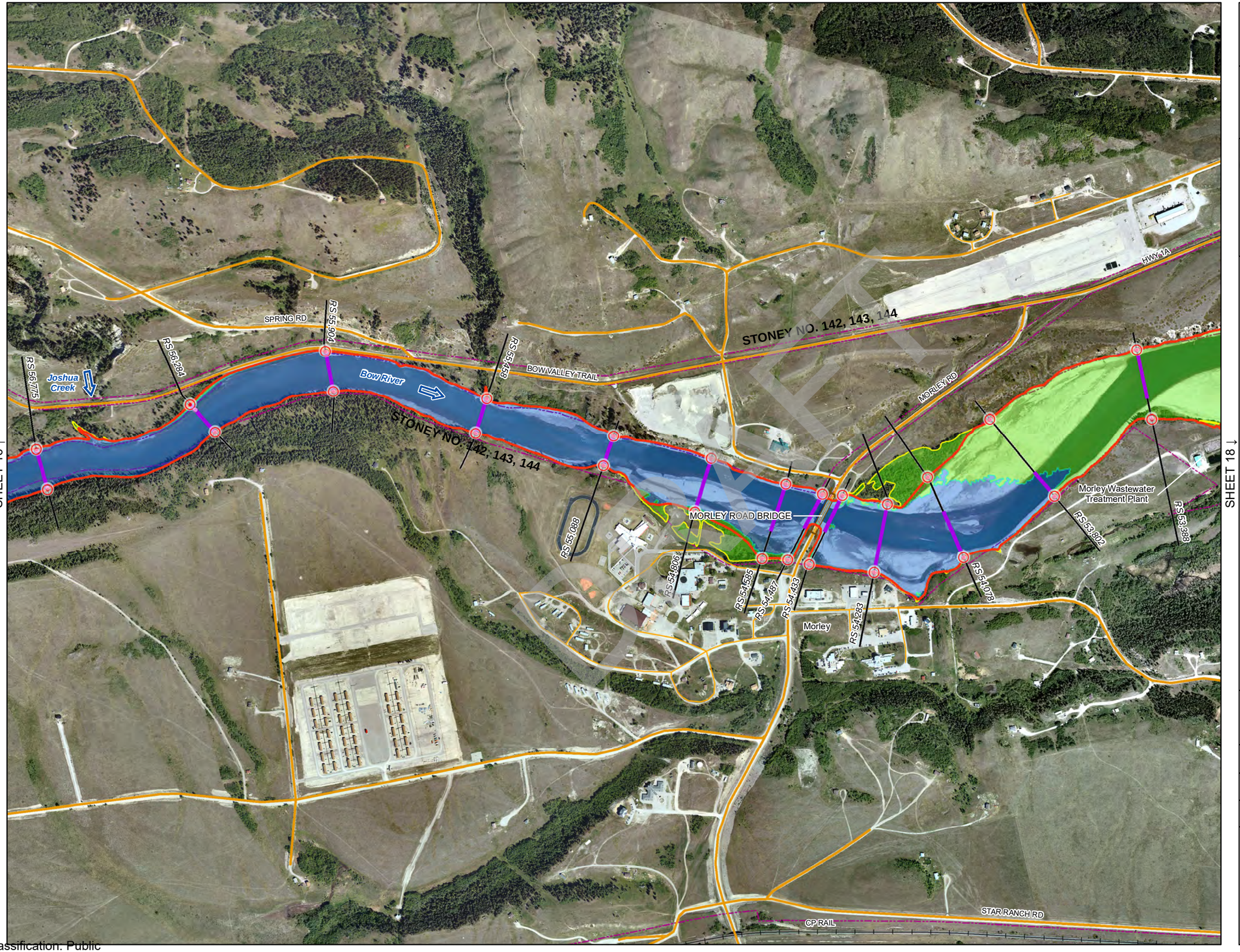
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 16 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

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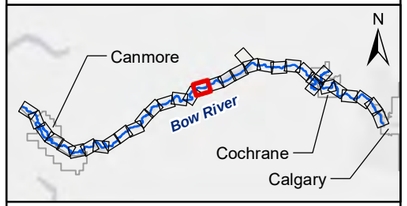


- FLOW DIRECTION
- BANK STATION
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- VELOCITY > 1 m/s
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SCALE - 1:10,000

0 100 200 300 400 M

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Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
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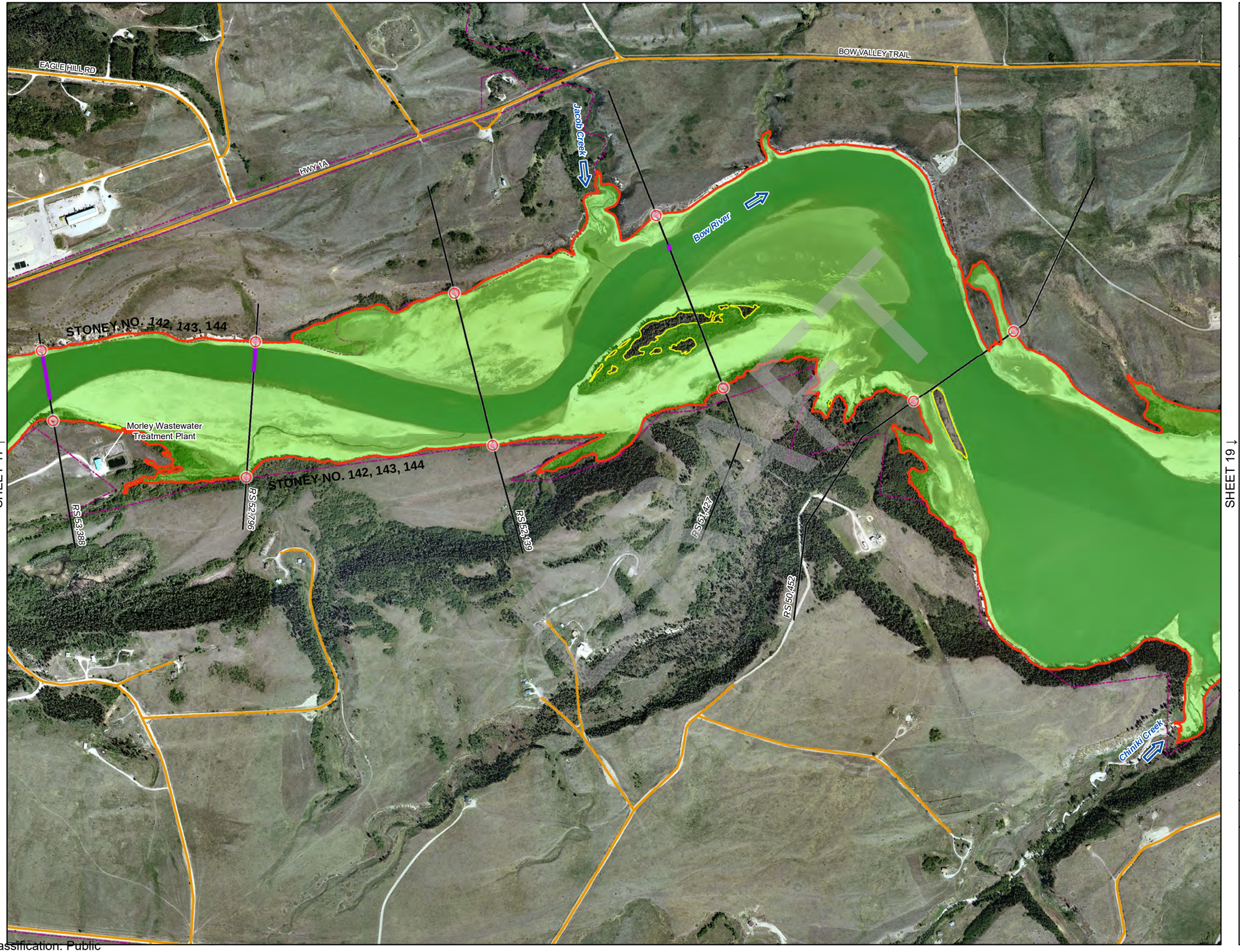
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 17 OF 35

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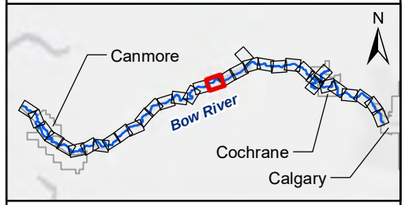


- FLOW DIRECTION
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SCALE - 1:10,000

0 100 200 300 400 M

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Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

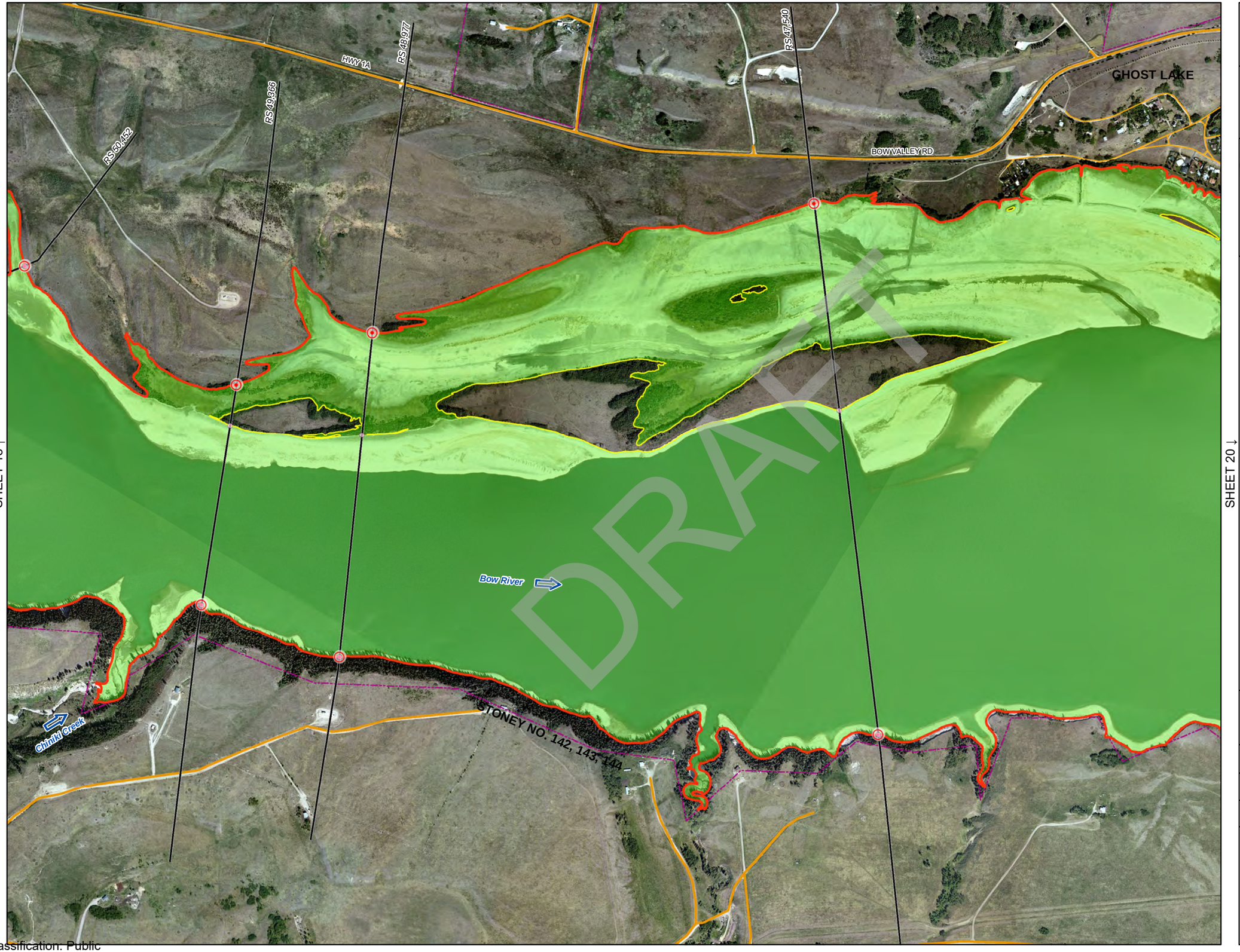
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 18 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd




SHEET 18 ↑

SHEET 20 ↓



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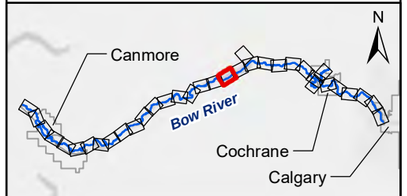



- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
- BRIDGE
- CROSS SECTION
- RS 12,345 RIVER STATION
- STUDY LIMIT
- FLOOD CONTROL STRUCTURE
- OTHER FEATURE
- DAM
- 100-YEAR OPEN WATER DESIGN FLOOD EXTENT
- DEPTH >= 1 m
- PROTECTED FLOOD
- RAILWAY
- MAJOR ROAD
- LOCAL ROAD
- CITY
- TOWN
- SUMMER VILLAGE
- COUNTY OR MUNICIPAL DISTRICT
- FIRST NATION RESERVE

SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

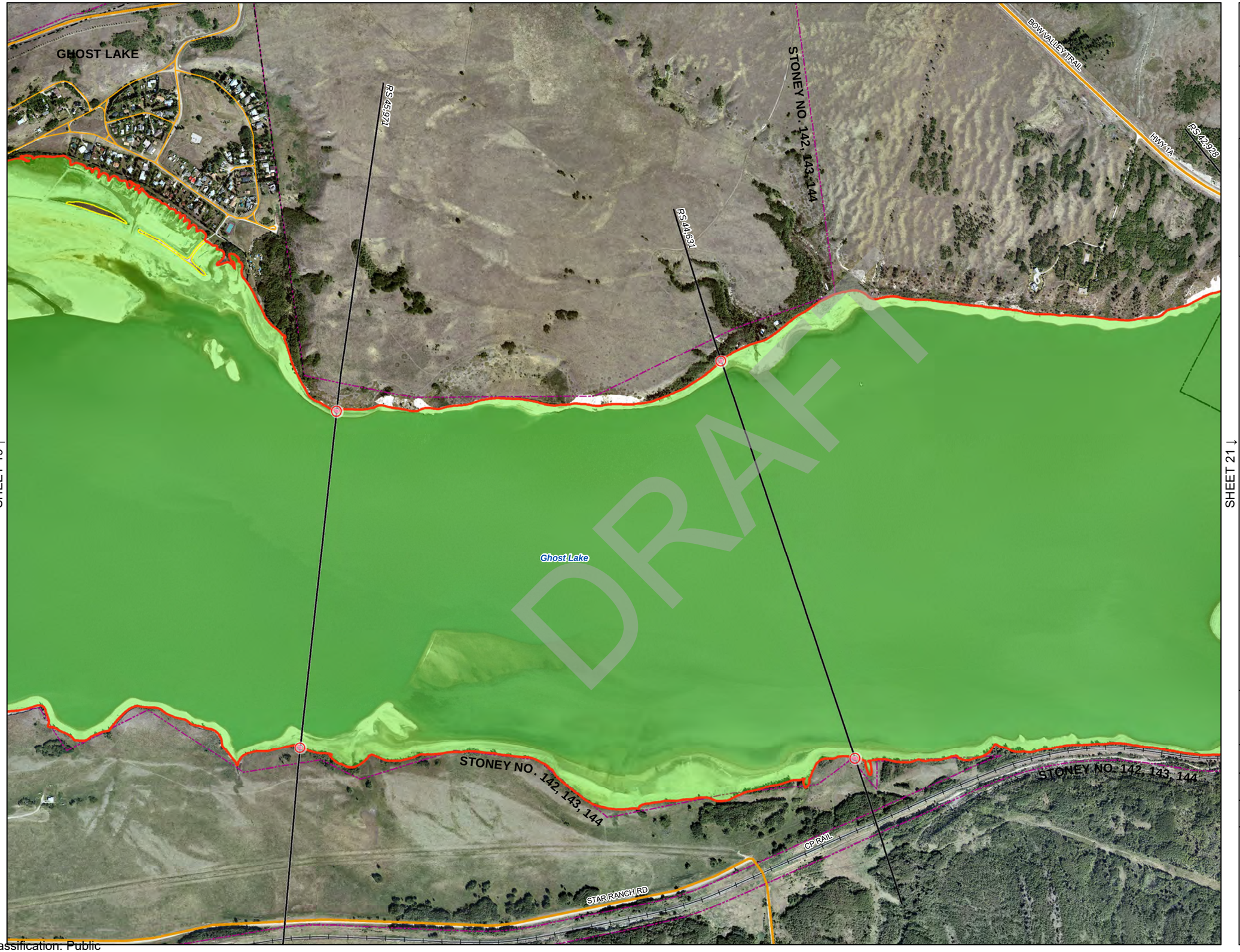
| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 19 OF 35

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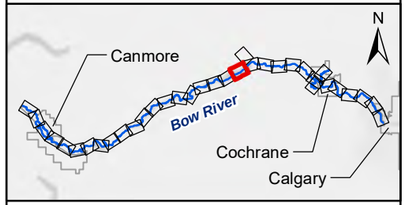


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UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 20 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

SHEET 33 ↑

SHEET 20 ↑

SHEET 22 ↓

Tributary stream inundation from Bow River backwater only.

Ghost River

Study Limit

HWY 1A BRIDGE

Ghost Reservoir Recreation Area

HWY 1A

BOW VALLEY TRAIL

RANGE RD 60

Bow River

Ghost Dam

Ghost Lake

ROCKY VIEW COUNTY

M.D. OF BIGHORN NO. 8

RS 41,361

RS 40,929

RS 40,742

RS 40,439

RS 40,129

RS 41,824

RS 41,537

CP RAIL

Radnor

RS 39,836

RS 42,432

RS 42,170

STONEY NO. 142, 143, 144

RS 42,928

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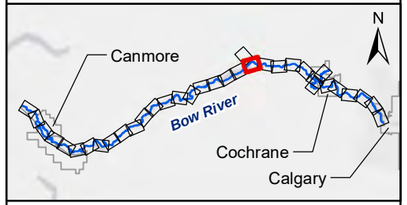


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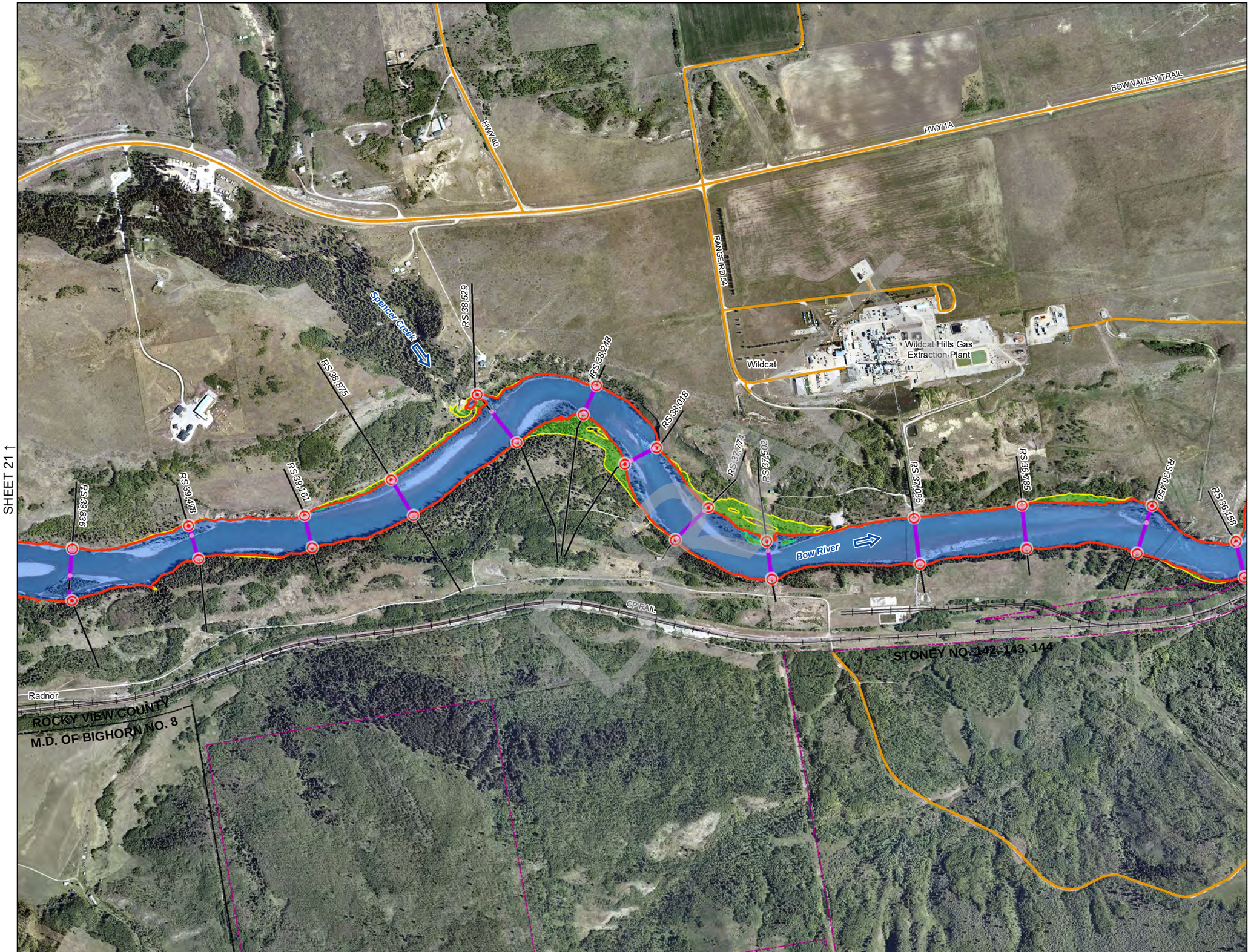
UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 21 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

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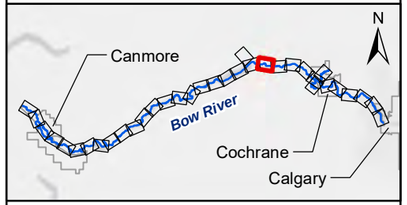


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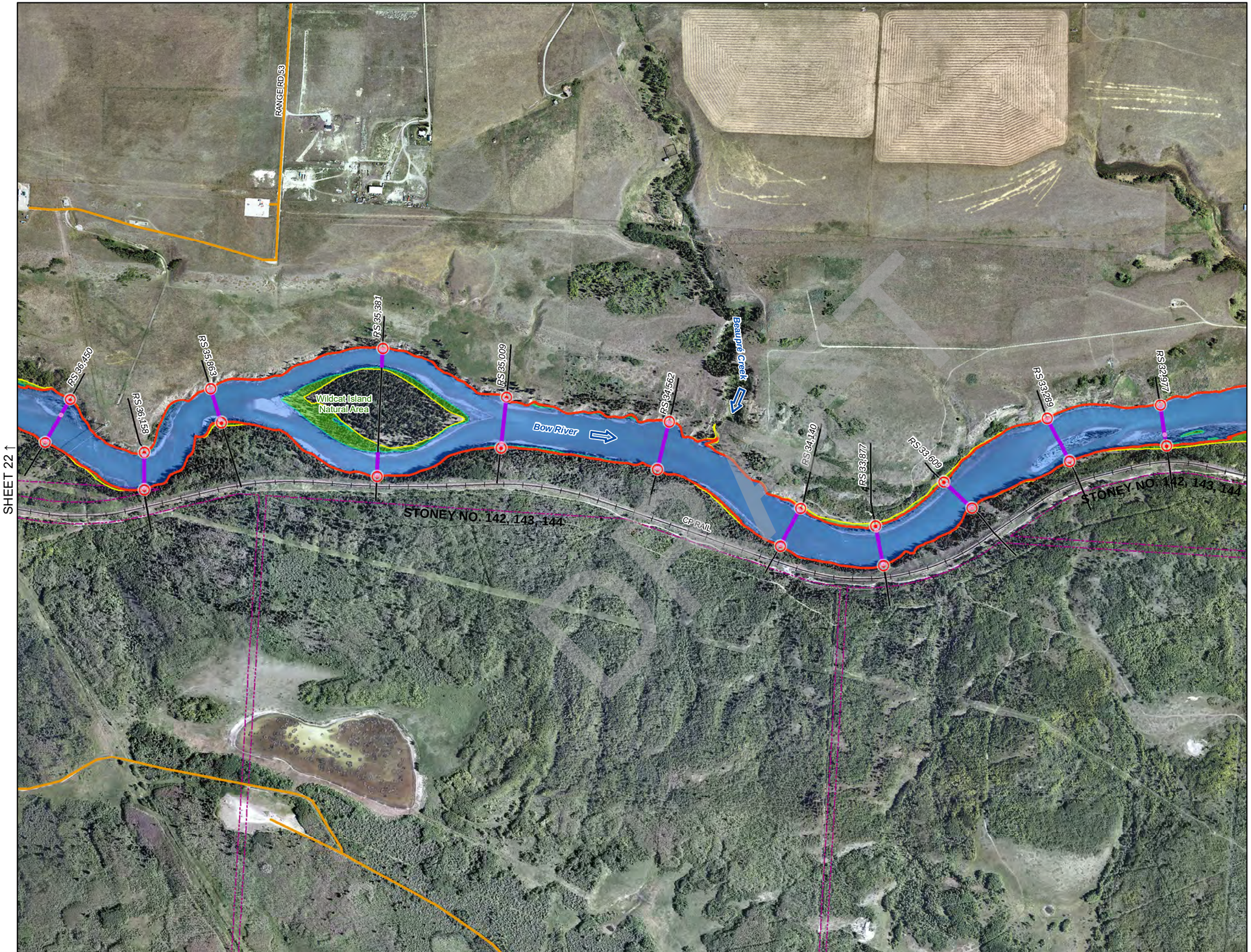
UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 22 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map

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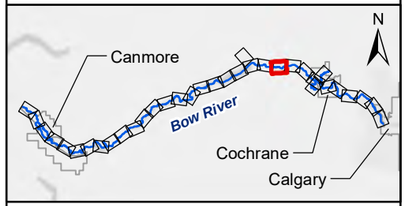


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| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 23 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\9D GIS\UpperBowRHS_OW_Floodway_Criteria_Map.mxd

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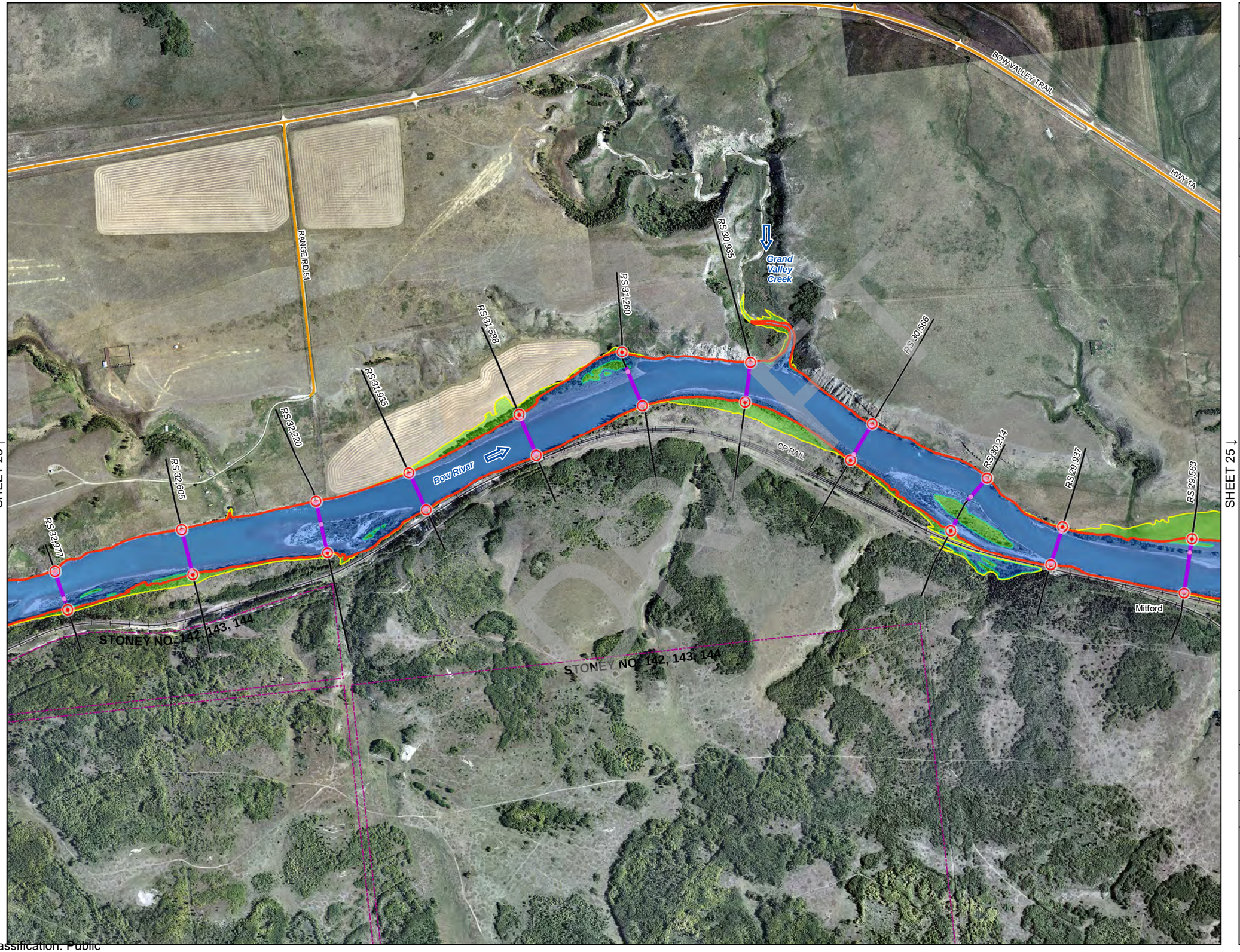


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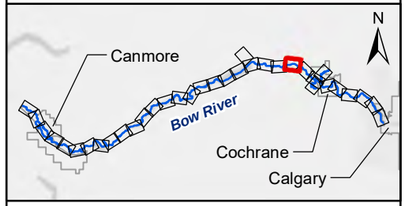


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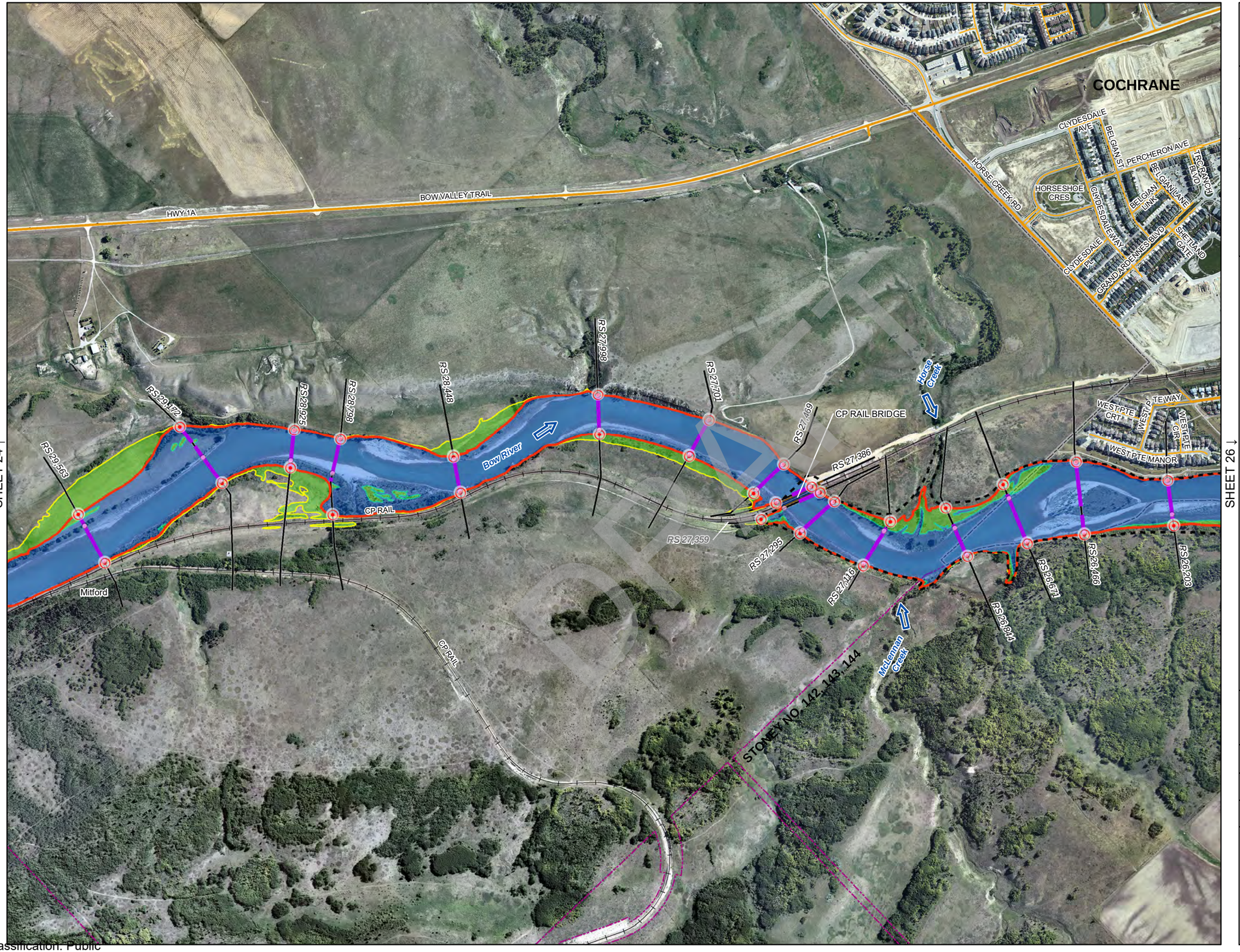
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 24 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd




SHEET 24 ↑

SHEET 26 ↓

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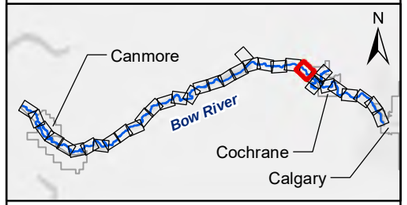


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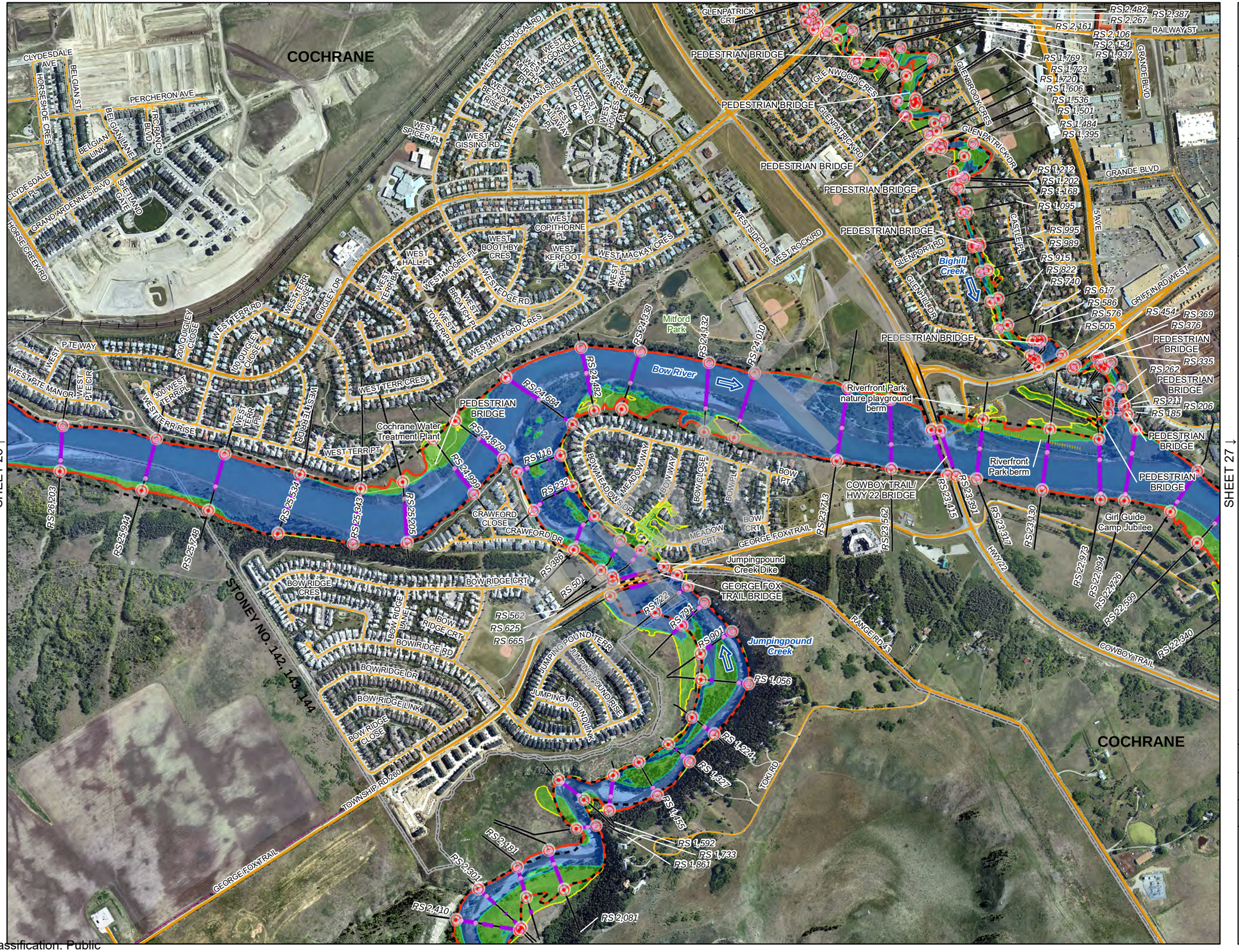
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 25 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

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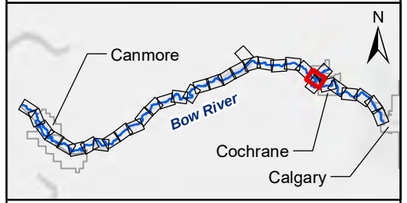


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UPPER BOW RIVER HAZARD STUDY

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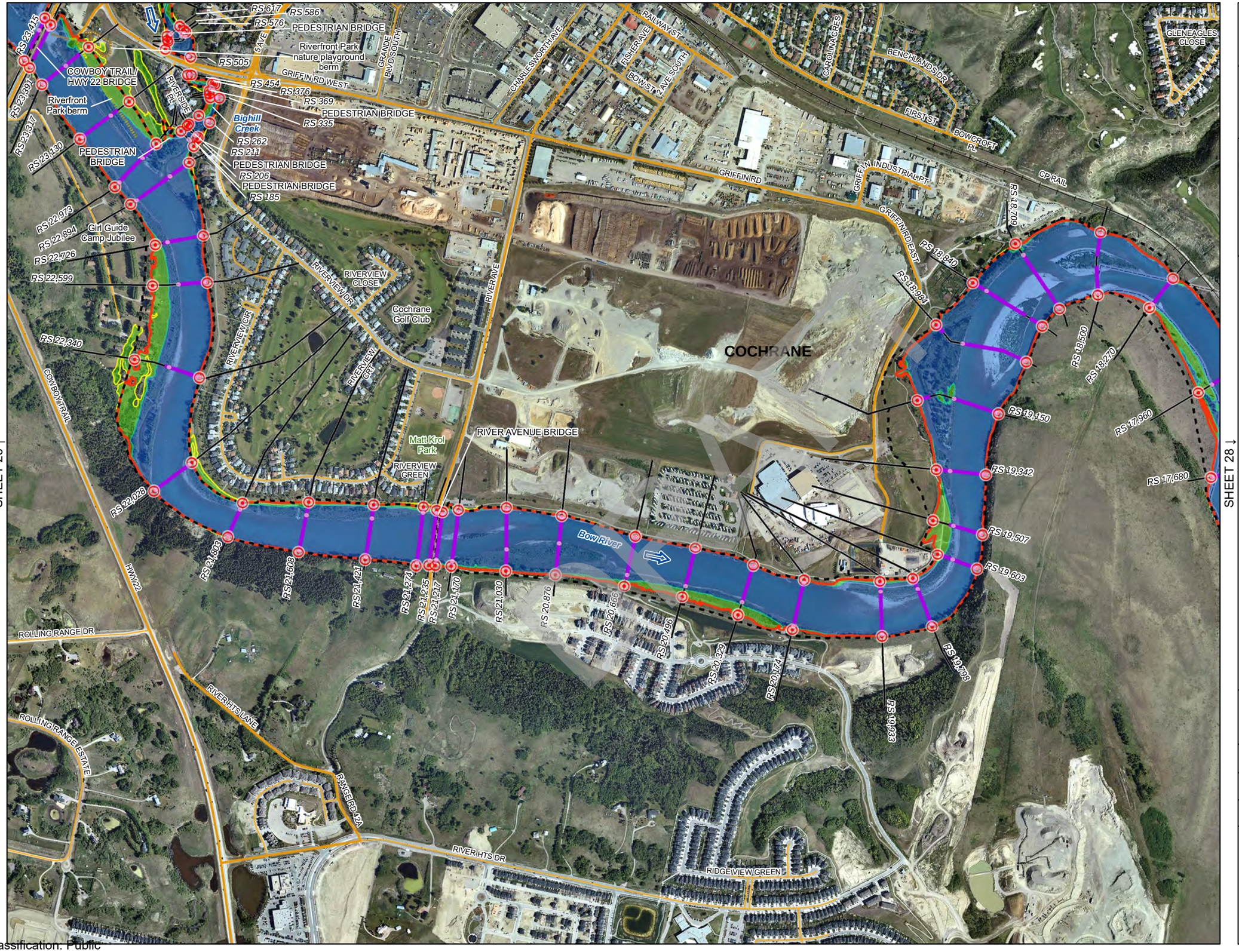
SHEET 26 OF 35

MMM_P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

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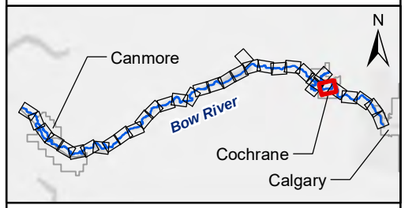


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UPPER BOW RIVER HAZARD STUDY

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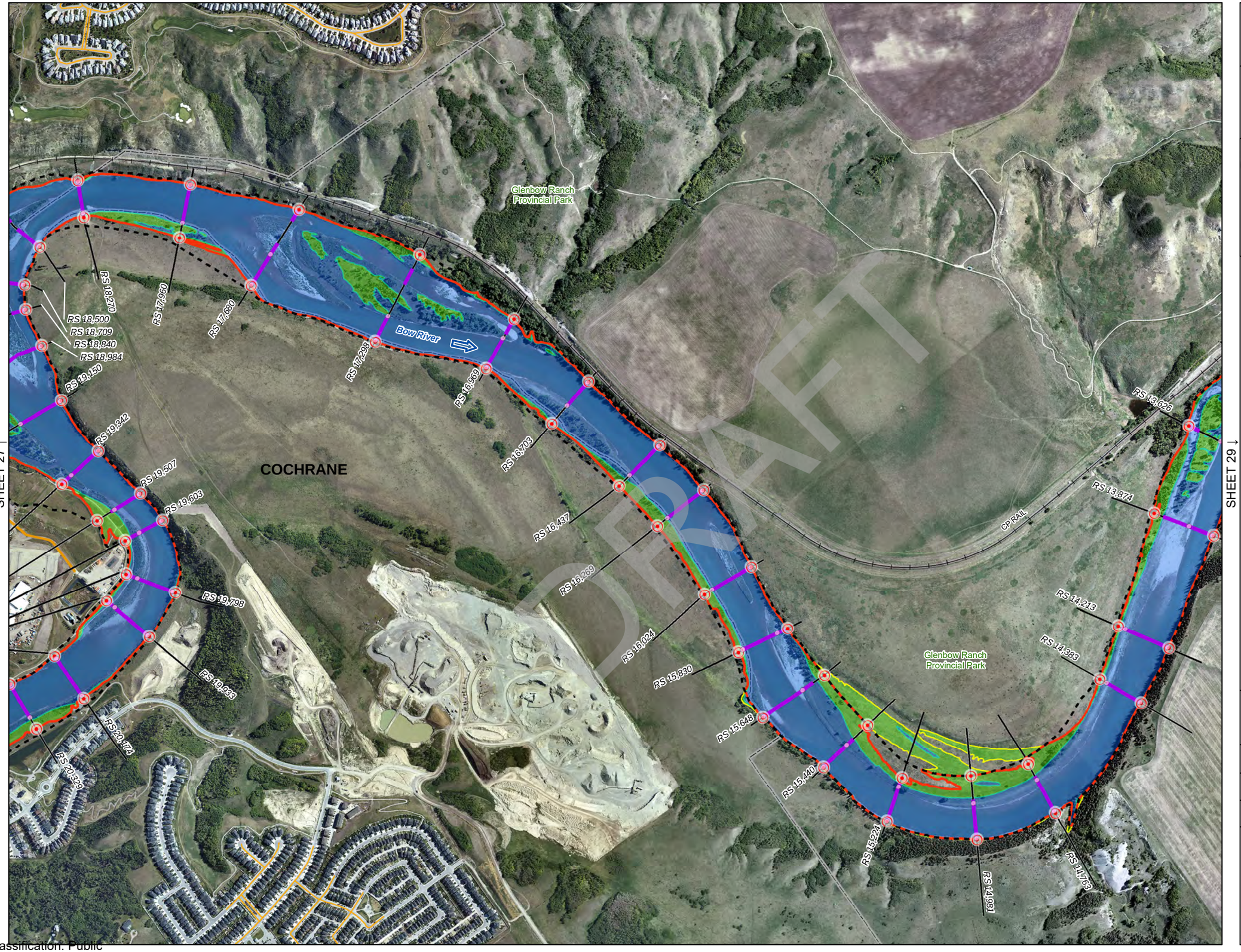
SHEET 27 OF 35

MMM_P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

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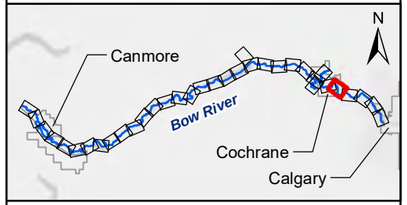


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UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 28 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

SHEET 28 ↑

SHEET 30 ↓

Glenbow

CP RAIL

Glenbow Ranch Provincial Park

Glenbow Ranch Provincial Park

Bow River

RS 14,213

RS 13,974

RS 13,626

RS 13,366

RS 13,018

RS 12,701

RS 12,451

RS 12,234

RS 11,804

RS 11,503

RS 11,230

RS 10,967

RS 10,591

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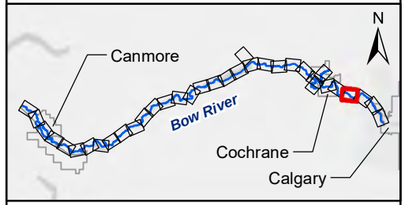


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SHEET 29 OF 35

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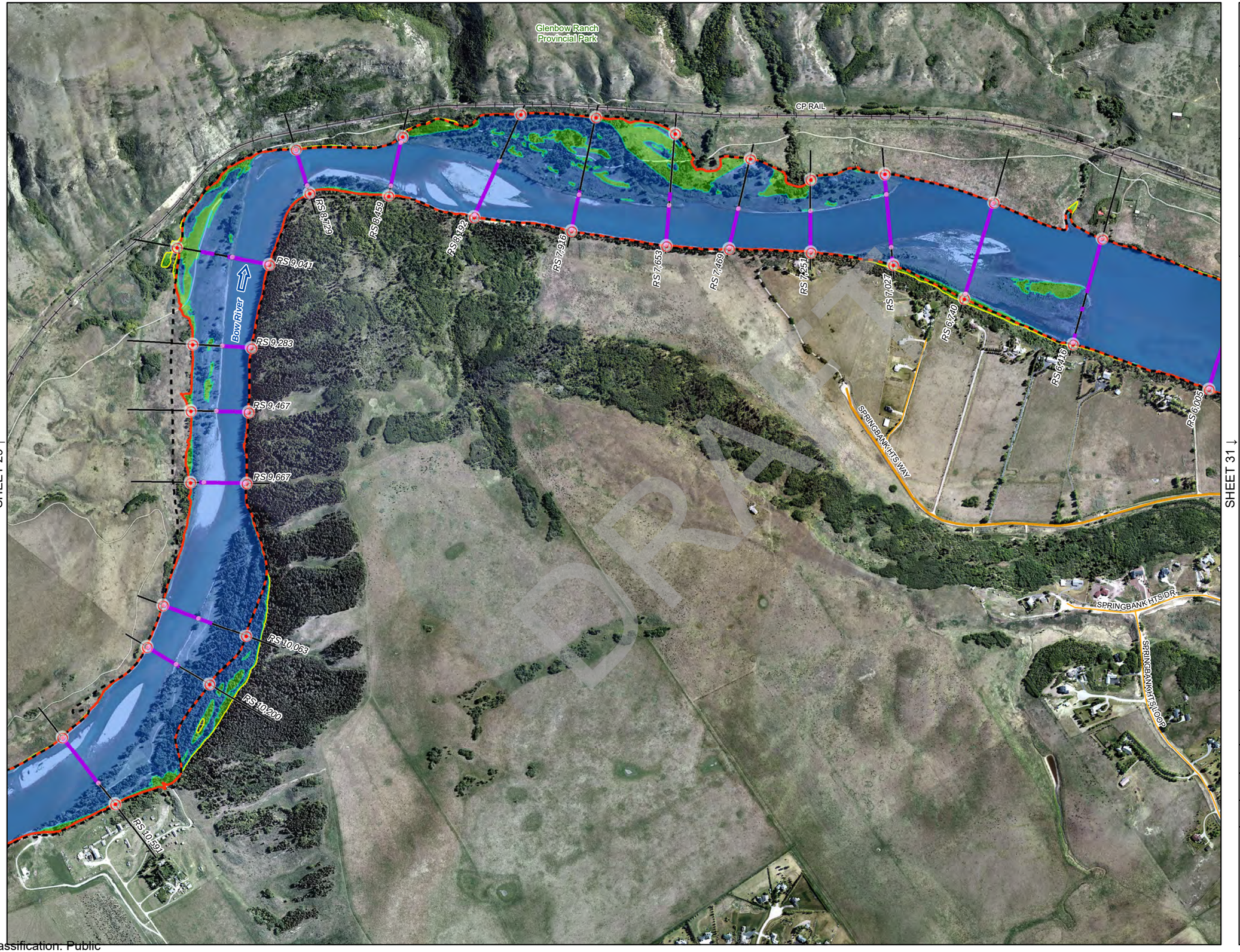


Alberta Government

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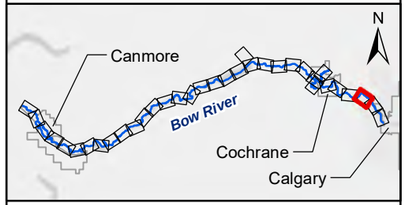
northwest hydraulic consultants

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SCALE - 1:10,000

0 100 200 300 400 M

N

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

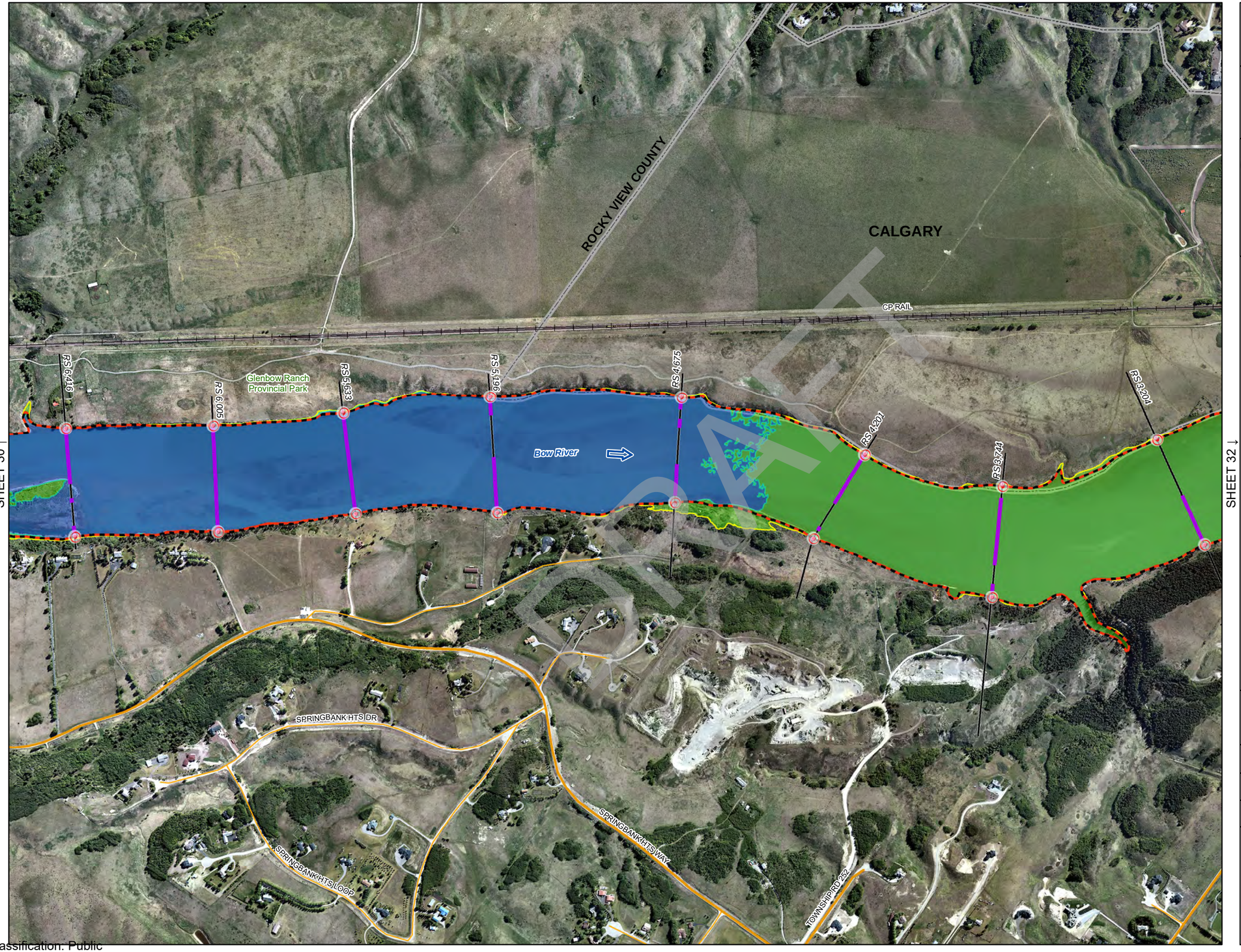
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 30 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd



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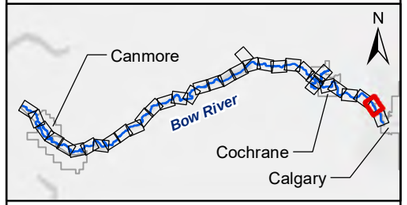



- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
- BRIDGE
- CROSS SECTION
- RS 12,345 RIVER STATION
- STUDY LIMIT
- FLOOD CONTROL STRUCTURE
- OTHER FEATURE
- DAM
- 100-YEAR OPEN WATER DESIGN FLOOD EXTENT
- DEPTH >= 1 m
- PROTECTED FLOOD
- RAILWAY
- MAJOR ROAD
- LOCAL ROAD
- CITY
- TOWN
- SUMMER VILLAGE
- COUNTY OR MUNICIPAL DISTRICT
- FIRST NATION RESERVE

SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

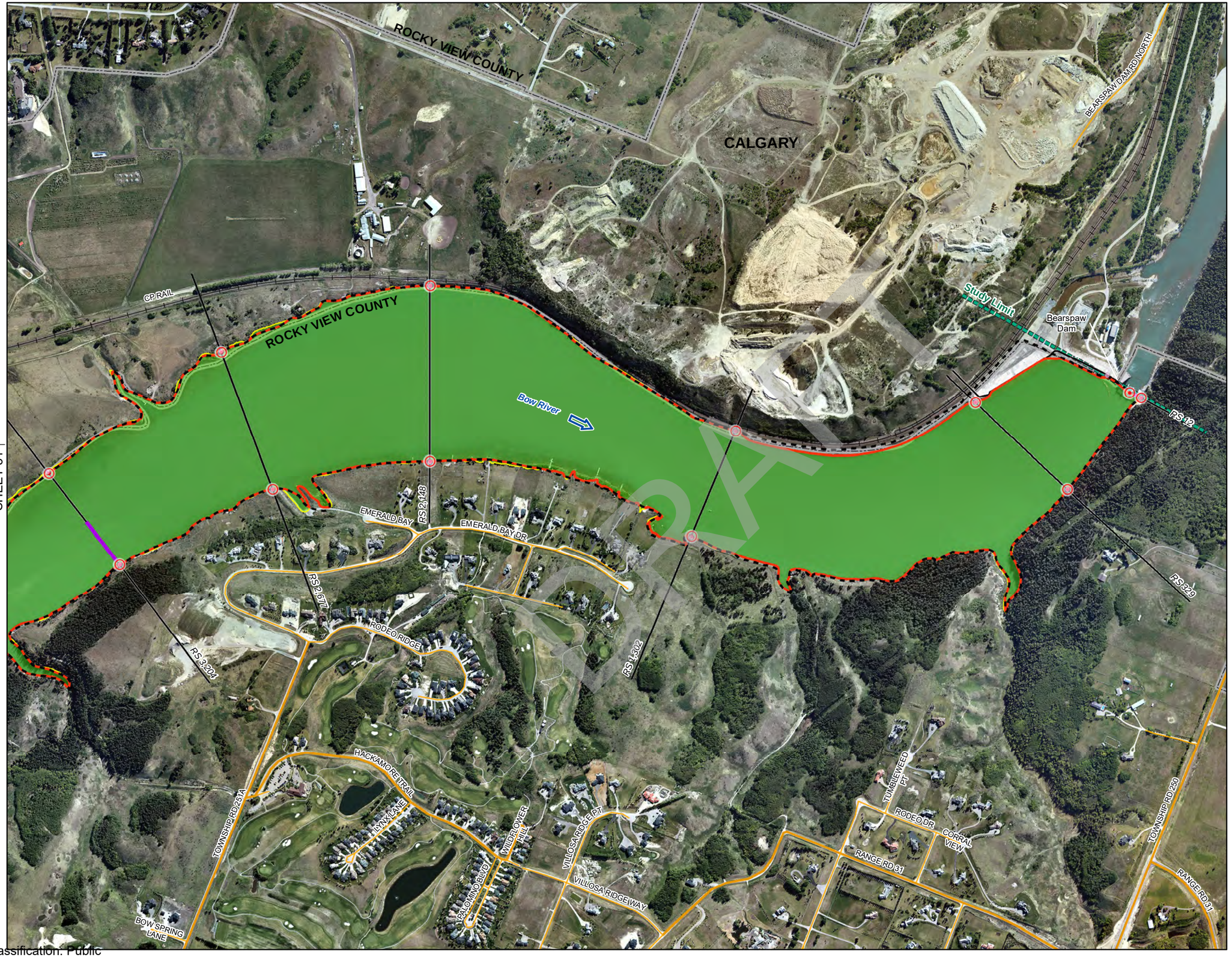
UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 31 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

SHEET 31 ↑

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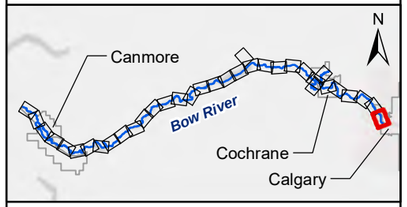


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
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- FIRST NATION RESERVE

SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

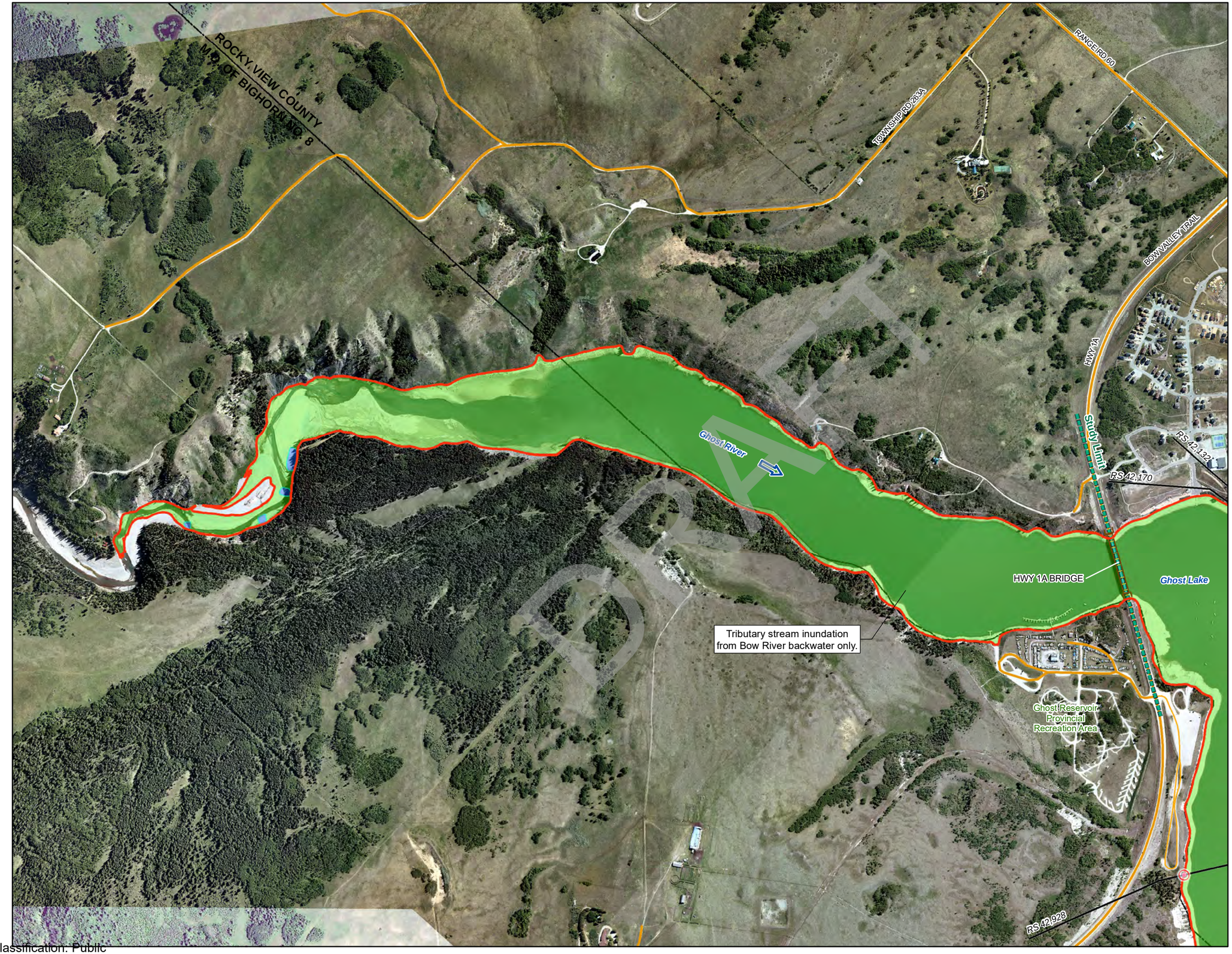
| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 32 OF 35




SHEET 21 →

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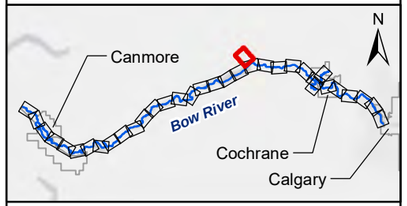


- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
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SCALE - 1:10,000

0 100 200 300 400 M

N

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

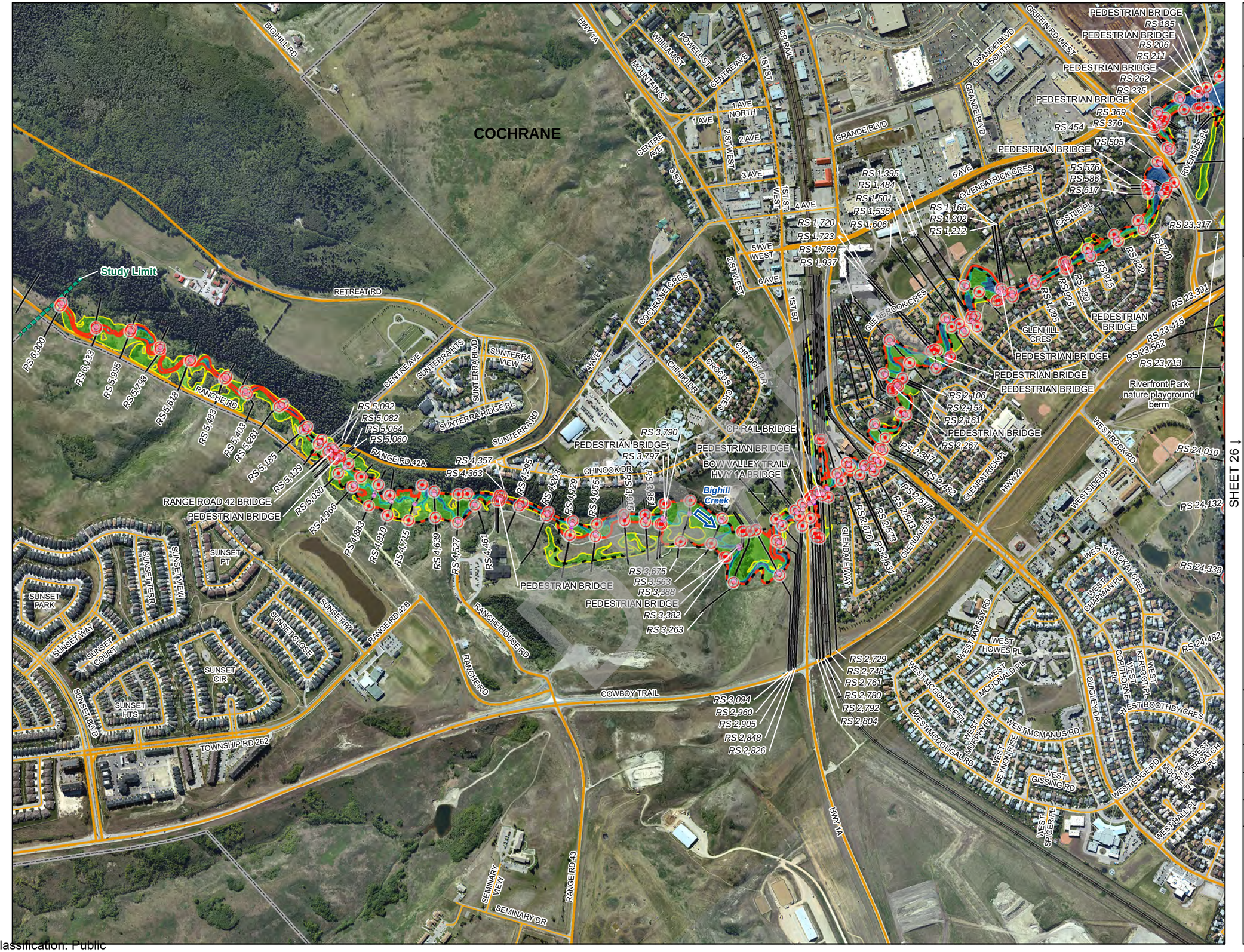
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 33 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map.mxd




SHEET 26 →

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- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
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SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

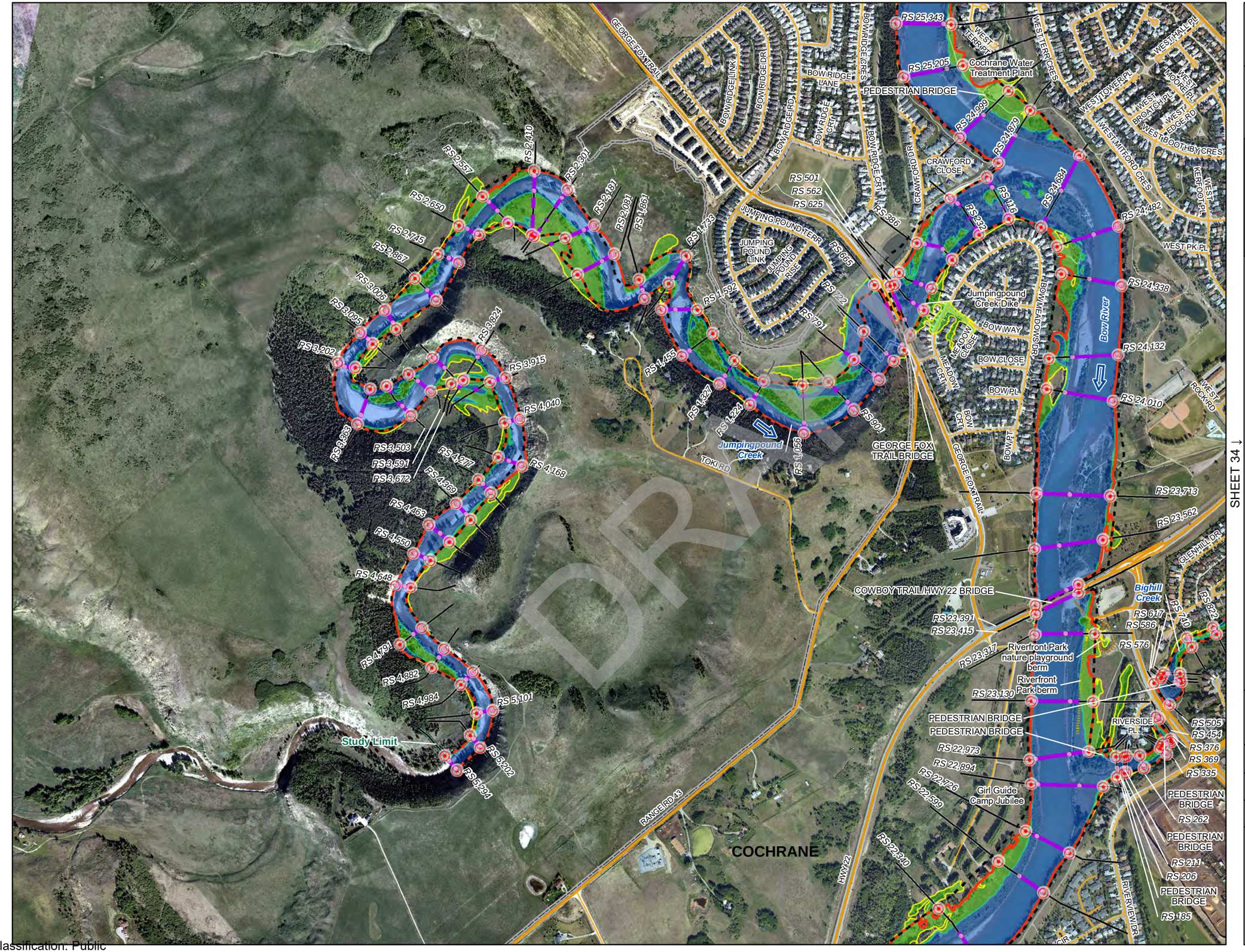
| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 34 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

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N

- FLOW DIRECTION
- BANK STATION
- PROPOSED FLOODWAY LIMIT
- VELOCITY > 1 m/s
- PREVIOUS FLOODWAY
- PROPOSED FLOODWAY BOUNDARY
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SCALE - 1:10,000

0 100 200 300 400 M

Coordinate System: NAD 1983 3TM 114
Units: METRES

| Engineer | GIS | Reviewer |
|---|---|---|
| RA | MMM/MSN | MM |

| Job Number | Date |
|---|---|
| 3001178 | 01-NOV-2022 |

UPPER BOW RIVER HAZARD STUDY

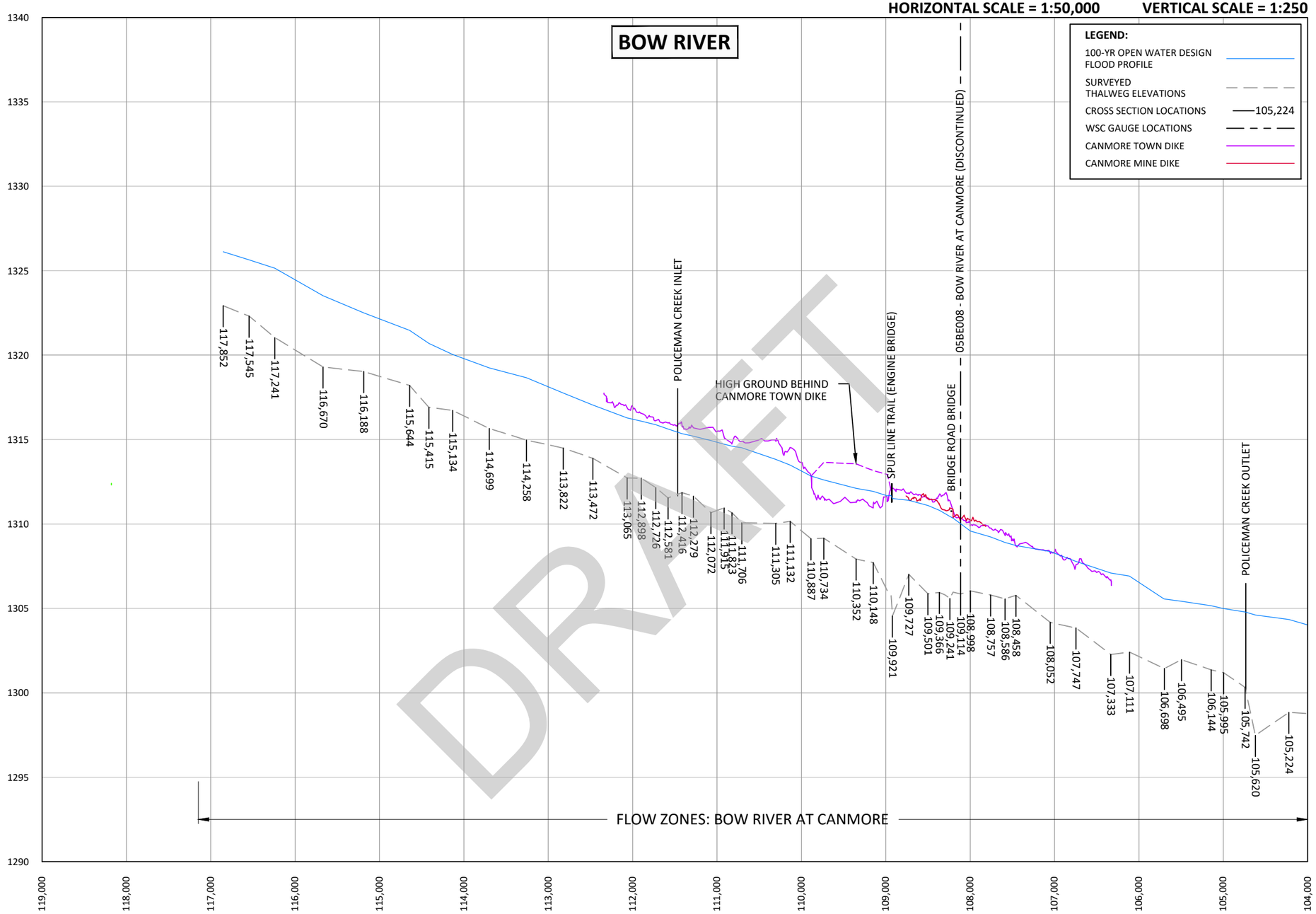
# OPEN WATER FLOODWAY CRITERIA MAP

SHEET 35 OF 35

MMM, P:_Projects (Active)\3001178_Upper Bow River Hazard Study\2022_Municipal_Review_Update\90 GIS\UpperBowRHS_OW_Floodway_Criteria_Map_2022MRUpdate.mxd

HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250

# BOW RIVER



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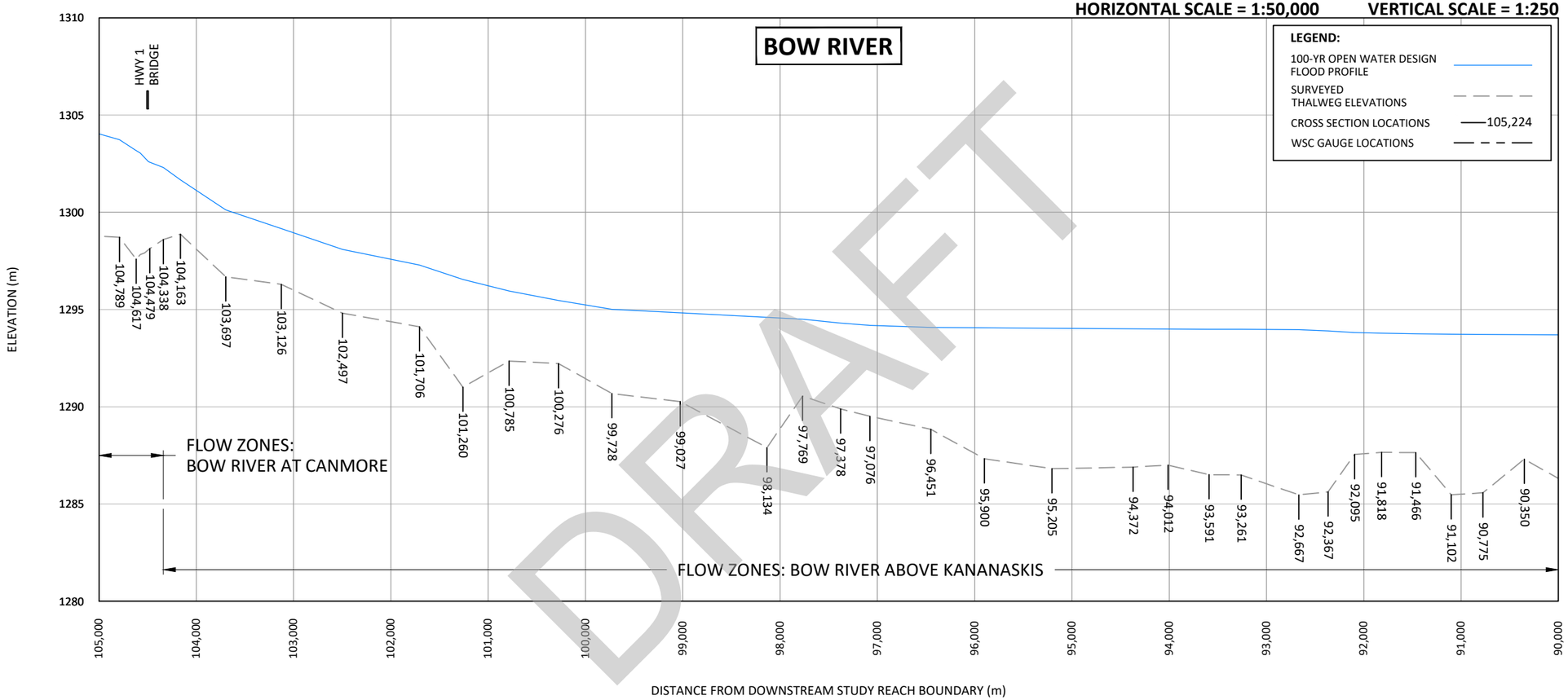
UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

| | |
|---|---|
| PROJECT NUMBER | 3001178 |
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 1 of 10 |

HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250



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UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

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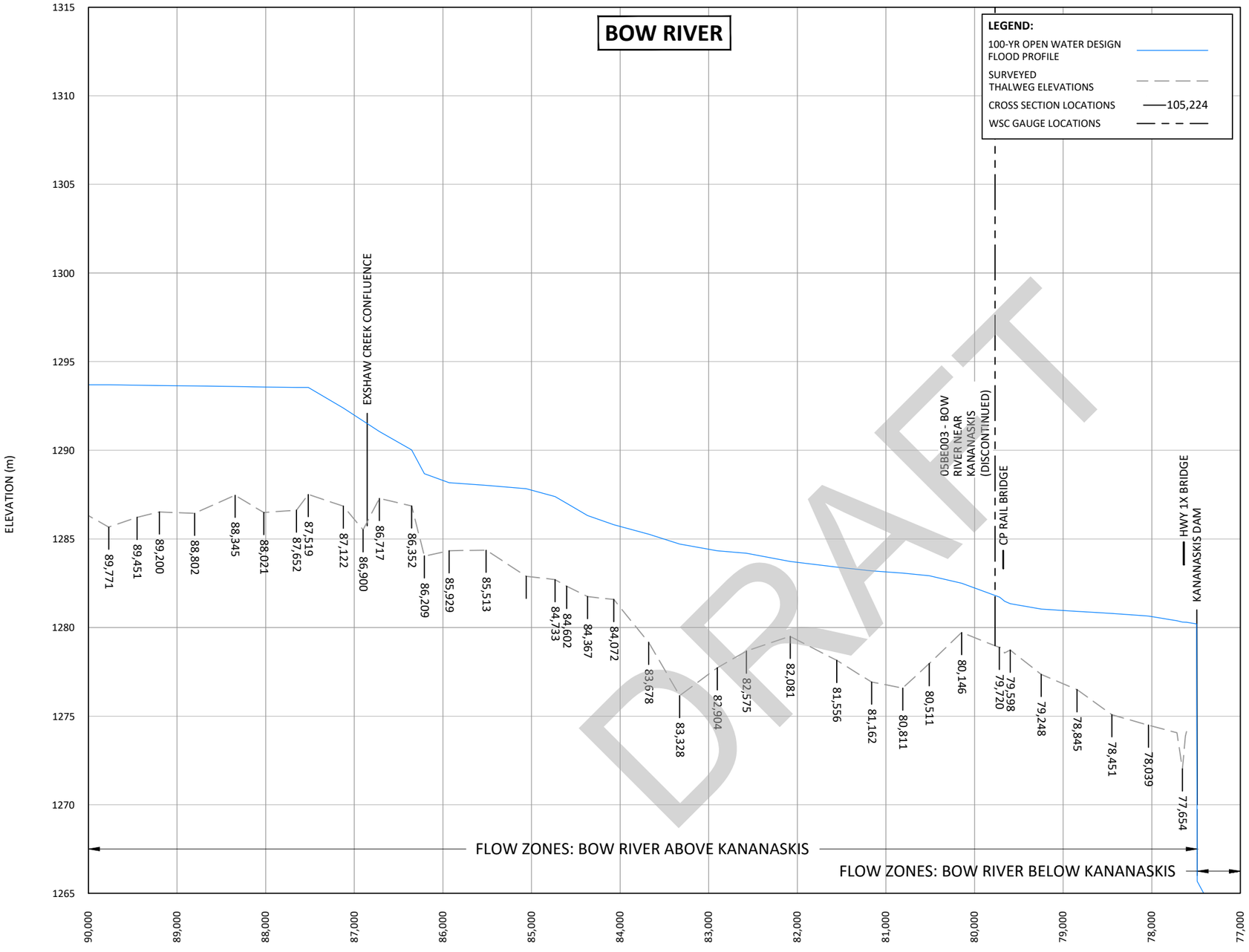
| PROJECT NUMBER | 3001178 |
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 2 of 10 |

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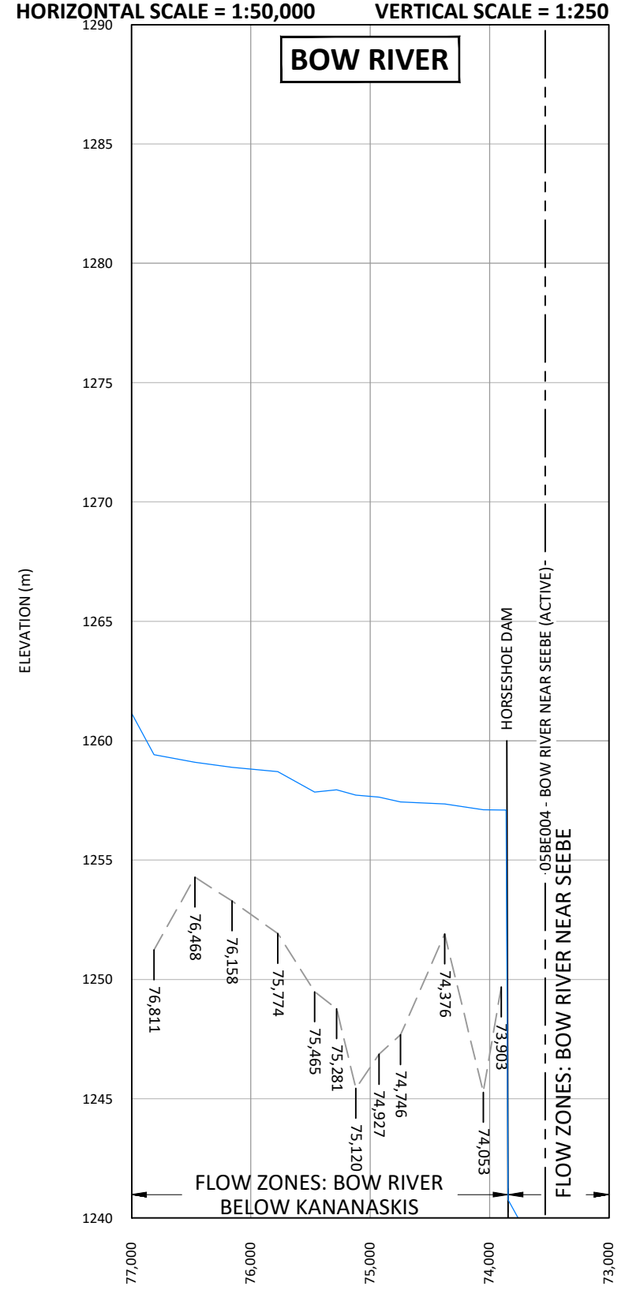




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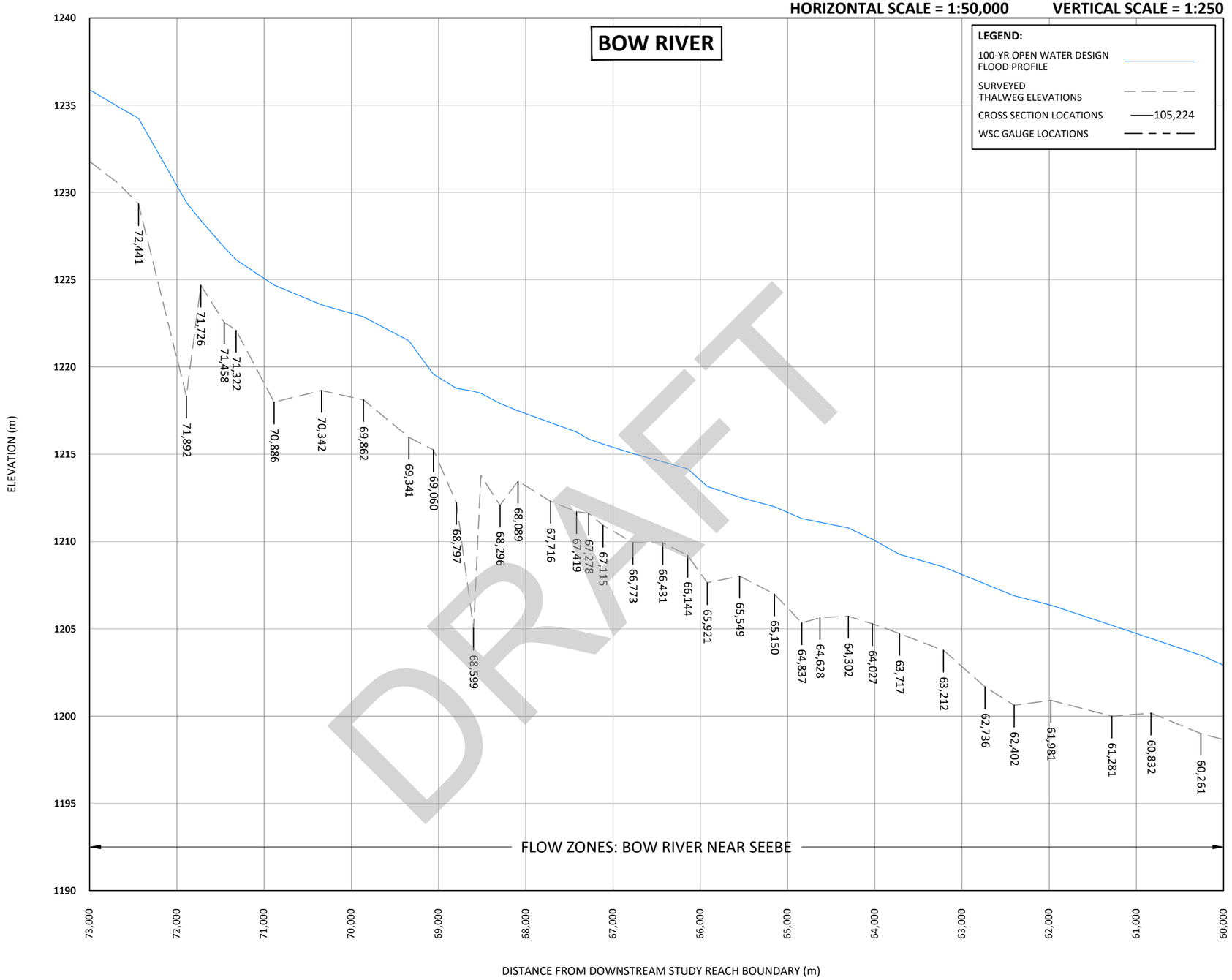
UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

| | |
|---|---|
| PROJECT NUMBER | 3001178 |
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 3 of 10 |

HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250



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UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

| | |
|---|---|
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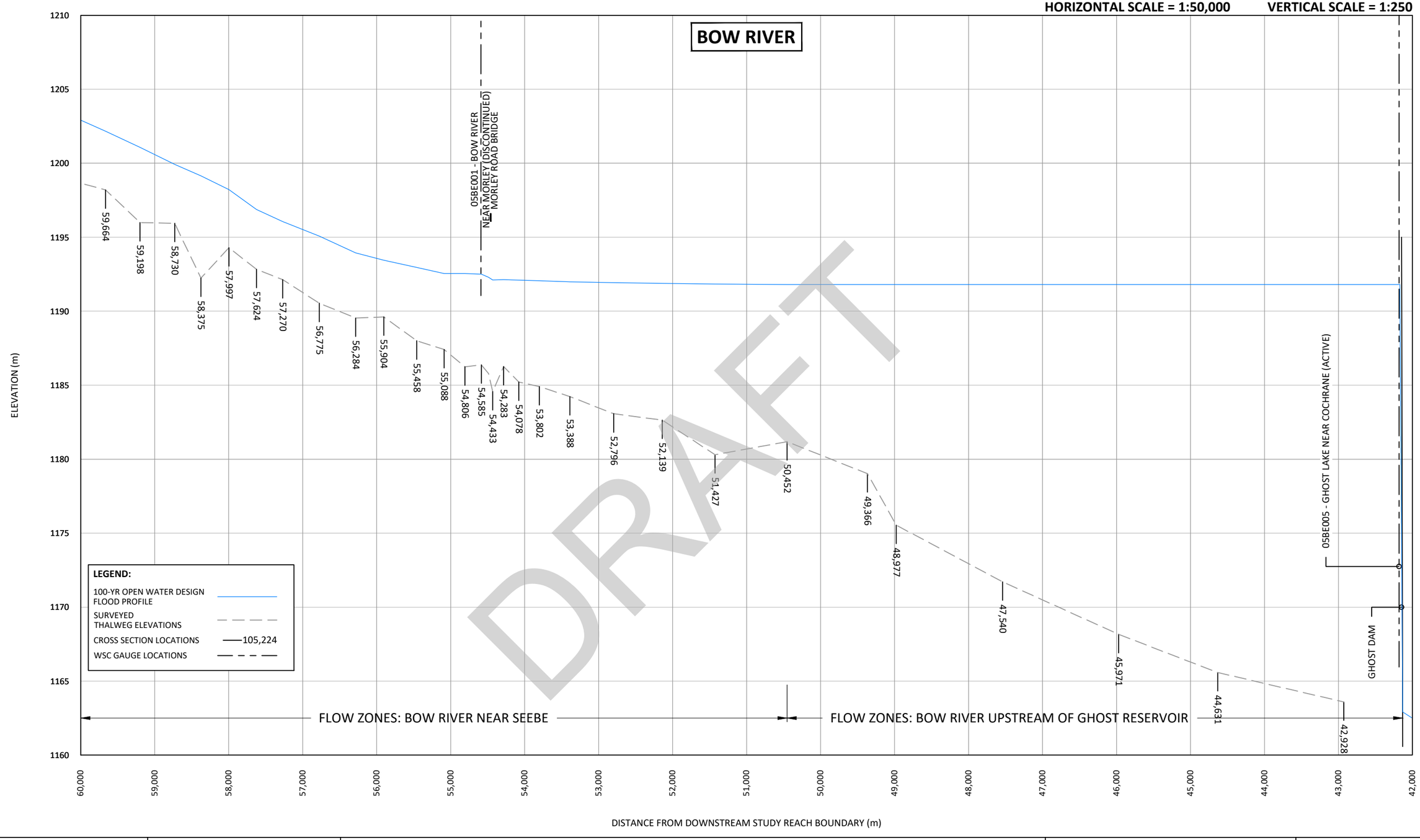
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 4 of 10 |

HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250



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UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

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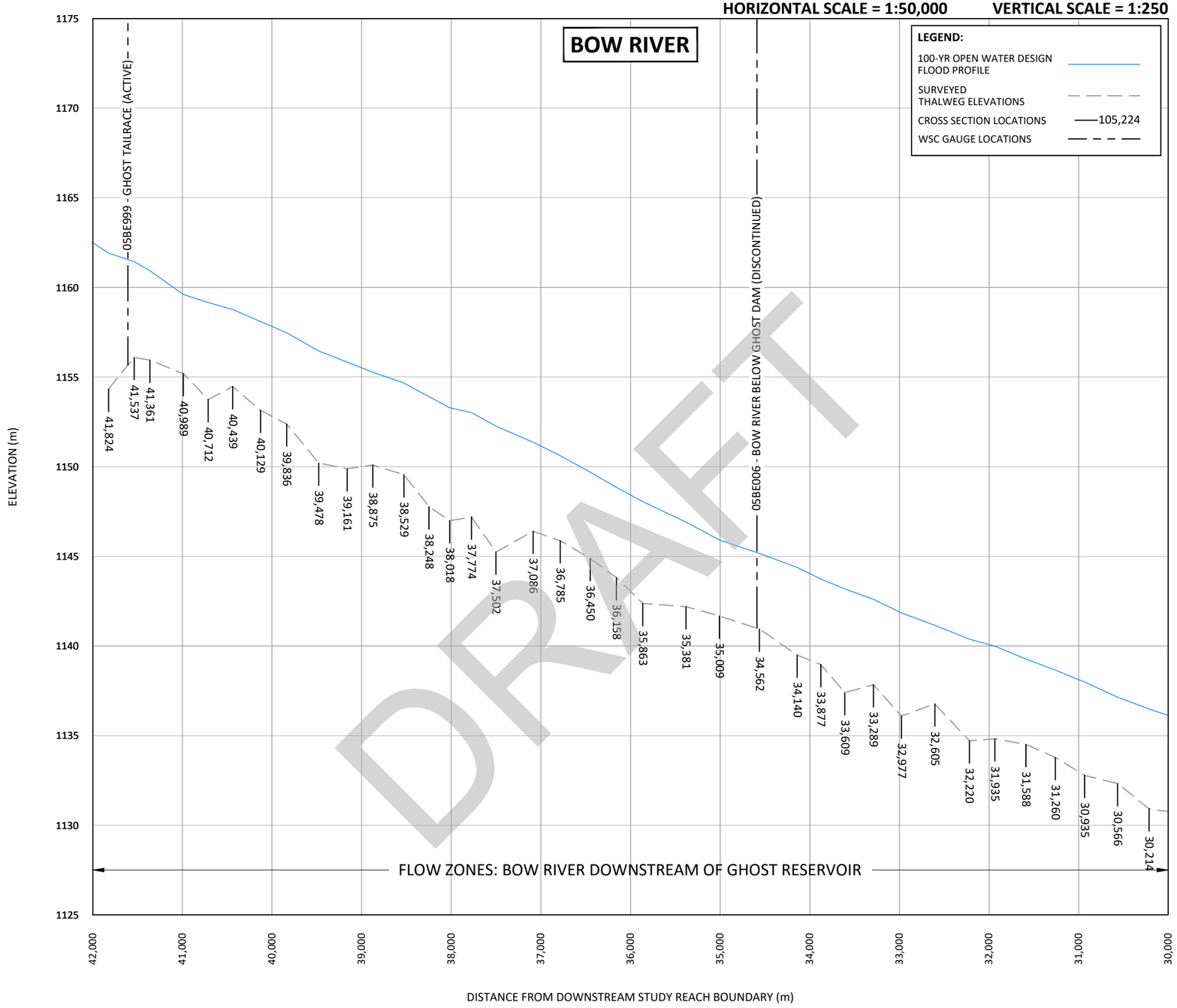
| PROJECT NUMBER | 3001178 |
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 5 of 10 |

HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250



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UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

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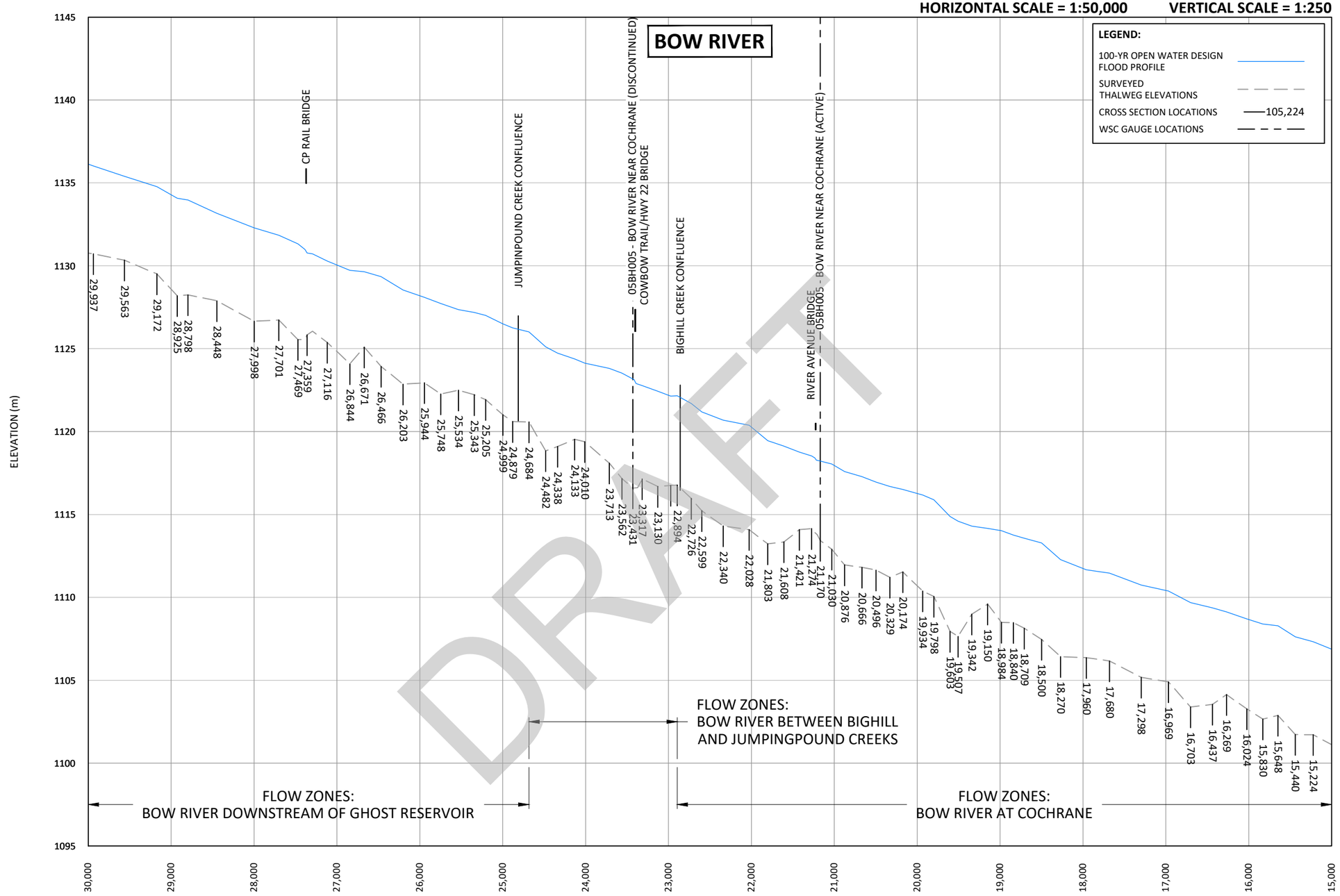
|---|---|
| PROJECT NUMBER | 3001178 |
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 6 of 10 |

HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250

# BOW RIVER



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UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

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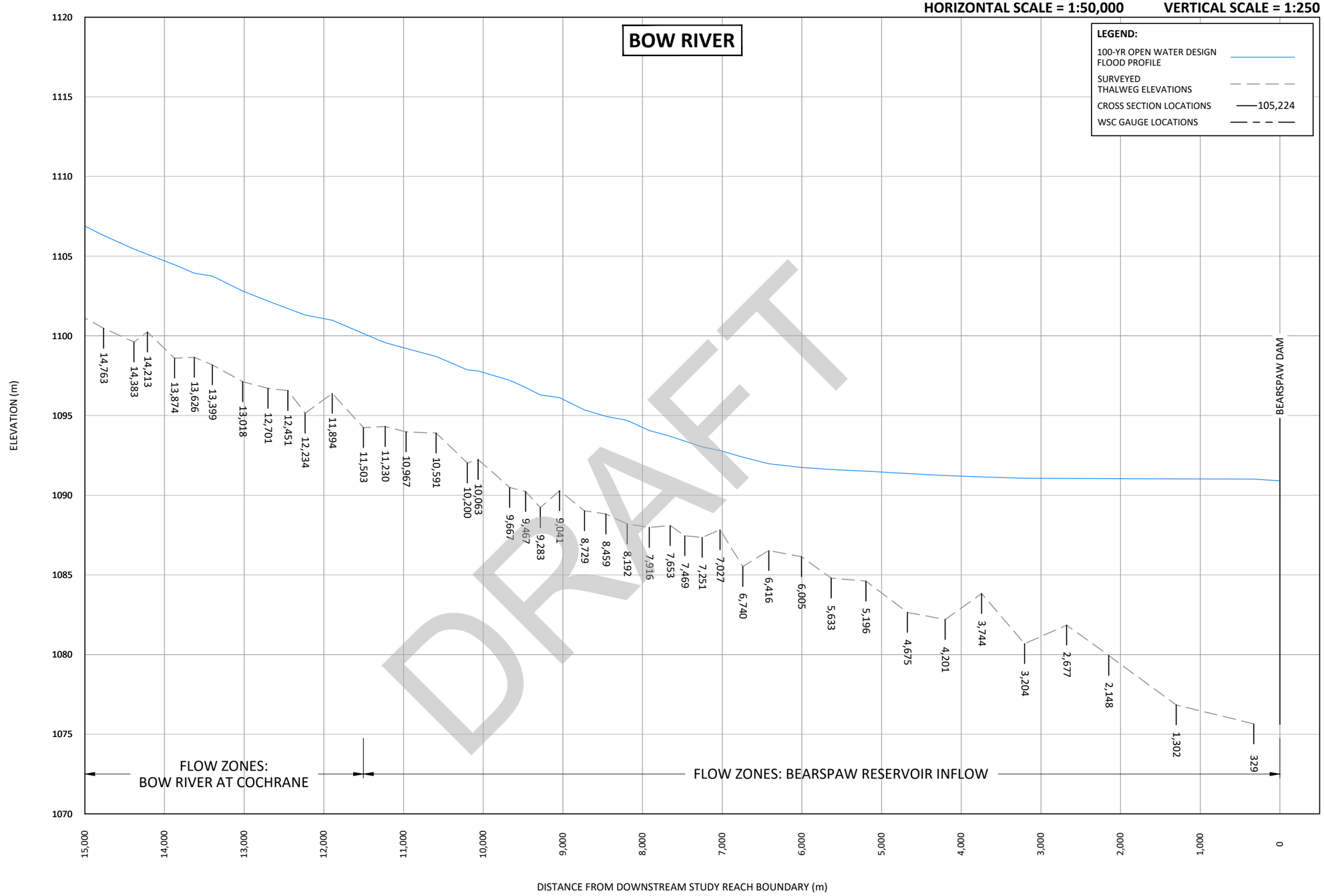
|---|---|
| PROJECT NUMBER | 3001178 |
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 7 of 10 |

HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250



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UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

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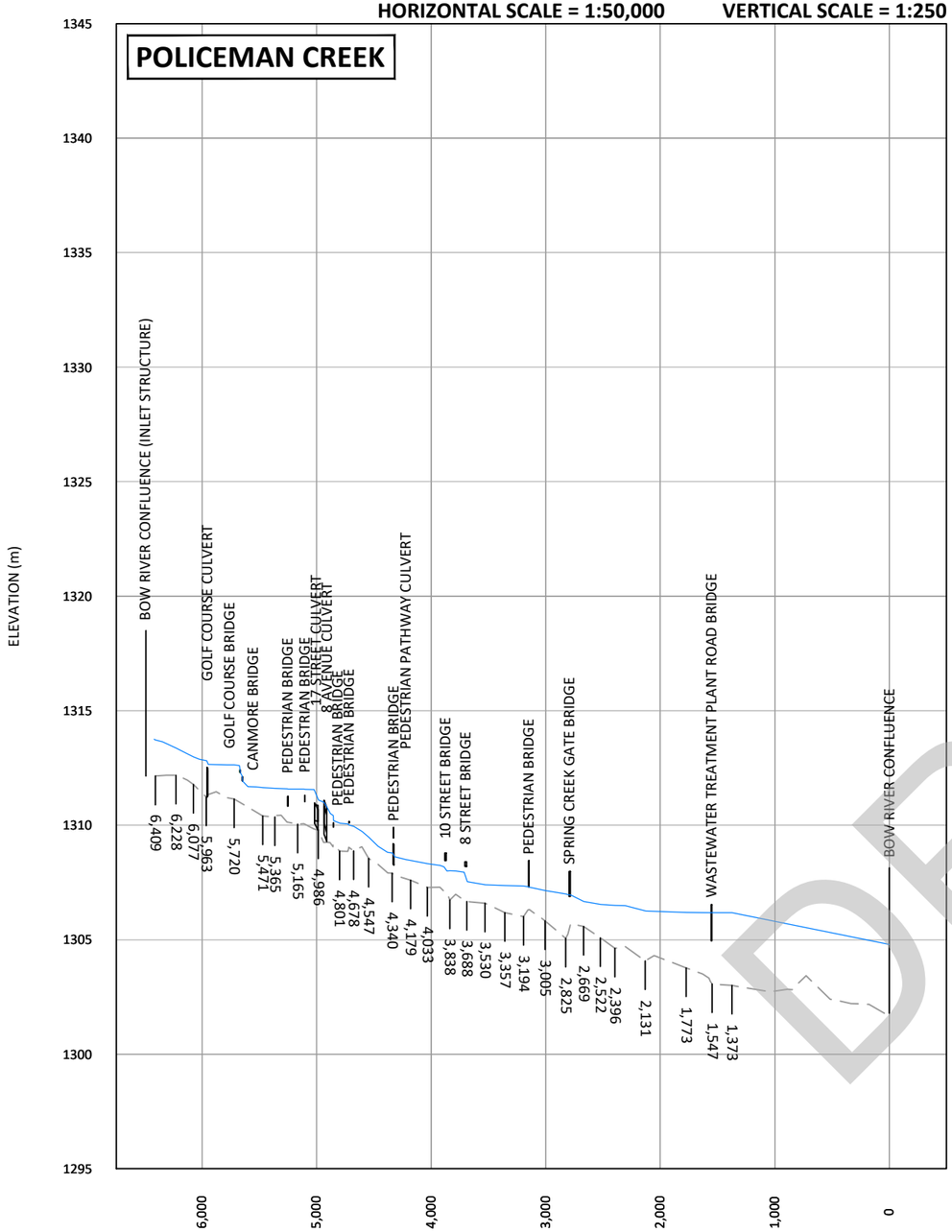
|---|---|
| PROJECT NUMBER | 3001178 |
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 8 of 10 |

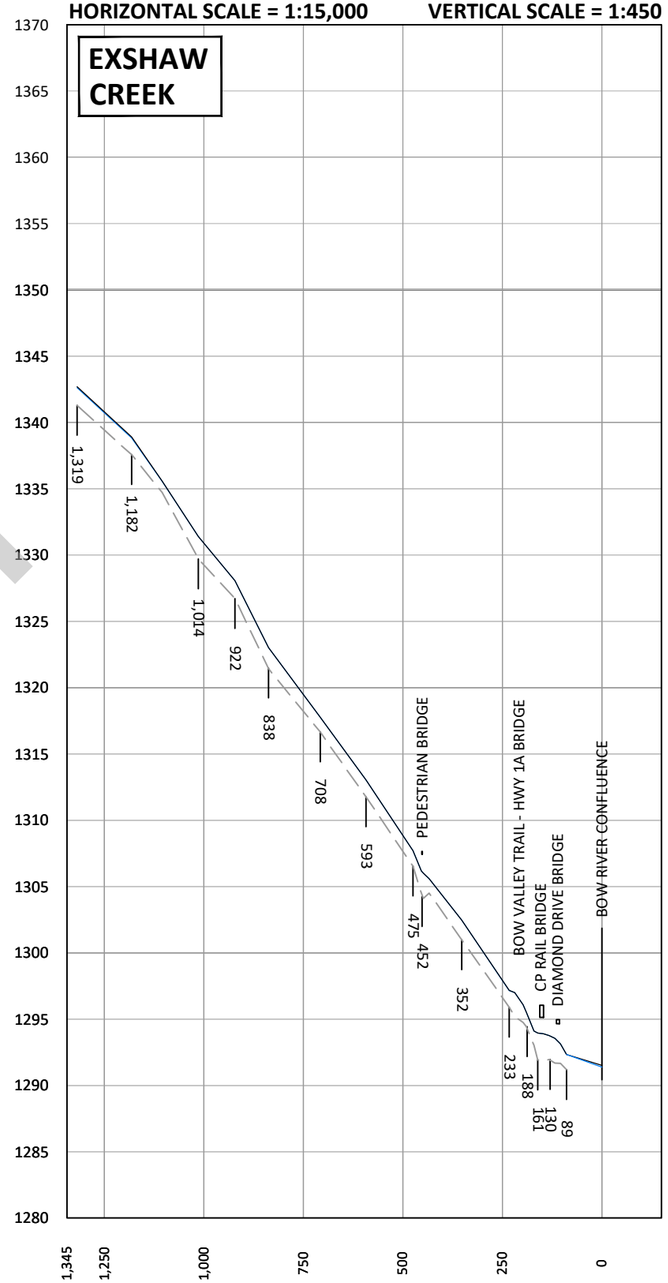
HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250




**LEGEND:**

- 100-YR OPEN WATER DESIGN FLOOD PROFILE
- SURVEYED THALWEG ELEVATIONS
- CROSS SECTION LOCATIONS — 105,224
- WSC GAUGE LOCATIONS

HORIZONTAL SCALE = 1:15,000 VERTICAL SCALE = 1:450



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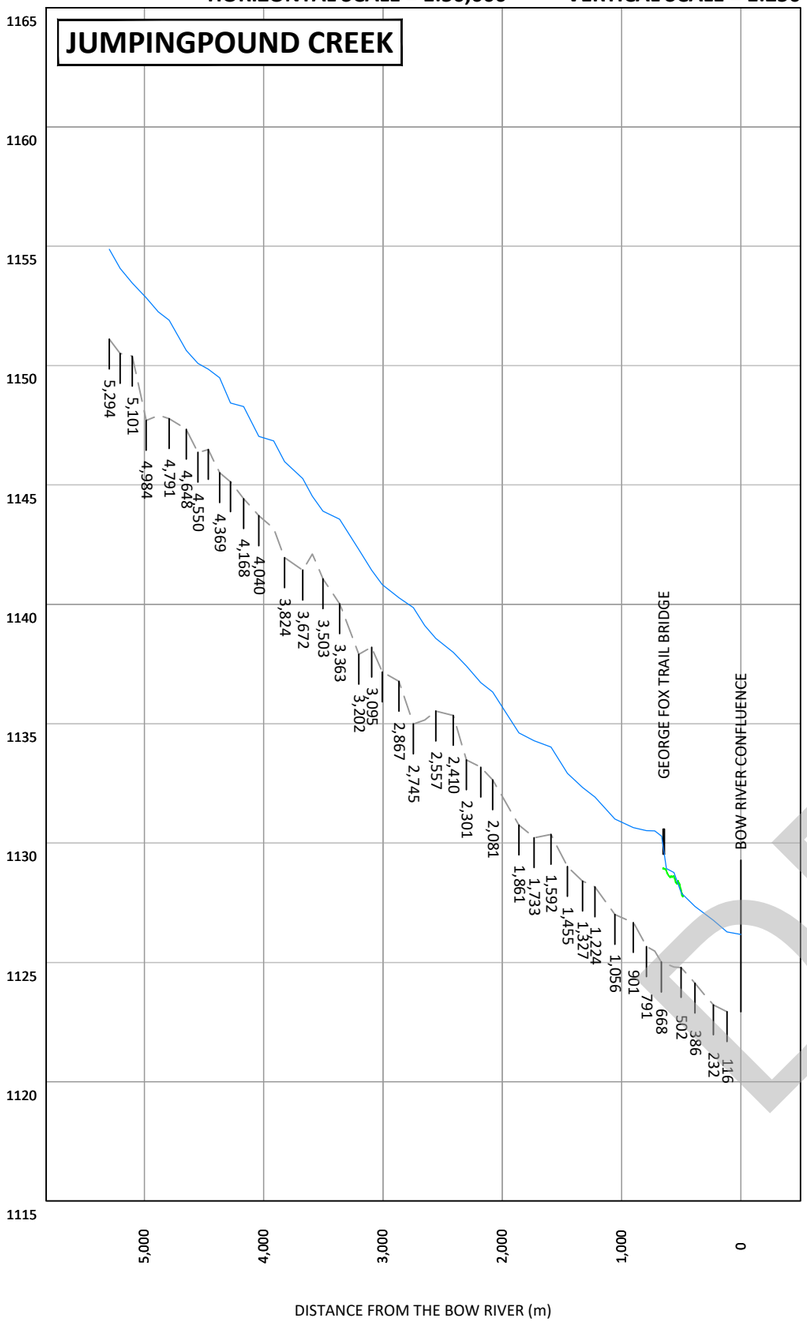
UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

| | |
|---|---|
| PROJECT NUMBER | 3001178 |
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 9 of 10 |

HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250

## JUMPINGPOUND CREEK

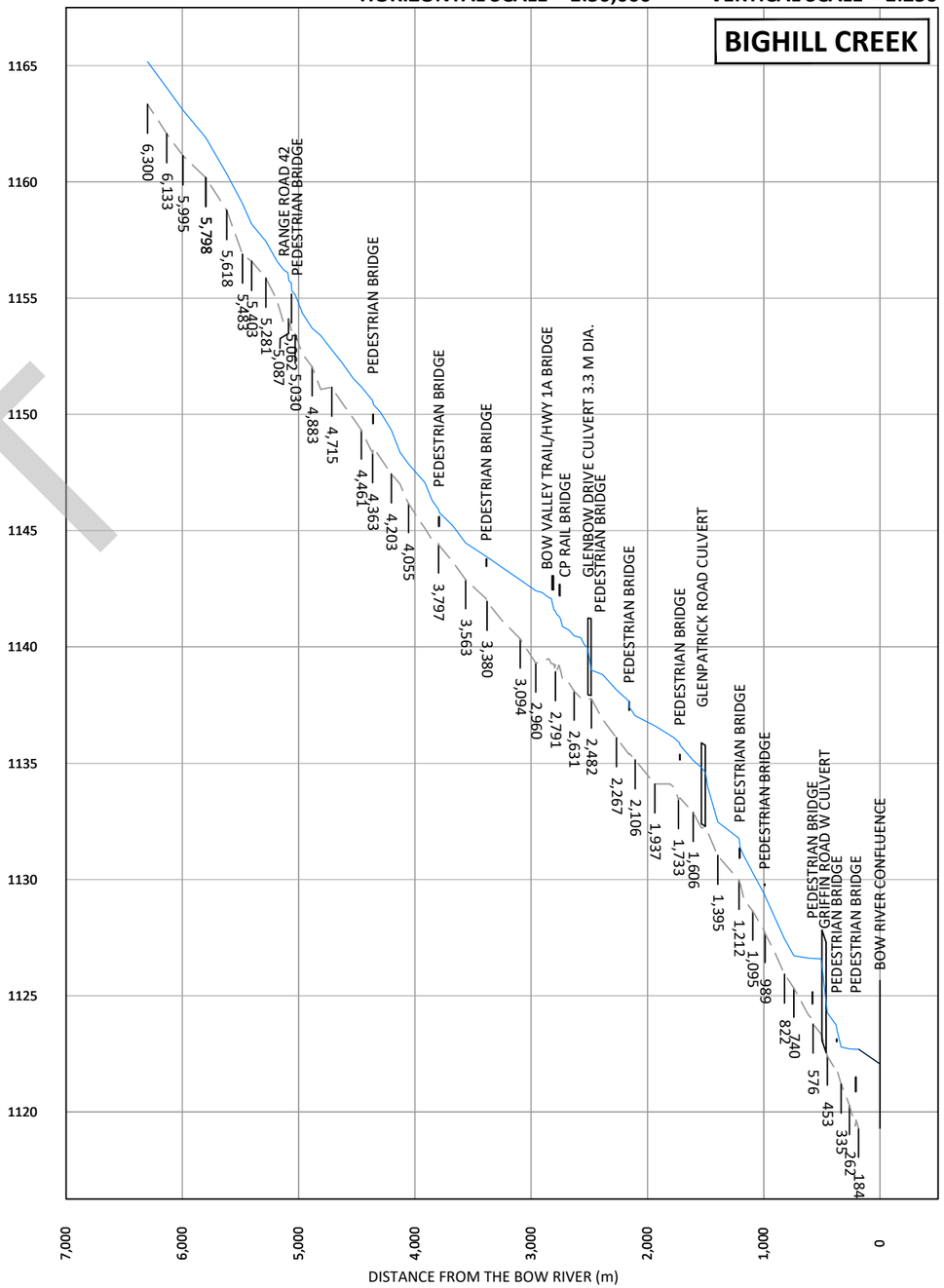



**LEGEND:**

- 100-YR OPEN WATER DESIGN FLOOD PROFILE
- SURVEYED THALWEG ELEVATIONS
- CROSS SECTION LOCATIONS — 105,224
- WSC GAUGE LOCATIONS
- JUMPINGPOUND CREEK DIKE

HORIZONTAL SCALE = 1:50,000 VERTICAL SCALE = 1:250

## BIGHILL CREEK



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UPPER BOW RIVER HAZARD STUDY

OPEN WATER DESIGN FLOOD PROFILE

| | |
|---|---|
| PROJECT NUMBER | 3001178 |
| DRAWING NUMBER | 3001178-400 |
| SHEET NUMBER | 10 of 10 |

# APPENDIX A
# FLOODWAY DETERMINATION CRITERIA SUMMARY

**Table A1 Selected floodway limits and governing criteria**

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 117,852 | 439.7 | 1 m/s Velocity | 751.6 | 1 m/s Velocity |
| Bow River | 117,547 | 501.9 | Main Channel | 985.2 | 1 m/s Velocity |
| Bow River | 117,241 | 804.5 | Inundation Limit[1] | 1234.8 | Previous Floodway |
| Bow River | 116,670 | 825.2 | Previous Floodway | 1225.0 | Previous Floodway |
| Bow River | 116,188 | 648.0 | Previous Floodway | 1306.8 | Previous Floodway |
| Bow River | 115,644 | 832.6 | Previous Floodway | 1338.0 | Inundation Limit[1] |
| Bow River | 115,415 | 674.8 | Previous Floodway | 1578.1 | Inundation Limit[1] |
| Bow River | 115,134 | 564.1 | Previous Floodway | 1859.8 | Inundation Limit[1] |
| Bow River | 114,700 | 72.8 | Main Channel[2] | 1383.7 | Inundation Limit[1] |
| Bow River | 114,258 | 97.0 | Previous Floodway | 1290.0 | Inundation Limit[1] |
| Bow River | 113,821 | 156.1 | Previous Floodway | 1366.8 | Inundation Limit[1] |
| Bow River | 113,472 | 304.2 | Previous Floodway | 1408.1 | Previous Floodway |
| Bow River | 113,065 | 448.5 | Previous Floodway | 1322.0 | Mixed |
| Bow River | 112,898 | 526.2 | Flood Control Struct[3] | 1404.1 | 1 m Depth |
| Bow River | 112,726 | 576.3 | Previous Floodway | 1542.1 | 1 m Depth |
| Bow River | 112,580 | 720.0 | Flood Control Struct[3] | 1889.8 | Inundation Limit[4] |
| Bow River | 112,416 | 26.5 | Flood Control Struct[3] | 1036.1 | Inundation Limit[4] |
| Bow River | 112,279 | 3.7 | Flood Control Struct[3] | 997.8 | Inundation Limit[4] |
| Bow River | 112,071 | 116.4 | Flood Control Struct[3] | 861.8 | Inundation Limit[4] |
| Bow River | 111,915 | 158 | Flood Control Struct[3] | 748.9 | Inundation Limit[4] |
| Bow River | 111,823 | 165.8 | Flood Control Struct[3] | 609.6 | Inundation Limit[4] |
| Bow River | 111,706 | 247.0 | Flood Control Struct[3] | 769.3 | Inundation Limit[4] |
| Bow River | 111,305 | 241.9 | Flood Control Struct[3] | 757.2 | Inundation Limit[4] |
| Bow River | 111,132 | 330.3 | Flood Control Struct[3] | 819.8 | Inundation Limit[4] |
| Bow River | 110,887 | 536.7 | Flood Control Struct[3] | 887.2 | Inundation Limit[4] |
| Bow River | 110,734 | 403.8 | Flood Control Struct[3] | 799.6 | Inundation Limit[4] |
| Bow River | 110,352 | 451.7 | Flood Control Struct[3] | 919.5 | Previous Floodway |
| Bow River | 110,148 | 468.6 | Flood Control Struct[3] | 928.7 | Previous Floodway |
| Bow River | 109,981 | 490.1 | Flood Control Struct[3] | 878.6 | Inundation Limit[1] |
| Bow River | 109,938 | 448.2 | Flood Control Struct[3] | 912.7 | Previous Floodway |
| Bow River | 109,921 | 435.9 | Flood Control Struct[3] | 917.2 | Inundation Limit[1] |
| Bow River | 109,727 | 451.3 | Flood Control Struct[3] | 809.6 | Previous Floodway |
| Bow River | 109,501 | 501.6 | Flood Control Struct[3] | 711.4 | Flood Control Struct[3] |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 109,366 | 545.9 | Flood Control Struct[3] | 641.1 | Flood Control Struct[3] |
| Bow River | 109,235 | 514.6 | Flood Control Struct[3] | 587.9 | Flood Control Struct[3] |
| Bow River | 109,202 | 424.2 | Flood Control Struct[3] | 519.8 | Flood Control Struct[3] |
| Bow River | 109,114 | 408.0 | Flood Control Struct[3] | 506.6 | Flood Control Struct[3] |
| Bow River | 108,998 | 452.4 | Flood Control Struct[3] | 529.5 | Flood Control Struct[3] |
| Bow River | 108,757 | 536.7 | Flood Control Struct[3] | 795.9 | Main Channel[2] |
| Bow River | 108,586 | 251.7 | Flood Control Struct[3] | 736.5 | Inundation Limit[4] |
| Bow River | 108,458 | 260.4 | Flood Control Struct[3] | 751.2 | Inundation Limit[4] |
| Bow River | 108,052 | 277.6 | Flood Control Struct[3] | 718.6 | Inundation Limit[4] |
| Bow River | 107,747 | 129.9 | Flood Control Struct[3] | 584.8 | Inundation Limit[4] |
| Bow River | 107,333 | 22.8 | Previous Floodway | 445.5 | Inundation Limit[1] |
| Bow River | 107,113 | N/A | None[5] | 501.9 | Main Channel[2] |
| Bow River | 106,702 | N/A | None[5] | 458.8 | Inundation Limit[1] |
| Bow River | 106,497 | 373.8 | Previous Floodway | 1043.2 | Inundation Limit[1] |
| Bow River | 106,143 | 271.6 | Previous Floodway | 857.7 | 1 m Depth |
| Bow River | 105,995 | 238.2 | Previous Floodway | 795.1 | Inundation Limit[4] |
| Bow River | 105,742 | 13.9 | Inundation Limit[4] | 690 | Inundation Limit[4] |
| Bow River | 105,620 | 25.8 | Inundation Limit[4] | 701.7 | Inundation Limit[4] |
| Bow River | 105,224 | 23.4 | Inundation Limit[4] | 640.2 | Inundation Limit[4] |
| Bow River | 104,790 | 24.6 | Inundation Limit[4] | 344.9 | Inundation Limit[4] |
| Bow River | 104,631 | -7.6 | Inundation Limit[4] | 108.1 | Inundation Limit[1] |
| Bow River | 104,575 | -7.1 | Inundation Limit[4] | 130.4 | Inundation Limit[4] |
| Bow River | 104,490 | 26.6 | Previous Floodway | 146.2 | Previous Floodway |
| Bow River | 104,338 | 1453.4 | Previous Floodway | 1730.1 | Previous Floodway |
| Bow River | 104,163 | 936.4 | Previous Floodway | 1876.9 | Previous Floodway |
| Bow River | 103,697 | 340.9 | Previous Floodway | 2009.5 | Inundation Limit[1] |
| Bow River | 103,126 | 213.7 | Previous Floodway | 2108.2 | Inundation Limit[1] |
| Bow River | 102,497 | 402.3 | Previous Floodway | 1971.0 | Previous Floodway |
| Bow River | 101,706 | 378.9 | Previous Floodway | 1760.7 | Previous Floodway |
| Bow River | 101,260 | 317.7 | Previous Floodway | 1508.7 | Previous Floodway |
| Bow River | 100,785 | 196.4 | Previous Floodway | 1632.8 | Previous Floodway |
| Bow River | 100,276 | 207.8 | Previous Floodway | 1527.0 | Previous Floodway |
| Bow River | 99,728 | 229.9 | Previous Floodway | 1919.6 | Previous Floodway |
| Bow River | 99,027 | 279.2 | Previous Floodway | 1954.0 | Previous Floodway |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 98,134 | 337.3 | Inundation Limit[1] | 1575.1 | Previous Floodway |
| Bow River | 97,769 | 370.3 | 1 m Depth | 1323.4 | Previous Floodway |
| Bow River | 97,378 | 368.3 | Previous Floodway | 1086.9 | Previous Floodway |
| Bow River | 97,076 | 365.4 | Previous Floodway | 1031.3 | Previous Floodway |
| Bow River | 96,451 | 250.0 | Previous Floodway | 1108.5 | Previous Floodway |
| Bow River | 94,012 | 758.4 | Previous Floodway | 1560.0 | Previous Floodway |
| Bow River | 93,591 | 718.8 | Previous Floodway | 1493.3 | Previous Floodway |
| Bow River | 93,261 | 742.9 | Previous Floodway | 1466.7 | Previous Floodway |
| Bow River | 92,667 | 444.9 | Previous Floodway | 890.6 | Previous Floodway |
| Bow River | 92,367 | 472.1 | Previous Floodway | 728.1 | Previous Floodway |
| Bow River | 92,095 | 478.8 | Previous Floodway | 709.4 | Previous Floodway |
| Bow River | 91,818 | 478.5 | Previous Floodway | 834.8 | Previous Floodway |
| Bow River | 91,466 | 442.9 | Previous Floodway | 1070.5 | Previous Floodway |
| Bow River | 91,102 | 405.3 | Previous Floodway | 1308.4 | 1 m Depth |
| Bow River | 90,778 | 492.2 | Previous Floodway | 1369.0 | Inundation Limit[1] |
| Bow River | 90,350 | 357.5 | Previous Floodway | 1439 | 1 m Depth |
| Bow River | 89,770 | 311.0 | Previous Floodway | 1419.5 | Inundation Limit[1] |
| Bow River | 89,451 | 315.1 | Previous Floodway | 1364.6 | Inundation Limit[1] |
| Bow River | 89,200 | 412.7 | Previous Floodway | 1427.2 | Inundation Limit[1] |
| Bow River | 88,802 | 396.0 | Previous Floodway | 1463.8 | Inundation Limit[1] |
| Bow River | 88,345 | 33.8 | Inundation Limit[1] | 1119.0 | Inundation Limit[1] |
| Bow River | 88,021 | 20.2 | 1 m Depth | 874.0 | Previous Floodway |
| Bow River | 87,652 | 27.5 | Inundation Limit[4] | 774.0 | Previous Floodway |
| Bow River | 87,519 | 24.6 | Previous Floodway | 428.2 | Previous Floodway |
| Bow River | 87,122 | 44.0 | Previous Floodway | 107.9 | Previous Floodway |
| Bow River | 86,899 | 38.3 | Inundation Limit[1] | 92.7 | Previous Floodway |
| Bow River | 86,717 | 284.8 | Previous Floodway | 405.1 | Inundation Limit[1] |
| Bow River | 86,352 | 668.3 | Main Channel[2] | 831.5 | Previous Floodway |
| Bow River | 86,209 | 658.4 | Main Channel[2] | 935.0 | Inundation Limit[1] |
| Bow River | 85,929 | 509.0 | Previous Floodway | 1084.0 | Previous Floodway |
| Bow River | 85,513 | 500.1 | Previous Floodway | 1164.3 | Previous Floodway |
| Bow River | 85,060 | 442.9 | Previous Floodway | 808.6 | Main Channel[2] |
| Bow River | 84,733 | 342.9 | Previous Floodway | 584.3 | Main Channel[2] |
| Bow River | 84,602 | 265.9 | Previous Floodway | 427.1 | Previous Floodway |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 84,367 | 206.1 | Previous Floodway | 493.0 | Previous Floodway |
| Bow River | 84,072 | 207.4 | Previous Floodway | 518.3 | Main Channel[2] |
| Bow River | 83,674 | 482.6 | Previous Floodway | 994.8 | Main Channel[2] |
| Bow River | 83,328 | 484.4 | Previous Floodway | 923.0 | Main Channel[2] |
| Bow River | 82,904 | 495.8 | Previous Floodway | 752.5 | Previous Floodway |
| Bow River | 82,575 | 108.0 | Previous Floodway | 699.9 | Previous Floodway |
| Bow River | 82,081 | 193.6 | 1m Depth | 482.3 | 1m Depth |
| Bow River | 81,556 | 109.6 | 1m Depth | 313.6 | 1m Depth |
| Bow River | 81,162 | 202.5 | 1m Depth | 323.9 | 1m Depth |
| Bow River | 80,811 | 148.7 | 1m Depth | 324.2 | 1m Depth |
| Bow River | 80,511 | 147.1 | 1m Depth | 369.1 | 1m Depth |
| Bow River | 80,146 | 185.0 | 1m Depth | 450.9 | 1m Depth |
| Bow River | 79,719 | 284.6 | 1m Depth | 437.9 | 1m Depth |
| Bow River | 79,688 | 266.6 | 1 m/s Velocity | 416.4 | 1 m/s Velocity |
| Bow River | 79,662 | 260.7 | 1m Depth | 416.3 | 1m Depth |
| Bow River | 79,598 | 242.9 | 1 m/s Velocity | 391.0 | 1m Depth |
| Bow River | 79,245 | 98.3 | Inundation Limit[6] | 258.6 | 1 m/s Velocity |
| Bow River | 78,845 | 130.2 | Inundation Limit[6] | 333.9 | 1m Depth |
| Bow River | 78,451 | 104.7 | Inundation Limit[6] | 320.4 | Inundation Limit[6] |
| Bow River | 78,039 | 97.5 | Inundation Limit[6] | 366.5 | Inundation Limit[6] |
| Bow River | 77,716 | 236.7 | Inundation Limit[6] | 369.9 | Inundation Limit[6] |
| Bow River | 77,654 | 238.5 | Inundation Limit[6] | 357.5 | Inundation Limit[6] |
| Bow River | 77,609 | 228.0 | Inundation Limit[6] | 375.4 | Inundation Limit[6] |
| Bow River | 77,494 | 89.1 | Inundation Limit[6] | 270.8 | Inundation Limit[6] |
| Bow River | 76,811 | 121.8 | Inundation Limit[6] | 231.6 | Inundation Limit[6] |
| Bow River | 76,468 | 74.3 | Inundation Limit[6] | 200.8 | Inundation Limit[6] |
| Bow River | 76,158 | 102.4 | Inundation Limit[6] | 249.8 | 1m Depth |
| Bow River | 75,774 | 138.7 | 1m Depth | 285.1 | Inundation Limit[6] |
| Bow River | 75,465 | 53.4 | Inundation Limit[6] | 101.9 | Inundation Limit[6] |
| Bow River | 75,281 | 87.0 | Inundation Limit[6] | 172.6 | Inundation Limit[6] |
| Bow River | 75,120 | 197.8 | Inundation Limit[6] | 244.6 | Main Channel |
| Bow River | 74,927 | 72.7 | Inundation Limit[6] | 223.5 | Inundation Limit[6] |
| Bow River | 74,746 | 111.4 | Inundation Limit[6] | 185.4 | Inundation Limit[6] |
| Bow River | 74,376 | 206.0 | Inundation Limit[6] | 417.1 | Inundation Limit[6] |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 74,053 | 191.8 | Inundation Limit[6] | 273.9 | Inundation Limit[6] |
| Bow River | 73,903 | 149.7 | Inundation Limit[6] | 284.4 | Inundation Limit[6] |
| Bow River | 73,863 | 150.1 | Inundation Limit[6] | 262.7 | Inundation Limit[6] |
| Bow River | 73,571 | 25.3 | 1 m/s Velocity | 110.0 | 1 m/s Velocity |
| Bow River | 73,410 | 29.6 | 1 m/s Velocity | 143.3 | 1 m/s Velocity |
| Bow River | 73,134 | 28.0 | Inundation Limit[4] | 185.4 | 1 m/s Velocity |
| Bow River | 72,680 | 43.1 | Inundation Limit[4] | 173.1 | 1m Depth |
| Bow River | 72,441 | 235.7 | 1 m/s Velocity | 375.7 | 1m Depth |
| Bow River | 71,892 | 150.6 | 1 m/s Velocity | 177.9 | Inundation Limit[4] |
| Bow River | 71,726 | 122.0 | 1 m/s Velocity | 200.0 | 1 m/s Velocity |
| Bow River | 71,458 | 87.5 | 1m Depth | 179.8 | 1 m/s Velocity |
| Bow River | 71,322 | 121.9 | 1 m/s Velocity | 229.6 | 1 m/s Velocity |
| Bow River | 70,886 | 123.1 | Inundation Limit[4] | 207.9 | 1m Depth |
| Bow River | 70,342 | 155.5 | Inundation Limit[4] | 265.0 | 1m Depth |
| Bow River | 69,862 | 301.3 | 1m Depth | 433.2 | 1m Depth |
| Bow River | 69,341 | 250.6 | 1m Depth | 342.2 | 1m Depth |
| Bow River | 69,060 | 422.6 | 1 m/s Velocity | 522.8 | 1 m/s Velocity |
| Bow River | 68,797 | 125.8 | 1 m/s Velocity | 211.6 | 1 m/s Velocity |
| Bow River | 68,599 | 172.9 | 1m Depth | 220.7 | 1m Depth |
| Bow River | 68,516 | 167.2 | 1m Depth | 260.7 | 1 m/s Velocity |
| Bow River | 68,296 | 101.2 | Inundation Limit[4] | 180.2 | 1m Depth |
| Bow River | 68,089 | 115.7 | 1 m/s Velocity | 330.8 | 1m Depth |
| Bow River | 67,716 | 101.5 | Inundation Limit[4] | 318.6 | 1m Depth |
| Bow River | 67,419 | 112.9 | Inundation Limit[4] | 233.1 | 1m Depth |
| Bow River | 67,278 | 80.1 | 1 m/s Velocity | 184.8 | 1m Depth |
| Bow River | 67,115 | 98.8 | 1 m/s Velocity | 214.7 | 1m Depth |
| Bow River | 66,773 | 62.2 | Inundation Limit[4] | 375.2 | 1m Depth |
| Bow River | 66,431 | 56.8 | Inundation Limit[4] | 245.7 | 1m Depth |
| Bow River | 66,144 | 36.5 | 1m Depth | 229.1 | 1m Depth |
| Bow River | 65,921 | 37.4 | 1m Depth | 229.7 | 1m Depth |
| Bow River | 65,549 | 27.8 | 1m Depth | 246.1 | 1m Depth |
| Bow River | 65,150 | 250.9 | 1m Depth | 382.8 | 1m Depth |
| Bow River | 64,837 | 378.6 | 1m Depth | 498.7 | 1m Depth |
| Bow River | 64,628 | 144.1 | 1m Depth | 411.0 | 1m Depth |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 64,302 | 161.8 | 1m Depth | 345.4 | 1m Depth |
| Bow River | 64,027 | 140.0 | 1m Depth | 271.8 | 1m Depth |
| Bow River | 63,717 | 164.1 | 1m Depth | 296.7 | 1m Depth |
| Bow River | 63,212 | 493.9 | 1m Depth | 826.4 | 1m Depth |
| Bow River | 62,736 | 513.3 | 1m Depth | 851.2 | 1m Depth |
| Bow River | 62,402 | 522.2 | Mixed | 671.5 | 1m Depth |
| Bow River | 61,981 | 105.2 | 1m Depth | 359.3 | 1 m/s Velocity |
| Bow River | 61,281 | 93.4 | 1m Depth | 272.5 | 1m Depth |
| Bow River | 60,832 | 312.9 | 1m Depth | 437.5 | 1m Depth |
| Bow River | 60,261 | 444.1 | 1m Depth | 586.1 | 1m Depth |
| Bow River | 59,664 | 712.7 | 1 m/s Velocity | 836.7 | 1 m/s Velocity |
| Bow River | 59,198 | 393.3 | 1 m/s Velocity | 513.0 | 1m Depth |
| Bow River | 58,730 | 109.5 | 1 m/s Velocity | 226.7 | 1m Depth |
| Bow River | 58,375 | 106.2 | 1 m/s Velocity | 194.6 | 1m Depth |
| Bow River | 57,997 | 173.2 | Inundation Limit[4] | 275.0 | 1 m/s Velocity |
| Bow River | 57,624 | 183.2 | 1 m/s Velocity | 290.9 | Inundation Limit[4] |
| Bow River | 57,271 | 199.9 | 1 m/s Velocity | 327.4 | 1 m/s Velocity |
| Bow River | 56,775 | 262.6 | 1 m/s Velocity | 379.1 | 1 m/s Velocity |
| Bow River | 56,284 | 204.3 | Inundation Limit[4] | 309.1 | 1 m/s Velocity |
| Bow River | 55,904 | 143.0 | Inundation Limit[4] | 258.5 | 1m Depth |
| Bow River | 55,458 | 191.0 | Inundation Limit[4] | 293.7 | 1m Depth |
| Bow River | 55,088 | 45.1 | Inundation Limit[4] | 132.0 | 1m Depth |
| Bow River | 54,806 | 19.6 | Inundation Limit[4] | 177.4 | Main Channel |
| Bow River | 54,585 | 64.5 | Inundation Limit[4] | 284.1 | Main Channel |
| Bow River | 54,487 | 49.7 | 1 m/s Velocity | 258.0 | Main Channel |
| Bow River | 54,433 | 52.1 | Main Channel | 267.2 | Inundation Limit |
| Bow River | 54,283 | 208.7 | Main Channel | 403.8 | Main Channel |
| Bow River | 54,078 | 208.6 | Main Channel | 455.6 | Main Channel |
| Bow River | 53,802 | 64.3 | Inundation Limit[6] | 345.7 | Inundation Limit[6] |
| Bow River | 53,388 | 47.6 | Inundation Limit[6] | 247.3 | Inundation Limit[6] |
| Bow River | 52,796 | 106.0 | Inundation Limit[6] | 487.6 | Inundation Limit[6] |
| Bow River | 52,139 | 309.1 | Inundation Limit[6] | 749.9 | Inundation Limit[6] |
| Bow River | 51,427 | 375.2 | Inundation Limit[6] | 892.8 | Inundation Limit[6] |
| Bow River | 50,452 | 491.4 | Inundation Limit[6] | 832.7 | Inundation Limit[6] |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 49,366 | 858.7 | Inundation Limit[6] | 1485.3 | Inundation Limit[6] |
| Bow River | 48,977 | 876.8 | Inundation Limit[6] | 1790.7 | Inundation Limit[6] |
| Bow River | 47,540 | 556.1 | Inundation Limit[6] | 2054.3 | Inundation Limit[6] |
| Bow River | 45,971 | 931.0 | Inundation Limit[6] | 1879.3 | Inundation Limit[6] |
| Bow River | 44,631 | 446.1 | Inundation Limit[6] | 1622.3 | Inundation Limit[6] |
| Bow River | 42,928 | 469.2 | Inundation Limit[6] | 1748.5 | Inundation Limit[6] |
| Bow River | 42,170 | 539.8 | Inundation Limit[6] | 1715.9 | Inundation Limit[6] |
| Bow River | 41,824 | 226.0 | 1 m/s Velocity | 339.2 | Inundation Limit |
| Bow River | 41,537 | 138.3 | 1m Depth | 250.0 | 1m Depth |
| Bow River | 41,361 | 118.9 | 1 m/s Velocity | 247.8 | 1m Depth |
| Bow River | 40,989 | 32.4 | 1 m/s Velocity | 168.5 | 1m Depth |
| Bow River | 40,712 | 71.7 | 1m Depth | 290.0 | 1m Depth |
| Bow River | 40,439 | 103.4 | 1m Depth | 328.4 | 1m Depth |
| Bow River | 40,129 | 151.9 | 1 m/s Velocity | 286.8 | Inundation Limit |
| Bow River | 39,836 | 184.1 | 1 m/s Velocity | 331.4 | Inundation Limit |
| Bow River | 39,478 | 117.9 | 1m Depth | 213.7 | 1m Depth |
| Bow River | 39,161 | 141.5 | 1 m/s Velocity | 231.4 | Inundation Limit |
| Bow River | 38,875 | 382.5 | 1m Depth | 500.5 | 1 m/s Velocity |
| Bow River | 38,529 | 307.6 | 1m Depth | 481.5 | 1m Depth |
| Bow River | 38,248 | 61.0 | 1 m/s Velocity | 150.5 | 1m Depth |
| Bow River | 38,018 | 127.8 | 1 m/s Velocity | 226.4 | 1m Depth |
| Bow River | 37,774 | 191.2 | 1m Depth | 319.2 | 1m Depth |
| Bow River | 37,502 | 233.3 | 1m Depth | 339.1 | 1 m/s Velocity |
| Bow River | 37,086 | 160.7 | 1 m/s Velocity | 289.8 | 1 m/s Velocity |
| Bow River | 36,785 | 136.4 | 1m Depth | 256.6 | 1m Depth |
| Bow River | 36,450 | 83.0 | 1m Depth | 221.3 | 1m Depth |
| Bow River | 36,158 | 158.8 | 1 m/s Velocity | 261.5 | 1m Depth |
| Bow River | 35,863 | 81.1 | 1 m/s Velocity | 180.8 | 1m Depth |
| Bow River | 35,381 | 88.7 | 1 m/s Velocity | 444.3 | 1 m/s Velocity |
| Bow River | 35,009 | 146.2 | Inundation Limit | 288.9 | 1 m/s Velocity |
| Bow River | 34,562 | 124.0 | 1 m/s Velocity | 260.0 | 1 m/s Velocity |
| Bow River | 34,140 | 242.3 | 1m Depth | 360.4 | 1m Depth |
| Bow River | 33,877 | 229.5 | 1m Depth | 341.1 | 1m Depth |
| Bow River | 33,609 | 74.5 | 1m Depth | 180.8 | 1m Depth |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 33,289 | 83.2 | 1 m/s Velocity | 217.2 | 1 m/s Velocity |
| Bow River | 32,977 | 79.1 | 1m Depth | 193.6 | Mixed |
| Bow River | 32,605 | 203.0 | 1 m/s Velocity | 333.2 | 1m Depth |
| Bow River | 32,220 | 281.4 | 1 m/s Velocity | 429.4 | 1m Depth |
| Bow River | 31,935 | 317.7 | 1m Depth | 432.9 | 1m Depth |
| Bow River | 31,588 | 267.1 | 1m Depth | 391.7 | 1m Depth |
| Bow River | 31,260 | 224.3 | 1m Depth | 388.1 | 1m Depth |
| Bow River | 30,935 | 417.1 | 1 m/s Velocity | 530.5 | 1m Depth |
| Bow River | 30,566 | 341.2 | 1 m/s Velocity | 460.5 | 1m Depth |
| Bow River | 30,214 | 106.8 | 1 m/s Velocity | 287.2 | 1m Depth |
| Bow River | 29,937 | 229.8 | 1m Depth | 340.9 | 1 m/s Velocity |
| Bow River | 29,563 | 186.7 | 1m Depth | 342.1 | 1m Depth |
| Bow River | 29,172 | 122.0 | 1m Depth | 320.4 | 1m Depth |
| Bow River | 28,925 | 120.0 | 1 m/s Velocity | 226.0 | 1 m Depth |
| Bow River | 28,798 | 169.6 | 1m Depth | 384.4 | 1m Depth |
| Bow River | 28,448 | 205.9 | 1m Depth | 308.7 | 1m Depth |
| Bow River | 27,998 | 212.6 | 1 m/s Velocity | 324.9 | 1m Depth |
| Bow River | 27,701 | 142.1 | 1m Depth | 257.5 | 1m Depth |
| Bow River | 27,469 | 191.2 | 1 m/s Velocity | 308.5 | 1m Depth |
| Bow River | 27,386 | 196.2 | Inundation Limit[1] | 306.4 | 1m Depth |
| Bow River | 27,359 | 183.8 | Inundation Limit[1] | 364.5 | Previous Floodway |
| Bow River | 27,295 | 164.2 | Inundation Limit[1] | 295.6 | Inundation Limit[1] |
| Bow River | 27,116 | 184.6 | Inundation Limit[1] | 330.0 | Inundation Limit[1] |
| Bow River | 26,844 | 226.2 | Inundation Limit[1] | 375.5 | Previous Floodway |
| Bow River | 26,671 | 217.1 | Inundation Limit[1] | 394.3 | Inundation Limit[1] |
| Bow River | 26,466 | 224.6 | Inundation Limit[1] | 430.6 | Inundation Limit[1] |
| Bow River | 26,203 | 165.3 | Inundation Limit[1] | 293.7 | Inundation Limit[1] |
| Bow River | 25,944 | 120.7 | Previous Floodway | 270.6 | Inundation Limit[1] |
| Bow River | 25,748 | 74.3 | Inundation Limit[1] | 239.5 | Inundation Limit[1] |
| Bow River | 25,534 | 256.5 | Inundation Limit[1] | 433.3 | Previous Floodway |
| Bow River | 25,343 | 303.3 | Inundation Limit[1] | 458.0 | Inundation Limit[4] |
| Bow River | 25,205 | 252.9 | Inundation Limit[1] | 422.3 | Inundation Limit[1] |
| Bow River | 24,999 | 126.6 | Previous Floodway | 315.6 | Inundation Limit[1] |
| Bow River | 24,879 | 99.2 | Inundation Limit[1] | 270.9 | Inundation Limit[1] |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 24,684 | 38.9 | Inundation Limit[1] | 267.4 | Inundation Limit[1] |
| Bow River | 24,482 | 40.3 | Inundation Limit[1] | 221.6 | Inundation Limit[1] |
| Bow River | 24,338 | 36.2 | Inundation Limit[1] | 208.4 | Inundation Limit[1] |
| Bow River | 24,132 | 14.4 | Inundation Limit[1] | 208.5 | Inundation Limit[1] |
| Bow River | 24,010 | 54.4 | Inundation Limit[1] | 244.1 | Inundation Limit[1] |
| Bow River | 23,713 | 163.0 | Inundation Limit[1] | 370.4 | Inundation Limit[1] |
| Bow River | 23,562 | 187.4 | Inundation Limit[1] | 381.0 | Previous Floodway |
| Bow River | 23,415 | 219.2 | Inundation Limit[1] | 353.0 | Main Channel[2] |
| Bow River | 23,391 | 223.8 | Inundation Limit[1] | 358.0 | Main Channel[2] |
| Bow River | 23,317 | 105.6 | Inundation Limit[1] | 273.9 | Previous Floodway |
| Bow River | 23,130 | 157.6 | Previous Floodway | 331.0 | Inundation Limit[1] |
| Bow River | 22,973 | 122.4 | Previous Floodway | 290.2 | Inundation Limit[1] |
| Bow River | 22,894 | 50.0 | Inundation Limit[1] | 251.8 | Inundation Limit[1] |
| Bow River | 22,726 | 151.1 | Inundation Limit[1] | 288.5 | Inundation Limit[1] |
| Bow River | 22,599 | 262.7 | Inundation Limit[1] | 416.3 | Inundation Limit[1] |
| Bow River | 22,340 | 434.5 | Previous Floodway | 623.9 | Inundation Limit[1] |
| Bow River | 22,028 | 589.6 | Previous Floodway | 723.0 | Inundation Limit[1] |
| Bow River | 21,803 | 574.1 | Previous Floodway | 677.9 | Previous Floodway |
| Bow River | 21,608 | 476.6 | Inundation Limit[1] | 619.6 | Inundation Limit[1] |
| Bow River | 21,421 | 392.4 | Previous Floodway | 548.5 | Inundation Limit[4] |
| Bow River | 21,274 | 125.2 | Previous Floodway | 292.4 | Inundation Limit[1] |
| Bow River | 21,235 | 94.6 | Inundation Limit[1] | 251.8 | Inundation Limit[1] |
| Bow River | 21,217 | 91.1 | Inundation Limit[1] | 243.2 | Inundation Limit[1] |
| Bow River | 21,170 | 150.3 | Inundation Limit[1] | 309.8 | Inundation Limit[1] |
| Bow River | 21,030 | 161.0 | Inundation Limit[4] | 339.8 | Inundation Limit[1] |
| Bow River | 20,876 | 214.4 | Inundation Limit[1] | 379.7 | Inundation Limit[1] |
| Bow River | 20,666 | 217.8 | Inundation Limit[1] | 361.2 | Inundation Limit[1] |
| Bow River | 20,496 | 208.9 | Inundation Limit[1] | 352.0 | Inundation Limit[1] |
| Bow River | 20,329 | 201.8 | Inundation Limit[4] | 347.4 | Inundation Limit[1] |
| Bow River | 20,174 | 299.1 | Inundation Limit[1] | 444.3 | Inundation Limit[1] |
| Bow River | 19,933 | 467.6 | Inundation Limit[1] | 624.7 | Inundation Limit[1] |
| Bow River | 19,798 | 525.9 | Inundation Limit[1] | 673.0 | Inundation Limit[1] |
| Bow River | 19,603 | 466.5 | Inundation Limit[1] | 585.3 | Inundation Limit[1] |
| Bow River | 19,507 | 354.1 | Inundation Limit[1] | 498.3 | Inundation Limit[1] |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 19,342 | 317.7 | Inundation Limit[1] | 456.6 | Previous Floodway |
| Bow River | 19,150 | 325.7 | Inundation Limit[1] | 564.4 | Inundation Limit[1] |
| Bow River | 18,984 | 185.8 | Inundation Limit[1] | 469.8 | Inundation Limit[1] |
| Bow River | 18,840 | 141.6 | Inundation Limit[1] | 370.8 | Inundation Limit[1] |
| Bow River | 18,709 | 123.5 | Inundation Limit[1] | 343.7 | Inundation Limit[1] |
| Bow River | 18,500 | 72.7 | Inundation Limit[1] | 249.6 | Previous Floodway |
| Bow River | 18,270 | 61.0 | Inundation Limit[1] | 166.7 | Inundation Limit[1] |
| Bow River | 17,960 | 44.7 | Inundation Limit[1] | 198.9 | Inundation Limit[1] |
| Bow River | 17,680 | 48.6 | Inundation Limit[1] | 299.8 | Inundation Limit[1] |
| Bow River | 17,298 | 56.7 | Inundation Limit[1] | 329.6 | Inundation Limit[1] |
| Bow River | 16,969 | 75.0 | Inundation Limit[1] | 233.8 | Inundation Limit[1] |
| Bow River | 16,703 | 31.8 | Inundation Limit[1] | 188.9 | Inundation Limit[1] |
| Bow River | 16,437 | 25.4 | Inundation Limit[4] | 186.9 | Inundation Limit[1] |
| Bow River | 16,269 | 25.2 | Inundation Limit[1] | 190.2 | Inundation Limit[1] |
| Bow River | 16,024 | 39.5 | Inundation Limit[1] | 191.5 | Inundation Limit[1] |
| Bow River | 15,830 | 44.8 | Inundation Limit[1] | 198.1 | Inundation Limit[1] |
| Bow River | 15,648 | 59.8 | Previous Floodway | 268.7 | Previous Floodway |
| Bow River | 15,440 | 106.6 | Previous Floodway | 277.9 | Previous Floodway |
| Bow River | 15,224 | 193.9 | Inundation Limit[1] | 322.8 | Previous Floodway |
| Bow River | 14,981 | 133.2 | Previous Floodway | 314.5 | Previous Floodway |
| Bow River | 14,763 | 162.3 | Inundation Limit[1] | 318.9 | Previous Floodway |
| Bow River | 14,383 | 125.5 | Inundation Limit[1] | 258.8 | Inundation Limit[1] |
| Bow River | 14,213 | 125.8 | Inundation Limit[1] | 280.7 | Inundation Limit[1] |
| Bow River | 13,874 | 126.7 | Inundation Limit[1] | 305.1 | Inundation Limit[1] |
| Bow River | 13,626 | 90.7 | Inundation Limit[1] | 287.6 | Inundation Limit[1] |
| Bow River | 13,399 | 77.4 | Inundation Limit[1] | 246.7 | Inundation Limit[1] |
| Bow River | 13,018 | 62.1 | Previous Floodway | 223.0 | Inundation Limit[1] |
| Bow River | 12,701 | 76.5 | Inundation Limit[1] | 243.3 | Inundation Limit[1] |
| Bow River | 12,451 | 58.7 | Inundation Limit[1] | 285.8 | Inundation Limit[1] |
| Bow River | 12,234 | 58.0 | Inundation Limit[1] | 306.3 | Inundation Limit[1] |
| Bow River | 11,894 | 44.8 | Inundation Limit[1] | 218.2 | Inundation Limit[1] |
| Bow River | 11,503 | 179.1 | Inundation Limit[1] | 326.9 | Inundation Limit[1] |
| Bow River | 11,230 | 244.7 | Inundation Limit[1] | 389.8 | Inundation Limit[1] |
| Bow River | 10,967 | 164.7 | Inundation Limit[1] | 378.9 | Inundation Limit[1] |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bow River | 10,591 | 105.4 | Previous Floodway | 345.5 | Inundation Limit[1] |
| Bow River | 10,200 | 68.9 | Inundation Limit[1] | 273.3 | Previous Floodway |
| Bow River | 10,063 | 74.5 | Inundation Limit[1] | 323.1 | Previous Floodway |
| Bow River | 9,667 | 165.5 | Inundation Limit[1] | 323.3 | Inundation Limit[1] |
| Bow River | 9,467 | 176.3 | Inundation Limit[1] | 338.6 | Inundation Limit[1] |
| Bow River | 9,283 | 181.8 | Inundation Limit[1] | 347.6 | Inundation Limit[1] |
| Bow River | 9,041 | 121.0 | Previous Floodway | 384.4 | Inundation Limit[1] |
| Bow River | 8,729 | 102.8 | Previous Floodway | 232.7 | Inundation Limit[1] |
| Bow River | 8,459 | 77.3 | Previous Floodway | 247.7 | Inundation Limit[1] |
| Bow River | 8,192 | 28.3 | Inundation Limit[4] | 344.7 | Inundation Limit[1] |
| Bow River | 7,916 | 33.3 | Inundation Limit[1] | 359.2 | Inundation Limit[1] |
| Bow River | 7,653 | 55.5 | Inundation Limit[1] | 372.4 | Inundation Limit[1] |
| Bow River | 7,469 | 43.3 | Previous Floodway | 304.2 | Inundation Limit[1] |
| Bow River | 7,251 | 82.0 | Inundation Limit[1] | 287.3 | Inundation Limit[1] |
| Bow River | 7,027 | 74.0 | Previous Floodway | 330.6 | Previous Floodway |
| Bow River | 6,740 | 157.8 | Inundation Limit[4] | 439.0 | Previous Floodway |
| Bow River | 6,416 | 209.6 | Inundation Limit[1] | 515.2 | Previous Floodway |
| Bow River | 6,005 | 80.9 | Previous Floodway | 379.3 | Inundation Limit[1] |
| Bow River | 5,633 | 89.1 | Previous Floodway | 374.1 | Previous Floodway |
| Bow River | 5,196 | 64.0 | Previous Floodway | 389.5 | Previous Floodway |
| Bow River | 4,675 | 65.8 | Previous Floodway | 361.3 | Previous Floodway |
| Bow River | 4,201 | 65.0 | Previous Floodway | 339.1 | Previous Floodway |
| Bow River | 3,744 | 92.6 | Previous Floodway | 405.6 | Inundation Limit[1] |
| Bow River | 3,204 | 208.2 | Previous Floodway | 530.5 | Inundation Limit[1] |
| Bow River | 2,677 | 233.2 | Previous Floodway | 642.4 | Inundation Limit[4] |
| Bow River | 2,148 | 114.0 | Inundation Limit[1] | 603.7 | Previous Floodway |
| Bow River | 1,302 | 127.5 | Inundation Limit[4] | 445.4 | Previous Floodway |
| Bow River | 329 | 109.3 | Inundation Limit[1] | 461.9 | Inundation Limit[1] |
| Bow River | 12 | 598.5 | Inundation Limit[1] | 634.1 | Inundation Limit[1] |
| Bighill Creek | 6,300 | 30.4 | 1 m/s Velocity | 40.5 | 1m Depth |
| Bighill Creek | 6,133 | 83.6 | 1 m/s Velocity | 88.4 | 1 m/s Velocity |
| Bighill Creek | 5,995 | 48.4 | 1m Depth | 54.7 | 1 m/s Velocity |
| Bighill Creek | 5,798 | 61.1 | 1 m/s Velocity | 68.2 | 1 m/s Velocity |
| Bighill Creek | 5,618 | 52.8 | 1 m/s Velocity | 57.0 | 1 m/s Velocity |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bighill Creek | 5,483 | 43.3 | 1 m/s Velocity | 50.8 | 1 m/s Velocity |
| Bighill Creek | 5,403 | 56.6 | 1 m/s Velocity | 67.7 | 1 m/s Velocity |
| Bighill Creek | 5,281 | 18.0 | 1m Depth | 32.0 | 1m Depth |
| Bighill Creek | 5,185 | 15.5 | Previous Floodway | 28.6 | Previous Floodway |
| Bighill Creek | 5,129 | 32.0 | Previous Floodway | 47.4 | Previous Floodway |
| Bighill Creek | 5,092 | 85.6 | 1 m Depth | 56.5 | Main Channel[2] |
| Bighill Creek | 5,082 | 44.2 | Main Channel[2] | 55.4 | Main Channel[2] |
| Bighill Creek | 5,064 | 51.2 | Previous Floodway | 68.8 | Previous Floodway |
| Bighill Creek | 5,060 | 50.4 | Previous Floodway | 69.1 | Previous Floodway |
| Bighill Creek | 5,030 | 46.3 | Previous Floodway | 85.7 | Previous Floodway |
| Bighill Creek | 4,966 | 49.6 | Inundation Limit[1] | 85.4 | Inundation Limit[1] |
| Bighill Creek | 4,883 | 46.4 | Inundation Limit[1] | 111.9 | Previous Floodway |
| Bighill Creek | 4,810 | 73.5 | Inundation Limit[1] | 135.0 | Previous Floodway |
| Bighill Creek | 4,715 | 18.4 | Inundation Limit[4] | 126.3 | Previous Floodway |
| Bighill Creek | 4,639 | 26.8 | Previous Floodway | 100.5 | Previous Floodway |
| Bighill Creek | 4,527 | 17.5 | Previous Floodway | 97.7 | Main Channel[2] |
| Bighill Creek | 4,461 | 17.4 | Previous Floodway | 58.5 | Main Channel[2] |
| Bighill Creek | 4,363 | 23.0 | Previous Floodway | 39.9 | Previous Floodway |
| Bighill Creek | 4,357 | 22.0 | Previous Floodway | 37.9 | Previous Floodway |
| Bighill Creek | 4,295 | 53.3 | Previous Floodway | 66.8 | Previous Floodway |
| Bighill Creek | 4,203 | 58.2 | Previous Floodway | 70.1 | Inundation Limit[1] |
| Bighill Creek | 4,129 | 44.2 | Inundation Limit[1] | 83.8 | Inundation Limit[1] |
| Bighill Creek | 4,055 | 49.9 | Previous Floodway | 83.8 | Inundation Limit[1] |
| Bighill Creek | 3,915 | 50.7 | Inundation Limit[4] | 68.9 | Inundation Limit[1] |
| Bighill Creek | 3,851 | 47.3 | Inundation Limit[1] | 67.3 | Inundation Limit[1] |
| Bighill Creek | 3,797 | 19.7 | Previous Floodway | 80.5 | Inundation Limit[1] |
| Bighill Creek | 3,790 | 15.0 | Inundation Limit[1] | 77.3 | Inundation Limit[1] |
| Bighill Creek | 3,675 | 14.6 | Inundation Limit[4] | 133.2 | Previous Floodway |
| Bighill Creek | 3,563 | 30.3 | Main Channel[2] | 105.5 | Inundation Limit[1] |
| Bighill Creek | 3,388 | 62.5 | Previous Floodway | 159.6 | Inundation Limit[4] |
| Bighill Creek | 3,382 | 65.1 | Previous Floodway | 164.8 | Inundation Limit[1] |
| Bighill Creek | 3,263 | 97.1 | Previous Floodway | 249.3 | Inundation Limit[1] |
| Bighill Creek | 3,094 | 94.4 | Previous Floodway | 237.4 | Inundation Limit[4] |
| Bighill Creek | 2,960 | 158.3 | Inundation Limit[1] | 171.3 | Previous Floodway |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bighill Creek | 2,905 | 164.4 | Previous Floodway | 189.0 | Previous Floodway |
| Bighill Creek | 2,848 | 171.3 | Inundation Limit[1] | 192.8 | Inundation Limit[1] |
| Bighill Creek | 2,826 | 325.9 | Previous Floodway | 388.5 | Inundation Limit[4] |
| Bighill Creek | 2,804 | 337.0 | Main Channel[2] | 389.7 | Inundation Limit[1] |
| Bighill Creek | 2,792 | 399.7 | Inundation Limit[1] | 504.9 | Inundation Limit[1] |
| Bighill Creek | 2,780 | 469.3 | Inundation Limit[1] | 588.7 | Inundation Limit[1] |
| Bighill Creek | 2,761 | 571.2 | Inundation Limit[1] | 699.9 | Inundation Limit[1] |
| Bighill Creek | 2,748 | 463.9 | Main Channel[2] | 622.2 | Inundation Limit[4] |
| Bighill Creek | 2,729 | 463.9 | Inundation Limit[1] | 628.8 | Inundation Limit[4] |
| Bighill Creek | 2,676 | 565.5 | Inundation Limit[1] | 588.5 | Inundation Limit[1] |
| Bighill Creek | 2,631 | 546.6 | Inundation Limit[1] | 562.2 | Inundation Limit[1] |
| Bighill Creek | 2,573 | 571.7 | Inundation Limit[1] | 601.1 | Inundation Limit[4] |
| Bighill Creek | 2,543 | 580.5 | Inundation Limit[1] | 596.2 | Inundation Limit[1] |
| Bighill Creek | 2,517 | 572.9 | Inundation Limit[1] | 593.2 | Main Channel[2] |
| Bighill Creek | 2,482 | 480.5 | Inundation Limit[1] | 490.5 | Inundation Limit[1] |
| Bighill Creek | 2,387 | 368.9 | Main Channel[2] | 419.1 | Previous Floodway |
| Bighill Creek | 2,267 | 369.7 | Previous Floodway | 387.3 | Inundation Limit[1] |
| Bighill Creek | 2,161 | 297.4 | Inundation Limit[1] | 318.8 | Previous Floodway |
| Bighill Creek | 2,154 | 286.8 | Inundation Limit[1] | 302.9 | Previous Floodway |
| Bighill Creek | 2,106 | 225.7 | Inundation Limit[1] | 281.3 | Inundation Limit[1] |
| Bighill Creek | 1,937 | 156.9 | Main Channel[2] | 244.2 | Inundation Limit[1] |
| Bighill Creek | 1,769 | 271.4 | Inundation Limit[1] | 325.3 | Inundation Limit[1] |
| Bighill Creek | 1,723 | 289.7 | Inundation Limit[1] | 344.6 | Main Channel[2] |
| Bighill Creek | 1,720 | 295.8 | Inundation Limit[1] | 339.3 | Main Channel[2] |
| Bighill Creek | 1,606 | 257.0 | Inundation Limit[4] | 287.9 | Previous Floodway |
| Bighill Creek | 1,536 | 282.2 | Inundation Limit[4] | 307.9 | Inundation Limit[4] |
| Bighill Creek | 1,501 | 286.9 | Inundation Limit[4] | 316.7 | Inundation Limit[4] |
| Bighill Creek | 1,484 | 283.8 | Mixed | 295.4 | Inundation Limit[1] |
| Bighill Creek | 1,395 | 199.8 | Main Channel[2] | 244.6 | Previous Floodway |
| Bighill Creek | 1,212 | 183.4 | Main Channel[2] | 221.8 | Previous Floodway |
| Bighill Creek | 1,202 | 194.9 | Previous Floodway | 223.8 | Previous Floodway |
| Bighill Creek | 1,168 | 199.6 | Previous Floodway | 212.7 | Inundation Limit[4] |
| Bighill Creek | 1,095 | 144.2 | Inundation Limit[1] | 159.7 | Inundation Limit[1] |
| Bighill Creek | 995 | 144.6 | Previous Floodway | 164.5 | Previous Floodway |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Bighill Creek | 989 | 148.4 | Previous Floodway | 168.4 | Previous Floodway |
| Bighill Creek | 915 | 64.7 | Previous Floodway | 86.9 | Previous Floodway |
| Bighill Creek | 822 | 87.3 | Inundation Limit[4] | 111.0 | Previous Floodway |
| Bighill Creek | 740 | 73.7 | Inundation Limit[4] | 101.8 | Previous Floodway |
| Bighill Creek | 617 | 60.2 | Previous Floodway | 105.6 | Previous Floodway |
| Bighill Creek | 586 | 46.7 | Previous Floodway | 114.0 | Previous Floodway |
| Bighill Creek | 576 | 48.1 | Previous Floodway | 120.6 | Inundation Limit[1] |
| Bighill Creek | 505 | 51.7 | 1 m Depth | 126.3 | Main Channel[2] |
| Bighill Creek | 454 | 45.9 | Main Channel[2] | 56.6 | Inundation Limit[1] |
| Bighill Creek | 376 | 12.2 | Inundation Limit[1] | 35.9 | Previous Floodway |
| Bighill Creek | 369 | 13.5 | Inundation Limit[1] | 45.4 | Previous Floodway |
| Bighill Creek | 335 | 30.2 | Inundation Limit[1] | 54.8 | Inundation Limit[1] |
| Bighill Creek | 262 | 19.6 | Previous Floodway | 56.5 | Inundation Limit[1] |
| Bighill Creek | 211 | 25.1 | Previous Floodway | 70.5 | Previous Floodway |
| Bighill Creek | 206 | 23.9 | Previous Floodway | 69.6 | Previous Floodway |
| Bighill Creek | 185 | 34.4 | Previous Floodway | 89.6 | Previous Floodway |
| Exshaw Creek | 1,319 | 37.0 | 1 m/s Velocity | 48.2 | 1 m/s Velocity |
| Exshaw Creek | 1,182 | 32.8 | 1 m/s Velocity | 52.4 | 1 m/s Velocity |
| Exshaw Creek | 1,105 | 57.0 | Inundation Limit[1] | 87.8 | Main Channel[2] |
| Exshaw Creek | 1,014 | 101.2 | Inundation Limit[1] | 117.6 | Inundation Limit[1] |
| Exshaw Creek | 922 | 212.6 | Inundation Limit[1] | 229.2 | Inundation Limit[1] |
| Exshaw Creek | 838 | 326.7 | Previous Floodway | 340.5 | Inundation Limit[1] |
| Exshaw Creek | 708 | 203.2 | Inundation Limit[1] | 220.4 | Inundation Limit[1] |
| Exshaw Creek | 593 | 217.7 | Inundation Limit[1] | 243.3 | Inundation Limit[1] |
| Exshaw Creek | 475 | 227.5 | Previous Floodway | 248.2 | Inundation Limit[1] |
| Exshaw Creek | 454 | 228.5 | Inundation Limit[1] | 240.2 | Inundation Limit[1] |
| Exshaw Creek | 449 | 217.7 | Inundation Limit[1] | 229.4 | Inundation Limit[1] |
| Exshaw Creek | 434 | 178.0 | Previous Floodway | 196.6 | Inundation Limit[1] |
| Exshaw Creek | 352 | 135.1 | Inundation Limit[1] | 155.2 | Inundation Limit[1] |
| Exshaw Creek | 233 | 130.3 | Inundation Limit[1] | 142.1 | Inundation Limit[1] |
| Exshaw Creek | 219 | 127.5 | Inundation Limit[1] | 143.0 | Inundation Limit[1] |
| Exshaw Creek | 198 | 117.4 | Inundation Limit[1] | 133.8 | Inundation Limit[1] |
| Exshaw Creek | 190 | 75.3 | Inundation Limit[1] | 89.7 | Inundation Limit[1] |
| Exshaw Creek | 171 | 43.4 | Inundation Limit[1] | 57.0 | Inundation Limit[1] |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Exshaw Creek | 161 | 33.7 | Inundation Limit[1] | 53.0 | Inundation Limit[1] |
| Exshaw Creek | 147 | 21.7 | Inundation Limit[1] | 41.6 | Inundation Limit[1] |
| Exshaw Creek | 133 | 20.6 | Inundation Limit[1] | 37.2 | Inundation Limit[1] |
| Exshaw Creek | 118 | 18.6 | Inundation Limit[1] | 32.7 | Inundation Limit[1] |
| Exshaw Creek | 104 | 17.3 | Inundation Limit[1] | 30.2 | Inundation Limit[1] |
| Exshaw Creek | 89 | 11.8 | Inundation Limit[1] | 25.1 | Inundation Limit[1] |
| Jumpingpound Creek | 5,294 | 104.8 | Inundation Limit[1] | 157.3 | 1 m Depth |
| Jumpingpound Creek | 5,202 | 136.9 | Inundation Limit[1] | 181.8 | 1 m/s Velocity |
| Jumpingpound Creek | 5,101 | 142.4 | Previous Floodway | 188.7 | Inundation Limit[1] |
| Jumpingpound Creek | 4,984 | 151.5 | Previous Floodway | 202.3 | Inundation Limit[1] |
| Jumpingpound Creek | 4,882 | 111.2 | Previous Floodway | 174.1 | Inundation Limit[1] |
| Jumpingpound Creek | 4,791 | 25.9 | Previous Floodway | 104.4 | Previous Floodway |
| Jumpingpound Creek | 4,648 | 24.1 | Previous Floodway | 66.1 | Previous Floodway |
| Jumpingpound Creek | 4,550 | 40.3 | Inundation Limit[1] | 91.8 | Previous Floodway |
| Jumpingpound Creek | 4,463 | 45.4 | Inundation Limit[1] | 119.3 | Previous Floodway |
| Jumpingpound Creek | 4,369 | 66.3 | Inundation Limit[1] | 127.5 | Previous Floodway |
| Jumpingpound Creek | 4,277 | 69.9 | Previous Floodway | 121.3 | Previous Floodway |
| Jumpingpound Creek | 4,168 | 97.2 | Previous Floodway | 169.5 | Main Channel[2] |
| Jumpingpound Creek | 4,040 | 134.1 | Previous Floodway | 178.7 | Inundation Limit[1] |
| Jumpingpound Creek | 3,915 | 152.3 | Previous Floodway | 199.0 | Inundation Limit[1] |
| Jumpingpound Creek | 3,824 | 115.1 | Previous Floodway | 214.8 | Inundation Limit[1] |
| Jumpingpound Creek | 3,672 | 87.7 | Previous Floodway | 186.4 | Inundation Limit[1] |
| Jumpingpound Creek | 3,591 | 67.9 | Previous Floodway | 146.5 | Inundation Limit[1] |
| Jumpingpound Creek | 3,503 | 51.8 | Main Channel[2] | 160.7 | Previous Floodway |
| Jumpingpound Creek | 3,363 | 81.4 | Previous Floodway | 186.4 | Previous Floodway |
| Jumpingpound Creek | 3,202 | 69.4 | Main Channel[2] | 123.1 | Previous Floodway |
| Jumpingpound Creek | 3,095 | 49.9 | Inundation Limit[1] | 96.9 | Previous Floodway |
| Jumpingpound Creek | 3,006 | 48.0 | Inundation Limit[1] | 110.0 | Inundation Limit[1] |
| Jumpingpound Creek | 2,867 | 74.0 | Previous Floodway | 159.8 | Previous Floodway |
| Jumpingpound Creek | 2,745 | 86.4 | Previous Floodway | 150.0 | Previous Floodway |
| Jumpingpound Creek | 2,650 | 87.7 | Previous Floodway | 150.2 | Previous Floodway |
| Jumpingpound Creek | 2,557 | 122.9 | Inundation Limit[1] | 226.3 | Previous Floodway |
| Jumpingpound Creek | 2,410 | 82.7 | Inundation Limit[1] | 262.4 | Previous Floodway |
| Jumpingpound Creek | 2,301 | 40.1 | Inundation Limit[1] | 202.6 | Previous Floodway |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Jumpingpound Creek | 2,181 | 133.8 | Inundation Limit[1] | 222.5 | Previous Floodway |
| Jumpingpound Creek | 2,081 | 178.0 | Main Channel[2] | 296.2 | Previous Floodway |
| Jumpingpound Creek | 1,861 | 238.5 | Inundation Limit[1] | 294.2 | Main Channel[2] |
| Jumpingpound Creek | 1,733 | 60.6 | Previous Floodway | 152.1 | Previous Floodway |
| Jumpingpound Creek | 1,592 | 38.6 | Previous Floodway | 138.7 | Main Channel[2] |
| Jumpingpound Creek | 1,455 | 22.2 | Previous Floodway | 128.6 | Main Channel[2] |
| Jumpingpound Creek | 1,327 | 30.3 | Previous Floodway | 107.2 | Previous Floodway |
| Jumpingpound Creek | 1,224 | 42.2 | 1 m Depth | 140.7 | Previous Floodway |
| Jumpingpound Creek | 1,056 | 96.4 | Previous Floodway | 231.0 | Inundation Limit[1] |
| Jumpingpound Creek | 901 | 116.8 | Inundation Limit[1] | 224.2 | Previous Floodway |
| Jumpingpound Creek | 791 | 130.5 | Previous Floodway | 220.2 | Inundation Limit[1] |
| Jumpingpound Creek | 722 | 105.7 | Previous Floodway | 223.5 | Inundation Limit[1] |
| Jumpingpound Creek | 665 | 159.3 | Previous Floodway | 358.9 | Previous Floodway |
| Jumpingpound Creek | 625 | 187.6 | Inundation Limit[1] | 335.8 | Previous Floodway |
| Jumpingpound Creek | 562 | 165.2 | Inundation Limit[1] | 275.3 | Previous Floodway |
| Jumpingpound Creek | 501 | 136.8 | Inundation Limit[1] | 240.0 | Previous Floodway |
| Jumpingpound Creek | 386 | 124.9 | Inundation Limit[1] | 239.7 | Previous Floodway |
| Jumpingpound Creek | 232 | 77.0 | Previous Floodway | 209.1 | Previous Floodway |
| Jumpingpound Creek | 116 | 18.2 | Inundation Limit[4] | 150.2 | Previous Floodway |
| Policeman Creek | 6,418 | 170.7 | 1m Depth | 179.1 | 1m Depth |
| Policeman Creek | 6,410 | 879.4 | 1 m/s Velocity | 886.0 | 1m Depth |
| Policeman Creek | 6,344 | 902.1 | Main Channel | 910.3 | Main Channel |
| Policeman Creek | 6,312 | 892.5 | 1 m/s Velocity | 900.2 | 1 m/s Velocity |
| Policeman Creek | 6,227 | 945.0 | 1 m/s Velocity | 952.3 | 1 m/s Velocity |
| Policeman Creek | 6,126 | 932.1 | 1 m/s Velocity | 939.2 | 1 m/s Velocity |
| Policeman Creek | 6,075 | 907.8 | 1 m/s Velocity | 914.7 | 1 m/s Velocity |
| Policeman Creek | 6,023 | 883.1 | 1 m/s Velocity | 890.5 | 1 m/s Velocity |
| Policeman Creek | 5,960 | 849.5 | Main Channel | 858.7 | Main Channel |
| Policeman Creek | 5,946 | 839.6 | Mixed | 854.5 | Main Channel |
| Policeman Creek | 5,877 | 859.6 | Main Channel | 885.1 | Main Channel |
| Policeman Creek | 5,782 | 840.7 | Main Channel | 889.0 | Main Channel |
| Policeman Creek | 5,719 | 842.9 | Main Channel | 895.6 | Main Channel |
| Policeman Creek | 5,673 | 880.8 | 1 m/s Velocity | 884.7 | 1m Depth |
| Policeman Creek | 5,666 | 887.9 | 1 m/s Velocity | 892.5 | 1m Depth |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Policeman Creek | 5,651 | 885.8 | 1 m/s Velocity | 890.4 | 1 m/s Velocity |
| Policeman Creek | 5,646 | 884.2 | 1 m/s Velocity | 890.4 | 1 m/s Velocity |
| Policeman Creek | 5,599 | 872.9 | 1 m/s Velocity | 884.1 | 1 m/s Velocity |
| Policeman Creek | 5,531 | 866.5 | Main Channel | 893.9 | Main Channel |
| Policeman Creek | 5,468 | 848.9 | Main Channel | 878.3 | Main Channel |
| Policeman Creek | 5,364 | 807.4 | Main Channel | 836.6 | Main Channel |
| Policeman Creek | 5,257 | 730.0 | Main Channel | 772.5 | Main Channel |
| Policeman Creek | 5,248 | 730.0 | Main Channel | 769.2 | Main Channel |
| Policeman Creek | 5,163 | 686.4 | Main Channel | 730.3 | Main Channel |
| Policeman Creek | 5,110 | 678.9 | Main Channel | 723.1 | Main Channel |
| Policeman Creek | 5,101 | 677.7 | Main Channel | 719.4 | Main Channel |
| Policeman Creek | 5,023 | 647.2 | Main Channel | 702.0 | Main Channel |
| Policeman Creek | 4,985 | 650.2 | Main Channel | 658.2 | Main Channel |
| Policeman Creek | 4,936 | 643.8 | 1 m/s Velocity | 650.5 | 1 m/s Velocity |
| Policeman Creek | 4,907 | 636.9 | 1 m/s Velocity | 644.4 | 1 m/s Velocity |
| Policeman Creek | 4,880 | 634.2 | 1 m/s Velocity | 638.5 | 1 m/s Velocity |
| Policeman Creek | 4,855 | 624.3 | 1 m/s Velocity | 629.2 | 1 m/s Velocity |
| Policeman Creek | 4,852 | 620.7 | 1 m/s Velocity | 625.4 | 1 m/s Velocity |
| Policeman Creek | 4,796 | 623.0 | Main Channel | 631.4 | Main Channel |
| Policeman Creek | 4,726 | 937.9 | Main Channel | 955.9 | Main Channel |
| Policeman Creek | 4,720 | 954.3 | Main Channel | 967.2 | Main Channel |
| Policeman Creek | 4,714 | 962.1 | Main Channel | 977.8 | Main Channel |
| Policeman Creek | 4,675 | 964.2 | Main Channel | 984.7 | Main Channel |
| Policeman Creek | 4,603 | 932.7 | 1 m/s Velocity | 947.1 | 1 m/s Velocity |
| Policeman Creek | 4,544 | 913.6 | 1 m/s Velocity | 926.6 | 1 m/s Velocity |
| Policeman Creek | 4,463 | 921.7 | 1 m/s Velocity | 929.9 | 1 m/s Velocity |
| Policeman Creek | 4,380 | 945.9 | Main Channel | 963.1 | Main Channel |
| Policeman Creek | 4,337 | 981.9 | Main Channel | 1007.1 | Main Channel |
| Policeman Creek | 4,320 | 996.3 | Main Channel | 1015.2 | Main Channel |
| Policeman Creek | 4,220 | 1066.7 | Main Channel | 1091.1 | Main Channel |
| Policeman Creek | 4,184 | 1075.8 | Main Channel | 1101.3 | Main Channel |
| Policeman Creek | 4,030 | 995.2 | Main Channel | 1016.2 | Main Channel |
| Policeman Creek | 3,921 | 963.0 | Main Channel | 993.6 | Main Channel |
| Policeman Creek | 3,888 | 959.3 | Main Channel | 972.9 | Main Channel |

| River | River Station (m) | Left | | Right | |
|---|---|---|---|---|---|
| | | Floodway Limit (m) | Governing Criteria | Floodway Limit (m) | Governing Criteria |
| Policeman Creek | 3,862 | 963.8 | Main Channel | 984.6 | Main Channel |
| Policeman Creek | 3,835 | 949.0 | Main Channel | 1001.9 | Main Channel |
| Policeman Creek | 3,784 | 945.4 | Main Channel | 986.8 | Main Channel |
| Policeman Creek | 3,713 | 982.0 | Main Channel | 1036.7 | Main Channel |
| Policeman Creek | 3,685 | 986.4 | 1 m/s Velocity | 1007.7 | 1 m/s Velocity |
| Policeman Creek | 3,527 | 939.6 | Main Channel | 956.9 | Main Channel |
| Policeman Creek | 3,354 | 856.4 | Main Channel | 898.2 | Main Channel |
| Policeman Creek | 3,191 | 814.1 | Main Channel | 858.5 | Main Channel |
| Policeman Creek | 3,154 | 802.3 | Main Channel | 823.5 | Main Channel |
| Policeman Creek | 3,141 | 789.3 | Main Channel | 809.8 | Main Channel |
| Policeman Creek | 3,002 | 494.3 | Main Channel | 504.7 | Main Channel |
| Policeman Creek | 2,822 | 546.6 | 1m Depth | 556.7 | Main Channel |
| Policeman Creek | 2,804 | 545.2 | Main Channel | 554.6 | 1m Depth |
| Policeman Creek | 2,782 | 552.8 | Main Channel | 569.0 | 1m Depth |
| Policeman Creek | 2,666 | 591.2 | 1 m/s Velocity | 599.9 | 1m Depth |
| Policeman Creek | 2,518 | 589.2 | Main Channel | 599.5 | 1m Depth |
| Policeman Creek | 2,394 | 652.7 | 1m Depth | 663.1 | 1m Depth |
| Policeman Creek | 2,306 | 666.0 | 1m Depth | 680.6 | Mixed |
| Policeman Creek | 2,128 | 588.4 | 1m Depth | 598.8 | 1m Depth |
| Policeman Creek | 1,771 | 658.5 | 1m Depth | 669.7 | 1m Depth |
| Policeman Creek | 1,560 | 375.7 | 1m Depth | 389.8 | 1m Depth |
| Policeman Creek | 1,544 | 393.2 | 1m Depth | 405.7 | 1m Depth |
| Policeman Creek | 1,373 | 345.2 | Previous Floodway | N/A | None[5] |



**Notes:**

1. Previous floodway is outside inundation limit.
2. Previous floodway is inside the main channel.
3. Floodway limit is edge of water along the flood control structure, or the centreline of the crest if overtopped.
4. No viable flood fringe.
5. Floodway limit located on adjacent Policeman Creek cross section.
6. Floodway limit positioned at edge of reservoir.

# APPENDIX B
# OPEN WATER DESIGN FLOOD LEVELS

**Table B1 Computed open water design flood levels**

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 117,852 | 1326.12 |
| Bow River | 117,547 | 1325.65 |
| Bow River | 117,241 | 1325.15 |
| Bow River | 116,670 | 1323.52 |
| Bow River | 116,188 | 1322.50 |
| Bow River | 115,644 | 1321.47 |
| Bow River | 115,415 | 1320.69 |
| Bow River | 115,134 | 1320.04 |
| Bow River | 114,700 | 1319.24 |
| Bow River | 114,258 | 1318.66 |
| Bow River | 113,821 | 1317.75 |
| Bow River | 113,472 | 1317.04 |
| Bow River | 113,065 | 1316.28 |
| Bow River | 112,898 | 1316.09 |
| Bow River | 112,726 | 1315.88 |
| Bow River | 112,580 | 1315.62 |
| Bow River | 112,416 | 1315.35 |
| Bow River | 112,279 | 1315.20 |
| Bow River | 112,071 | 1314.94 |
| Bow River | 111,915 | 1314.73 |
| Bow River | 111,823 | 1314.61 |
| Bow River | 111,706 | 1314.51 |
| Bow River | 111,305 | 1313.83 |
| Bow River | 111,132 | 1313.49 |
| Bow River | 110,887 | 1312.84 |
| Bow River | 110,734 | 1312.61 |
| Bow River | 110,352 | 1312.11 |
| Bow River | 110,148 | 1311.93 |
| Bow River | 109,981 | 1311.67 |
| Bow River | 109,938 | 1311.69 |
| Bow River | 109,921 | 1311.51 |
| Bow River | 109,727 | 1311.40 |
| Bow River | 109,501 | 1311.09 |
| Bow River | 109,366 | 1310.81 |
| Bow River | 109,235 | 1310.43 |
| Bow River | 109,202 | 1310.34 |
| Bow River | 109,114 | 1310.02 |
| Bow River | 108,998 | 1309.58 |
| Bow River | 108,757 | 1309.23 |
| Bow River | 108,586 | 1308.91 |
| Bow River | 108,458 | 1308.73 |
| Bow River | 108,052 | 1308.36 |
| Bow River | 107,747 | 1307.78 |
| Bow River | 107,333 | 1307.09 |
| Bow River | 107,113 | 1306.92 |
| Bow River | 106,702 | 1305.56 |
| Bow River | 106,497 | 1305.42 |
| Bow River | 106,143 | 1305.16 |
| Bow River | 105,995 | 1304.99 |
| Bow River | 105,742 | 1304.79 |
| Bow River | 105,620 | 1304.61 |
| Bow River | 105,224 | 1304.34 |
| Bow River | 104,790 | 1303.73 |
| Bow River | 104,631 | 1303.21 |
| Bow River | 104,575 | 1303.04 |
| Bow River | 104,490 | 1302.60 |
| Bow River | 104,338 | 1302.30 |
| Bow River | 104,163 | 1301.67 |
| Bow River | 103,697 | 1300.12 |
| Bow River | 103,126 | 1299.16 |
| Bow River | 102,497 | 1298.09 |
| Bow River | 101,706 | 1297.29 |
| Bow River | 101,260 | 1296.55 |
| Bow River | 100,785 | 1295.95 |
| Bow River | 100,276 | 1295.47 |
| Bow River | 99,728 | 1295.01 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 99,027 | 1294.83 |
| Bow River | 98,134 | 1294.60 |
| Bow River | 97,769 | 1294.50 |
| Bow River | 97,378 | 1294.30 |
| Bow River | 97,076 | 1294.18 |
| Bow River | 96,451 | 1294.08 |
| Bow River | 94,012 | 1294.00 |
| Bow River | 93,591 | 1293.98 |
| Bow River | 93,261 | 1293.98 |
| Bow River | 92,667 | 1293.96 |
| Bow River | 92,367 | 1293.90 |
| Bow River | 92,095 | 1293.82 |
| Bow River | 91,818 | 1293.78 |
| Bow River | 91,466 | 1293.75 |
| Bow River | 91,102 | 1293.73 |
| Bow River | 90,778 | 1293.72 |
| Bow River | 90,350 | 1293.71 |
| Bow River | 89,770 | 1293.69 |
| Bow River | 89,451 | 1293.67 |
| Bow River | 89,200 | 1293.65 |
| Bow River | 88,802 | 1293.63 |
| Bow River | 88,345 | 1293.60 |
| Bow River | 88,021 | 1293.57 |
| Bow River | 87,652 | 1293.55 |
| Bow River | 87,519 | 1293.54 |
| Bow River | 87,122 | 1292.38 |
| Bow River | 86,899 | 1291.65 |
| Bow River | 86,717 | 1291.06 |
| Bow River | 86,352 | 1290.02 |
| Bow River | 86,209 | 1288.68 |
| Bow River | 85,929 | 1288.17 |
| Bow River | 85,513 | 1288.02 |
| Bow River | 85,060 | 1287.83 |
| Bow River | 84,733 | 1287.39 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 84,602 | 1287.01 |
| Bow River | 84,367 | 1286.32 |
| Bow River | 84,072 | 1285.80 |
| Bow River | 83,674 | 1285.26 |
| Bow River | 83,328 | 1284.71 |
| Bow River | 82,904 | 1284.33 |
| Bow River | 82,575 | 1284.19 |
| Bow River | 82,081 | 1283.73 |
| Bow River | 81,556 | 1283.41 |
| Bow River | 81,162 | 1283.20 |
| Bow River | 80,811 | 1283.07 |
| Bow River | 80,511 | 1282.92 |
| Bow River | 80,146 | 1282.50 |
| Bow River | 79,719 | 1281.71 |
| Bow River | 79,688 | 1281.60 |
| Bow River | 79,662 | 1281.48 |
| Bow River | 79,598 | 1281.34 |
| Bow River | 79,245 | 1281.04 |
| Bow River | 78,845 | 1280.91 |
| Bow River | 78,451 | 1280.79 |
| Bow River | 78,039 | 1280.65 |
| Bow River | 77,716 | 1280.38 |
| Bow River | 77,654 | 1280.31 |
| Bow River | 77,609 | 1280.30 |
| Bow River | 77,494 | 1280.20 |
| Bow River | 77,488 | 1265.68 |
| Bow River | 76,811 | 1259.41 |
| Bow River | 76,468 | 1259.10 |
| Bow River | 76,158 | 1258.88 |
| Bow River | 75,774 | 1258.70 |
| Bow River | 75,465 | 1257.85 |
| Bow River | 75,281 | 1257.94 |
| Bow River | 75,120 | 1257.72 |
| Bow River | 74,927 | 1257.63 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 74,746 | 1257.43 |
| Bow River | 74,376 | 1257.35 |
| Bow River | 74,053 | 1257.11 |
| Bow River | 73,903 | 1257.10 |
| Bow River | 73,863 | 1257.10 |
| Bow River | 73,845 | 1240.77 |
| Bow River | 73,571 | 1238.27 |
| Bow River | 73,410 | 1237.01 |
| Bow River | 73,134 | 1236.27 |
| Bow River | 72,680 | 1234.93 |
| Bow River | 72,441 | 1234.24 |
| Bow River | 71,892 | 1229.43 |
| Bow River | 71,726 | 1228.40 |
| Bow River | 71,458 | 1226.85 |
| Bow River | 71,322 | 1226.14 |
| Bow River | 70,886 | 1224.69 |
| Bow River | 70,342 | 1223.56 |
| Bow River | 69,862 | 1222.87 |
| Bow River | 69,341 | 1221.50 |
| Bow River | 69,060 | 1219.58 |
| Bow River | 68,797 | 1218.78 |
| Bow River | 68,599 | 1218.61 |
| Bow River | 68,516 | 1218.49 |
| Bow River | 68,296 | 1217.91 |
| Bow River | 68,089 | 1217.49 |
| Bow River | 67,716 | 1216.81 |
| Bow River | 67,419 | 1216.27 |
| Bow River | 67,278 | 1215.87 |
| Bow River | 67,115 | 1215.58 |
| Bow River | 66,773 | 1215.04 |
| Bow River | 66,431 | 1214.57 |
| Bow River | 66,144 | 1214.16 |
| Bow River | 65,921 | 1213.16 |
| Bow River | 65,549 | 1212.53 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 65,150 | 1212.00 |
| Bow River | 64,837 | 1211.32 |
| Bow River | 64,628 | 1211.11 |
| Bow River | 64,302 | 1210.78 |
| Bow River | 64,027 | 1210.13 |
| Bow River | 63,717 | 1209.26 |
| Bow River | 63,212 | 1208.55 |
| Bow River | 62,736 | 1207.57 |
| Bow River | 62,402 | 1206.89 |
| Bow River | 61,981 | 1206.35 |
| Bow River | 61,281 | 1205.20 |
| Bow River | 60,832 | 1204.45 |
| Bow River | 60,261 | 1203.49 |
| Bow River | 59,664 | 1202.16 |
| Bow River | 59,198 | 1201.07 |
| Bow River | 58,730 | 1199.92 |
| Bow River | 58,375 | 1199.15 |
| Bow River | 57,997 | 1198.22 |
| Bow River | 57,624 | 1196.87 |
| Bow River | 57,271 | 1196.06 |
| Bow River | 56,775 | 1195.07 |
| Bow River | 56,284 | 1193.94 |
| Bow River | 55,904 | 1193.44 |
| Bow River | 55,458 | 1192.96 |
| Bow River | 55,088 | 1192.54 |
| Bow River | 54,806 | 1192.54 |
| Bow River | 54,585 | 1192.50 |
| Bow River | 54,487 | 1192.29 |
| Bow River | 54,433 | 1192.11 |
| Bow River | 54,283 | 1192.13 |
| Bow River | 54,078 | 1192.10 |
| Bow River | 53,802 | 1192.06 |
| Bow River | 53,388 | 1191.98 |
| Bow River | 52,796 | 1191.93 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 52,139 | 1191.88 |
| Bow River | 51,427 | 1191.84 |
| Bow River | 50,452 | 1191.80 |
| Bow River | 49,366 | 1191.80 |
| Bow River | 48,977 | 1191.80 |
| Bow River | 47,540 | 1191.80 |
| Bow River | 45,971 | 1191.80 |
| Bow River | 44,631 | 1191.80 |
| Bow River | 42,928 | 1191.80 |
| Bow River | 42,170 | 1191.80 |
| Bow River | 42,132 | 1162.92 |
| Bow River | 41,824 | 1161.92 |
| Bow River | 41,537 | 1161.44 |
| Bow River | 41,361 | 1160.93 |
| Bow River | 40,989 | 1159.61 |
| Bow River | 40,712 | 1159.15 |
| Bow River | 40,439 | 1158.77 |
| Bow River | 40,129 | 1158.09 |
| Bow River | 39,836 | 1157.47 |
| Bow River | 39,478 | 1156.46 |
| Bow River | 39,161 | 1155.83 |
| Bow River | 38,875 | 1155.27 |
| Bow River | 38,529 | 1154.67 |
| Bow River | 38,248 | 1153.91 |
| Bow River | 38,018 | 1153.29 |
| Bow River | 37,774 | 1153.02 |
| Bow River | 37,502 | 1152.26 |
| Bow River | 37,086 | 1151.37 |
| Bow River | 36,785 | 1150.61 |
| Bow River | 36,450 | 1149.69 |
| Bow River | 36,158 | 1148.85 |
| Bow River | 35,863 | 1148.05 |
| Bow River | 35,381 | 1146.91 |
| Bow River | 35,009 | 1145.92 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 34,562 | 1145.16 |
| Bow River | 34,140 | 1144.38 |
| Bow River | 33,877 | 1143.74 |
| Bow River | 33,609 | 1143.19 |
| Bow River | 33,289 | 1142.60 |
| Bow River | 32,977 | 1141.84 |
| Bow River | 32,605 | 1141.15 |
| Bow River | 32,220 | 1140.38 |
| Bow River | 31,935 | 1139.99 |
| Bow River | 31,588 | 1139.27 |
| Bow River | 31,260 | 1138.66 |
| Bow River | 30,935 | 1137.99 |
| Bow River | 30,566 | 1137.14 |
| Bow River | 30,214 | 1136.49 |
| Bow River | 29,937 | 1136.02 |
| Bow River | 29,563 | 1135.40 |
| Bow River | 29,172 | 1134.77 |
| Bow River | 28,925 | 1134.07 |
| Bow River | 28,798 | 1133.97 |
| Bow River | 28,448 | 1133.16 |
| Bow River | 27,998 | 1132.29 |
| Bow River | 27,701 | 1131.84 |
| Bow River | 27,469 | 1131.32 |
| Bow River | 27,386 | 1130.98 |
| Bow River | 27,359 | 1130.77 |
| Bow River | 27,295 | 1130.72 |
| Bow River | 27,116 | 1130.29 |
| Bow River | 26,844 | 1129.73 |
| Bow River | 26,671 | 1129.64 |
| Bow River | 26,466 | 1129.34 |
| Bow River | 26,203 | 1128.54 |
| Bow River | 25,944 | 1128.10 |
| Bow River | 25,748 | 1127.72 |
| Bow River | 25,534 | 1127.35 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 25,343 | 1127.18 |
| Bow River | 25,205 | 1127.01 |
| Bow River | 24,999 | 1126.50 |
| Bow River | 24,879 | 1126.25 |
| Bow River | 24,684 | 1126.01 |
| Bow River | 24,482 | 1125.11 |
| Bow River | 24,338 | 1124.73 |
| Bow River | 24,132 | 1124.38 |
| Bow River | 24,010 | 1124.13 |
| Bow River | 23,713 | 1123.81 |
| Bow River | 23,562 | 1123.52 |
| Bow River | 23,415 | 1123.13 |
| Bow River | 23,391 | 1122.90 |
| Bow River | 23,317 | 1122.77 |
| Bow River | 23,130 | 1122.43 |
| Bow River | 22,973 | 1122.14 |
| Bow River | 22,894 | 1122.16 |
| Bow River | 22,726 | 1121.69 |
| Bow River | 22,599 | 1121.18 |
| Bow River | 22,340 | 1120.69 |
| Bow River | 22,028 | 1120.38 |
| Bow River | 21,803 | 1119.45 |
| Bow River | 21,608 | 1119.12 |
| Bow River | 21,421 | 1118.76 |
| Bow River | 21,274 | 1118.53 |
| Bow River | 21,235 | 1118.41 |
| Bow River | 21,217 | 1118.28 |
| Bow River | 21,170 | 1118.22 |
| Bow River | 21,030 | 1118.04 |
| Bow River | 20,876 | 1117.59 |
| Bow River | 20,666 | 1117.28 |
| Bow River | 20,496 | 1116.95 |
| Bow River | 20,329 | 1116.69 |
| Bow River | 20,174 | 1116.51 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 19,933 | 1116.17 |
| Bow River | 19,798 | 1115.88 |
| Bow River | 19,603 | 1114.88 |
| Bow River | 19,507 | 1114.59 |
| Bow River | 19,342 | 1114.30 |
| Bow River | 19,150 | 1114.16 |
| Bow River | 18,984 | 1114.02 |
| Bow River | 18,840 | 1113.76 |
| Bow River | 18,709 | 1113.57 |
| Bow River | 18,500 | 1113.28 |
| Bow River | 18,270 | 1112.28 |
| Bow River | 17,960 | 1111.66 |
| Bow River | 17,680 | 1111.46 |
| Bow River | 17,298 | 1110.74 |
| Bow River | 16,969 | 1110.38 |
| Bow River | 16,703 | 1109.68 |
| Bow River | 16,437 | 1109.36 |
| Bow River | 16,269 | 1109.12 |
| Bow River | 16,024 | 1108.70 |
| Bow River | 15,830 | 1108.39 |
| Bow River | 15,648 | 1108.29 |
| Bow River | 15,440 | 1107.62 |
| Bow River | 15,224 | 1107.32 |
| Bow River | 14,981 | 1106.84 |
| Bow River | 14,763 | 1106.30 |
| Bow River | 14,383 | 1105.44 |
| Bow River | 14,213 | 1105.12 |
| Bow River | 13,874 | 1104.46 |
| Bow River | 13,626 | 1103.93 |
| Bow River | 13,399 | 1103.75 |
| Bow River | 13,018 | 1102.81 |
| Bow River | 12,701 | 1102.19 |
| Bow River | 12,451 | 1101.71 |
| Bow River | 12,234 | 1101.31 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bow River | 11,894 | 1100.98 |
| Bow River | 11,503 | 1100.14 |
| Bow River | 11,230 | 1099.57 |
| Bow River | 10,967 | 1099.21 |
| Bow River | 10,591 | 1098.70 |
| Bow River | 10,200 | 1097.87 |
| Bow River | 10,063 | 1097.79 |
| Bow River | 9,667 | 1097.21 |
| Bow River | 9,467 | 1096.76 |
| Bow River | 9,283 | 1096.29 |
| Bow River | 9,041 | 1096.12 |
| Bow River | 8,729 | 1095.35 |
| Bow River | 8,459 | 1094.95 |
| Bow River | 8,192 | 1094.69 |
| Bow River | 7,916 | 1094.06 |
| Bow River | 7,653 | 1093.70 |
| Bow River | 7,469 | 1093.39 |
| Bow River | 7,251 | 1093.03 |
| Bow River | 7,027 | 1092.80 |
| Bow River | 6,740 | 1092.39 |
| Bow River | 6,416 | 1091.97 |
| Bow River | 6,005 | 1091.74 |
| Bow River | 5,633 | 1091.61 |
| Bow River | 5,196 | 1091.51 |
| Bow River | 4,675 | 1091.36 |
| Bow River | 4,201 | 1091.23 |
| Bow River | 3,744 | 1091.15 |
| Bow River | 3,204 | 1091.06 |
| Bow River | 2,677 | 1091.05 |
| Bow River | 2,148 | 1091.04 |
| Bow River | 1,302 | 1091.02 |
| Bow River | 329 | 1091.01 |
| Bow River | 12 | 1090.90 |
| Bighill Creek | 6,300 | 1165.17 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bighill Creek | 6,133 | 1164.04 |
| Bighill Creek | 5,995 | 1163.08 |
| Bighill Creek | 5,798 | 1161.90 |
| Bighill Creek | 5,618 | 1160.34 |
| Bighill Creek | 5,483 | 1159.06 |
| Bighill Creek | 5,403 | 1158.18 |
| Bighill Creek | 5,281 | 1157.44 |
| Bighill Creek | 5,185 | 1156.57 |
| Bighill Creek | 5,129 | 1156.21 |
| Bighill Creek | 5,092 | 1156.10 |
| Bighill Creek | 5,082 | 1155.74 |
| Bighill Creek | 5,064 | 1155.66 |
| Bighill Creek | 5,060 | 1155.33 |
| Bighill Creek | 5,030 | 1155.14 |
| Bighill Creek | 4,966 | 1154.34 |
| Bighill Creek | 4,883 | 1153.71 |
| Bighill Creek | 4,810 | 1153.39 |
| Bighill Creek | 4,715 | 1152.78 |
| Bighill Creek | 4,639 | 1152.30 |
| Bighill Creek | 4,527 | 1151.52 |
| Bighill Creek | 4,461 | 1151.19 |
| Bighill Creek | 4,363 | 1150.59 |
| Bighill Creek | 4,357 | 1150.43 |
| Bighill Creek | 4,295 | 1150.09 |
| Bighill Creek | 4,203 | 1149.33 |
| Bighill Creek | 4,129 | 1148.37 |
| Bighill Creek | 4,055 | 1147.86 |
| Bighill Creek | 3,915 | 1147.07 |
| Bighill Creek | 3,851 | 1146.30 |
| Bighill Creek | 3,797 | 1145.91 |
| Bighill Creek | 3,790 | 1145.78 |
| Bighill Creek | 3,675 | 1145.22 |
| Bighill Creek | 3,563 | 1144.47 |
| Bighill Creek | 3,388 | 1143.90 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bighill Creek | 3,382 | 1143.87 |
| Bighill Creek | 3,263 | 1143.46 |
| Bighill Creek | 3,094 | 1142.88 |
| Bighill Creek | 2,960 | 1142.41 |
| Bighill Creek | 2,905 | 1142.34 |
| Bighill Creek | 2,848 | 1142.12 |
| Bighill Creek | 2,826 | 1142.09 |
| Bighill Creek | 2,804 | 1141.58 |
| Bighill Creek | 2,792 | 1141.55 |
| Bighill Creek | 2,780 | 1141.40 |
| Bighill Creek | 2,761 | 1141.32 |
| Bighill Creek | 2,748 | 1141.22 |
| Bighill Creek | 2,729 | 1140.87 |
| Bighill Creek | 2,676 | 1140.73 |
| Bighill Creek | 2,631 | 1140.48 |
| Bighill Creek | 2,573 | 1140.39 |
| Bighill Creek | 2,543 | 1140.10 |
| Bighill Creek | 2,517 | 1139.97 |
| Bighill Creek | 2,482 | 1139.00 |
| Bighill Creek | 2,387 | 1138.82 |
| Bighill Creek | 2,267 | 1138.15 |
| Bighill Creek | 2,161 | 1137.67 |
| Bighill Creek | 2,154 | 1137.40 |
| Bighill Creek | 2,106 | 1137.04 |
| Bighill Creek | 1,937 | 1136.60 |
| Bighill Creek | 1,769 | 1136.09 |
| Bighill Creek | 1,723 | 1135.86 |
| Bighill Creek | 1,720 | 1135.78 |
| Bighill Creek | 1,606 | 1135.11 |
| Bighill Creek | 1,536 | 1134.82 |
| Bighill Creek | 1,501 | 1134.58 |
| Bighill Creek | 1,484 | 1134.01 |
| Bighill Creek | 1,395 | 1132.47 |
| Bighill Creek | 1,212 | 1131.77 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Bighill Creek | 1,202 | 1131.36 |
| Bighill Creek | 1,168 | 1130.99 |
| Bighill Creek | 1,095 | 1130.29 |
| Bighill Creek | 995 | 1129.37 |
| Bighill Creek | 989 | 1129.28 |
| Bighill Creek | 915 | 1128.47 |
| Bighill Creek | 822 | 1127.44 |
| Bighill Creek | 740 | 1126.72 |
| Bighill Creek | 617 | 1126.62 |
| Bighill Creek | 586 | 1126.61 |
| Bighill Creek | 576 | 1126.61 |
| Bighill Creek | 505 | 1126.58 |
| Bighill Creek | 454 | 1124.27 |
| Bighill Creek | 376 | 1123.74 |
| Bighill Creek | 369 | 1123.49 |
| Bighill Creek | 335 | 1122.79 |
| Bighill Creek | 262 | 1122.71 |
| Bighill Creek | 211 | 1122.70 |
| Bighill Creek | 206 | 1122.70 |
| Bighill Creek | 185 | 1122.70 |
| Exshaw Creek | 1,319 | 1342.75 |
| Exshaw Creek | 1,182 | 1338.97 |
| Exshaw Creek | 1,105 | 1335.69 |
| Exshaw Creek | 1,014 | 1331.54 |
| Exshaw Creek | 922 | 1328.19 |
| Exshaw Creek | 838 | 1323.16 |
| Exshaw Creek | 708 | 1317.90 |
| Exshaw Creek | 593 | 1313.16 |
| Exshaw Creek | 475 | 1307.83 |
| Exshaw Creek | 454 | 1306.31 |
| Exshaw Creek | 449 | 1306.14 |
| Exshaw Creek | 434 | 1305.72 |
| Exshaw Creek | 352 | 1302.59 |
| Exshaw Creek | 233 | 1297.29 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Exshaw Creek | 219 | 1297.13 |
| Exshaw Creek | 198 | 1296.21 |
| Exshaw Creek | 190 | 1295.64 |
| Exshaw Creek | 171 | 1294.23 |
| Exshaw Creek | 161 | 1294.08 |
| Exshaw Creek | 147 | 1294.03 |
| Exshaw Creek | 133 | 1293.90 |
| Exshaw Creek | 118 | 1293.69 |
| Exshaw Creek | 104 | 1293.27 |
| Exshaw Creek | 89 | 1292.47 |
| Jumpingpound Creek | 5,294 | 1154.88 |
| Jumpingpound Creek | 5,202 | 1154.07 |
| Jumpingpound Creek | 5,101 | 1153.46 |
| Jumpingpound Creek | 4,984 | 1152.85 |
| Jumpingpound Creek | 4,882 | 1152.25 |
| Jumpingpound Creek | 4,791 | 1151.91 |
| Jumpingpound Creek | 4,648 | 1150.63 |
| Jumpingpound Creek | 4,550 | 1150.09 |
| Jumpingpound Creek | 4,463 | 1149.85 |
| Jumpingpound Creek | 4,369 | 1149.49 |
| Jumpingpound Creek | 4,277 | 1148.43 |
| Jumpingpound Creek | 4,168 | 1148.29 |
| Jumpingpound Creek | 4,040 | 1147.04 |
| Jumpingpound Creek | 3,915 | 1146.85 |
| Jumpingpound Creek | 3,824 | 1145.98 |
| Jumpingpound Creek | 3,672 | 1145.27 |
| Jumpingpound Creek | 3,591 | 1144.53 |
| Jumpingpound Creek | 3,503 | 1143.90 |
| Jumpingpound Creek | 3,363 | 1143.57 |
| Jumpingpound Creek | 3,202 | 1142.30 |
| Jumpingpound Creek | 3,095 | 1141.43 |
| Jumpingpound Creek | 3,006 | 1140.83 |
| Jumpingpound Creek | 2,867 | 1140.28 |
| Jumpingpound Creek | 2,745 | 1139.86 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Jumpingpound Creek | 2,650 | 1139.11 |
| Jumpingpound Creek | 2,557 | 1138.57 |
| Jumpingpound Creek | 2,410 | 1137.99 |
| Jumpingpound Creek | 2,301 | 1137.42 |
| Jumpingpound Creek | 2,181 | 1136.72 |
| Jumpingpound Creek | 2,081 | 1136.33 |
| Jumpingpound Creek | 1,861 | 1134.61 |
| Jumpingpound Creek | 1,733 | 1134.29 |
| Jumpingpound Creek | 1,592 | 1134.02 |
| Jumpingpound Creek | 1,455 | 1132.92 |
| Jumpingpound Creek | 1,327 | 1132.33 |
| Jumpingpound Creek | 1,224 | 1131.93 |
| Jumpingpound Creek | 1,056 | 1131.01 |
| Jumpingpound Creek | 901 | 1130.65 |
| Jumpingpound Creek | 791 | 1130.52 |
| Jumpingpound Creek | 722 | 1130.51 |
| Jumpingpound Creek | 665 | 1130.29 |
| Jumpingpound Creek | 625 | 1128.93 |
| Jumpingpound Creek | 562 | 1128.76 |
| Jumpingpound Creek | 501 | 1127.91 |
| Jumpingpound Creek | 386 | 1127.34 |
| Jumpingpound Creek | 232 | 1126.76 |
| Jumpingpound Creek | 116 | 1126.27 |
| Policeman Creek | 6,418 | 1313.76 |
| Policeman Creek | 6,410 | 1313.73 |
| Policeman Creek | 6,344 | 1313.64 |
| Policeman Creek | 6,312 | 1313.57 |
| Policeman Creek | 6,227 | 1313.37 |
| Policeman Creek | 6,126 | 1313.11 |
| Policeman Creek | 6,075 | 1312.98 |
| Policeman Creek | 6,023 | 1312.88 |
| Policeman Creek | 5,960 | 1312.81 |
| Policeman Creek | 5,946 | 1312.66 |
| Policeman Creek | 5,877 | 1312.65 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Policeman Creek | 5,782 | 1312.64 |
| Policeman Creek | 5,719 | 1312.64 |
| Policeman Creek | 5,673 | 1312.60 |
| Policeman Creek | 5,666 | 1312.30 |
| Policeman Creek | 5,651 | 1312.15 |
| Policeman Creek | 5,646 | 1311.93 |
| Policeman Creek | 5,599 | 1311.68 |
| Policeman Creek | 5,531 | 1311.67 |
| Policeman Creek | 5,468 | 1311.64 |
| Policeman Creek | 5,364 | 1311.61 |
| Policeman Creek | 5,257 | 1311.59 |
| Policeman Creek | 5,248 | 1311.58 |
| Policeman Creek | 5,163 | 1311.58 |
| Policeman Creek | 5,110 | 1311.58 |
| Policeman Creek | 5,101 | 1311.57 |
| Policeman Creek | 5,023 | 1311.56 |
| Policeman Creek | 4,985 | 1311.10 |
| Policeman Creek | 4,936 | 1311.00 |
| Policeman Creek | 4,907 | 1310.77 |
| Policeman Creek | 4,880 | 1310.51 |
| Policeman Creek | 4,855 | 1310.42 |
| Policeman Creek | 4,852 | 1310.20 |
| Policeman Creek | 4,796 | 1310.08 |
| Policeman Creek | 4,726 | 1310.05 |
| Policeman Creek | 4,720 | 1310.01 |
| Policeman Creek | 4,714 | 1310.00 |
| Policeman Creek | 4,675 | 1309.95 |
| Policeman Creek | 4,603 | 1309.72 |
| Policeman Creek | 4,544 | 1309.47 |
| Policeman Creek | 4,463 | 1309.08 |
| Policeman Creek | 4,380 | 1308.81 |
| Policeman Creek | 4,337 | 1308.78 |
| Policeman Creek | 4,320 | 1308.62 |
| Policeman Creek | 4,220 | 1308.50 |

| River | River Station (m) | Design Flood Level (m) |
|---|---|---|
| Policeman Creek | 4,184 | 1308.47 |
| Policeman Creek | 4,030 | 1308.32 |
| Policeman Creek | 3,921 | 1308.24 |
| Policeman Creek | 3,888 | 1308.18 |
| Policeman Creek | 3,862 | 1308.00 |
| Policeman Creek | 3,835 | 1308.01 |
| Policeman Creek | 3,784 | 1308.00 |
| Policeman Creek | 3,713 | 1307.95 |
| Policeman Creek | 3,685 | 1307.53 |
| Policeman Creek | 3,527 | 1307.40 |
| Policeman Creek | 3,354 | 1307.36 |
| Policeman Creek | 3,191 | 1307.34 |
| Policeman Creek | 3,154 | 1307.31 |
| Policeman Creek | 3,141 | 1307.29 |
| Policeman Creek | 3,002 | 1307.14 |
| Policeman Creek | 2,822 | 1306.99 |
| Policeman Creek | 2,804 | 1306.96 |
| Policeman Creek | 2,782 | 1306.95 |
| Policeman Creek | 2,666 | 1306.67 |
| Policeman Creek | 2,518 | 1306.54 |
| Policeman Creek | 2,394 | 1306.50 |
| Policeman Creek | 2,306 | 1306.49 |
| Policeman Creek | 2,128 | 1306.25 |
| Policeman Creek | 1,771 | 1306.19 |
| Policeman Creek | 1,560 | 1306.18 |
| Policeman Creek | 1,544 | 1306.18 |
| Policeman Creek | 1,373 | 1306.18 |

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