Kettle River and Tributaries
Midway-Rock Creek-Westbridge

Survey Project No. 9510F080

Requested by:
R. W. Nichols, P.Eng.,
Head,
Floodplain Mapping Program

Field: September 12 thru October 4, 1995

Office: January 15 to April 30, 1996

Crew Members- B. Boyd, R. Edward, B. Board, M. Humphreys, J. Duncan & H. Brazier.
Accommodations- Evening Star Motel, Greenwood B C.

The field survey was carried out under favourable conditions by a four to six man crew under the supervision of B. C. Boyd. Standard floodplain survey practices were observed throughout.

SURVEY LOGISTICS:

Survey guidelines as requested by R. N. Nichols, P.Eng. in memorandum dated March 28, 1994; File: FPM-1 & FPM-4, were followed (See attachment). Some minor changes in cross section locations were made upon field inspection.
A total of 102 cross sections were obtained on Kettle River, West Kettle River and Boundary Creek. In addition, High Water Marks (HWM's) that were identified by Messrs. R. Nichols and S. Corner on May 30 and 31, 1995 were located and elevations obtained.
Water levels were monitored at XS B4 (Boundary Creek) and XS K1 (Kettle River) with only small variances in stage discharge recorded for the duration of the project.

Boundary Creek @ Midway - Cross section 1 to 7 established and run from Canada/USA Boundary, upstream approximately 1.1 kilometres. High water marks B1 , B2 and 08NN011 staff gauge located and leveled. For location of cross sections and HWM's, see Dwg No. 96-5-1

Kettle River - Midway-Rock Creek- Westbridge - Cross section 1 to 81 plus 24.5, 41.1, 55.5 & 59.1 were obtained from Canada/USA Boundary, upstream approximately 43 kilometres . High Water Mark K1 thru K30 located and leveled. For location of cross sections and HWM's, see Dwg No. 96-5-1 thru 8.

West Kettle River @ Westbridge - Cross section 1 to 9 plus 1.5 were obtained from the confluence upstream approximately 2.4 kilometres. High Water Mark W1 thru W3 located and leveled. For location of cross sections and HWM's, see Dwg No. 96-5-7 & 8.

SURVEY DATA:

Horizontal control of cross sections and profiles established by EDM traverse using a total station theodolite. Vertical control established by reciprocal height traversing using a total station theodolite and confirmed by differential leveling. Data recorded in Field Book #2657-F1 and on disc's labeled 2616-D-1. CADD data stored on network \\\PROJECTS\KETTLE.
Office compilation of data carried out by B. Boyd, and H. Brazier, photograph layout by M. Spencer, and cross section/plan plots by B. Woods.

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DATUM:

Initial horizontal coordinates obtained by Global Positioning System (GPS) using Magellan ProMark V (Carrier Phase Differential) and processed using BCACS-Penticton. Preliminary NAD27 coordinates were used for survey and control calculations, then converted to NAD83, using National Transformation Program Vers.2. All subsequent topographic coordinates are NAD83.
Vertical control based on Geodetic Datum (CVD29) . Elevations obtained from Geodetic Survey of Canada Vertical Control Data listing for Quad No.49119, Revision 4, April 1988, Quad No. 49118, Revision 2, October 1982 and Surveys and Resource Mapping Branch data bank listing dated May 11, 1995.

DATA RETURNS:

Floodplain Mapping Program : 1 volume of outdata consisting of:

-Section 1	Summary and Project Request
-Section 2	Listing of May 1995 High Water Mark elevations
	Listing of water levels at Cross section K1 and B4
	Gauging Station 08NN011, 08NN003, 08NN026, 08NN022 and 08NN008
-Section 3	3.5" diskette containing GR Data for project
	Listing of GR Data (decimal format) for project
-Section 4	Boundary Creek Cross section 1-7
	(Profile list, photographs & cross section plots)
-Section 5	West Kettle River Cross section 1-9 plus 1.5
	(Profile list, photographs & cross section plots)
-Section 6	Kettle River Cross section 1-40, plus 24.5
	(Profile list, photographs & cross section plots)
-Section 7	Kettle River Cross section 41-81, plus 41.1, 55.5 & 59.1
	(Profile list, photographs & cross section plots)
-Section 8	1 print each of Dwg No. 96-5-1 thru 96-5-8

Technical Surveys Section:
Dwg No. 96-51 thru 8 mylars and 3 volumes of complete input and outdata on file.
(High Water Mark identification booklet from Flood Hazard Identification included in Volume 1 of 3.)

B. C. Boyd

May 1, 1996

Bruce Boyd
A/Head
Water Survey Unit
Technical Survey Section