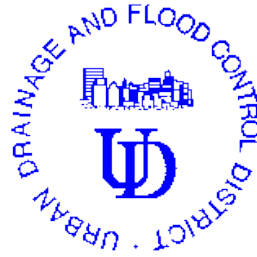


Urban Drainage and Flood Control District



E-19 Surveys



Sports Complex Gage
ALERT ID: 323
LID: SEXC2

HDR Engineering, Inc.
303 E 17th Ave. Suite 300
Denver CO, 80203

Introduction

HDR Engineering Inc. was contracted by the Urban Drainage and Flood Control District to survey and provide information about various flood warning stream gage sites in a manner consistent with National Weather Service E-19 procedures. On March 10, 2000, five sites were surveyed by HDR personnel in the Rashton Creek vicinity. This report is a summary of the work done and information gathered for the Sports Complex gage on Van Bibber Creek. Included in this report are elevations of critical points in the vicinity of the site, and estimates of stages causing flood damage in vicinity of the gage.

Site

The stream gage is located off West 58th Avenue on Van Bibber Creek. The ALERT ID number for this Gage is 323 while the National Weather Service LID is SEXC2 and is referred to as Sports Complex. Potential flooding at the gage site would be the flooding of baseball fields on the south side of the culverts, while there could be residential damage on the north side of the culverts. During high flood stages, West 58th Avenue could be overtopped. Figure 1 shows a general location map of the site.

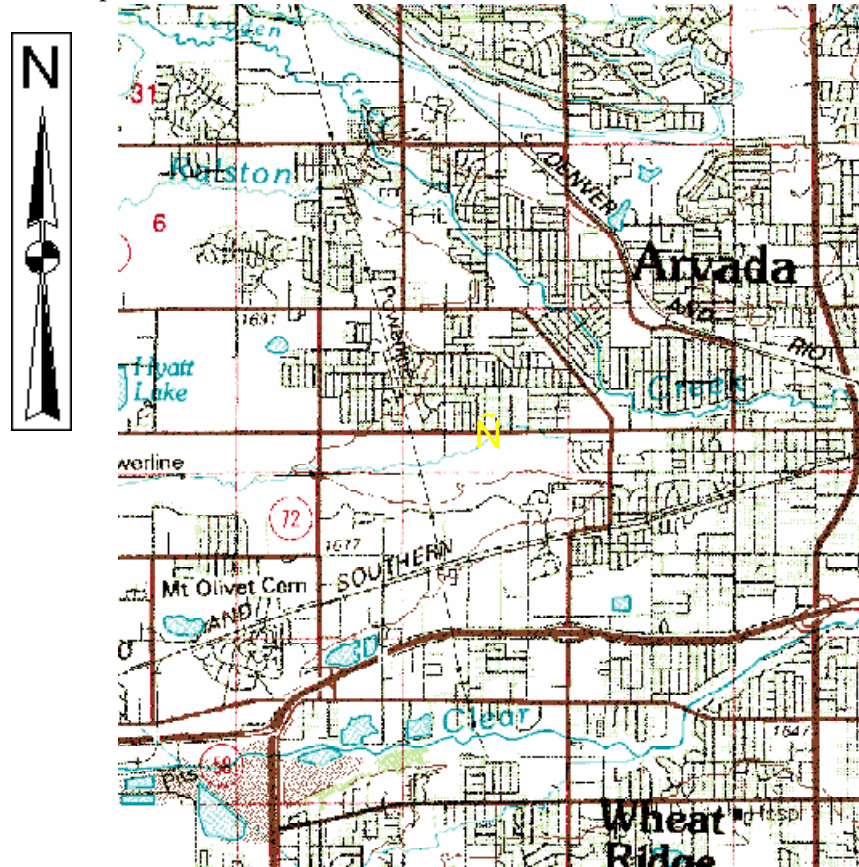


Figure – 1 Location Map

Surveyed locations

The elevations and locations of any buildings near the gage site were surveyed, along with water surface elevations up and down stream from the gage. In addition ground elevations were surveyed along a cross section for a possible future rating curve for the site. Figure 2 shows locations of the surveyed points in the vicinity of the gage. The base of the ALERT transmitter was surveyed at an elevation of 100.00 for a temporary benchmark. The flow line elevation is 95.8 feet. The bankfull stage is at 4.5 feet above the flow line. The levee on the East will be overtopped at 5.9 feet above the flow line. At 7.5 feet above the flow line West 58th Street will be overtopped. Based on the topography of the area, the estimated channel energy slope is 0.7 percent.



Figure – 2 Surveyed Points

Site photographs

Several photographs were taken of the site. Figure 3 shows Van Bibber Creek at the gage location looking downstream. Figure 4 shows Van Bibber Creek at the gage location looking upstream.

Figure – 3 Looking Downstream



Figure – 4 Looking Upstream



Historic records

There is limited information available for this gage. The location has been recently converted to a pressure transducer with an ALERT transmitter. Since the gauge installation date in July, 1989, a peak stage of 3.7 feet (corresponding to 440 cfs) was recorded on July 22, 1991. Records of flooding previous to the gauge installation could not be identified during the reconnaissance and library searches. Figure 5 shows the approximate 100-year flood boundary as depicted on district's annual flood hazard information brochures.

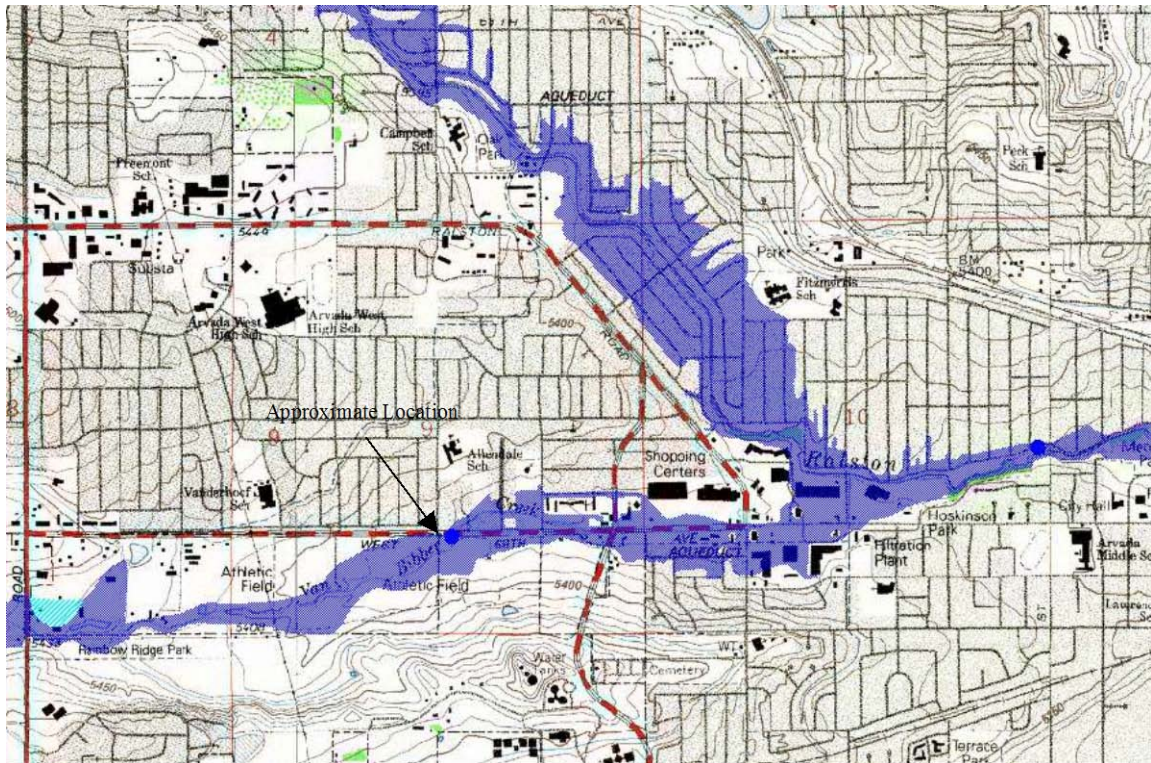


Figure - 5 Approximate 100-Year Flood Boundary As Depicted on District's Annual Flood Hazard Information Brochures

Flood warning template

The graphics template was created based on the surveyed information, historic records, another information supplied by the Urban Drainage and Flood Control District and the National Weather Service. The graphics template is compatible with the flood warning system and has been created and installed on the District's WebServer. This template is named 323e19.tpt and is located in the appropriate directory in the District's WebServer. Figure 6 shows the graphics template online from the WebServer.

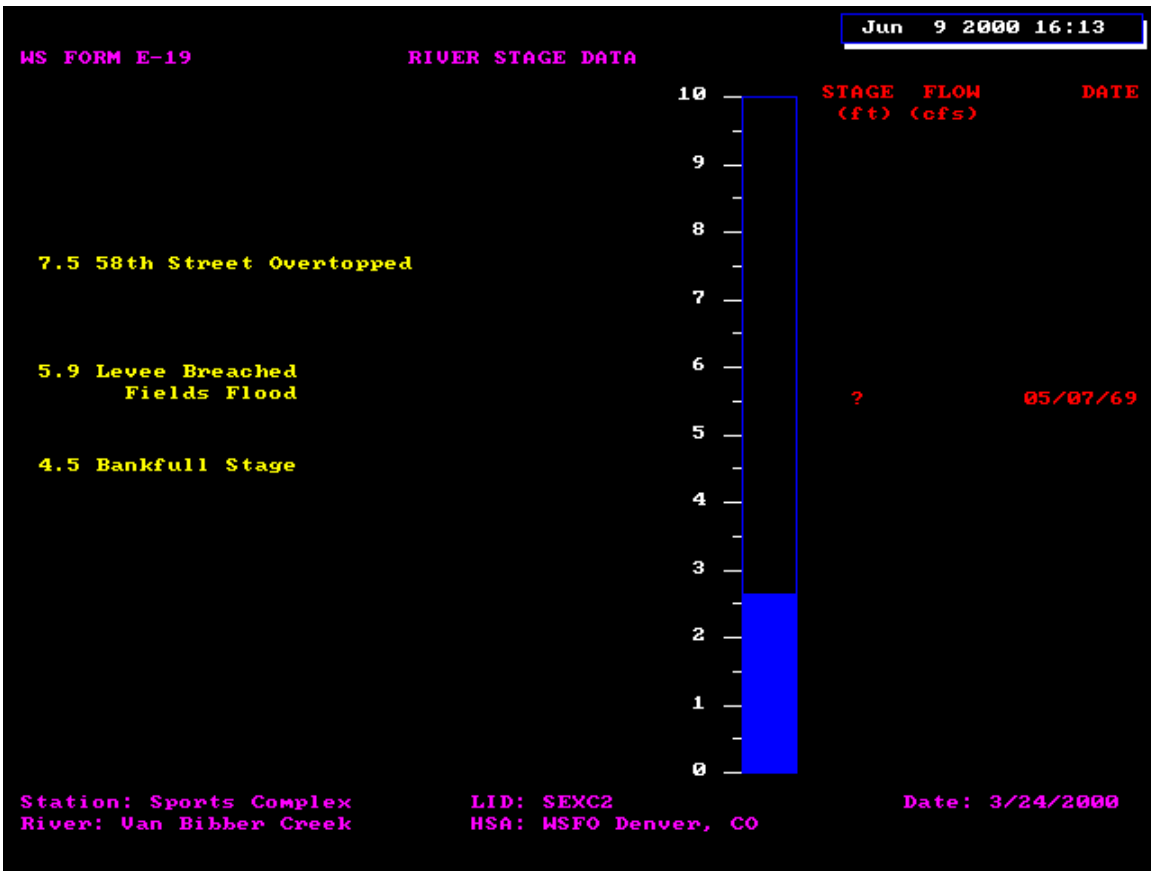


Figure – 6 Graphic Template

APPENDIX
Surveyed Data Points

Sports Complex Gage

ID	X (ft)	Y (ft)	Distance (ft)	Station (ft)	Z (ft)	Label
900	10000.00	10000.00			99.63	CP1
901	10029.64	10000.00			98.63	BS
1000	10028.15	9994.84			100.00	BASETRANSMIT
1001	10030.31	10000.15			98.86	TOPOFPT
1002	10030.92	10004.99			96.69	ENDOFPTPIPE
1003	10029.73	10006.28			95.84	CENTERFL
1004	10029.95	10004.62			96.52	GRANDWTSURFACE
1005	10028.77	10001.15			97.50	GR
1006	10027.41	9997.81			99.41	GR
1007	10026.21	9990.70			100.29	GR
1008	10012.37	9933.27			100.11	GR
1009	10012.56	9911.56			103.65	GR
1010	10015.52	9899.56			104.24	TOPOFCURB
1011	10016.97	9912.98			104.15	BMVIGILPLS20699
1012	10093.03	9994.39			100.42	LOWCHORD
1013	10093.04	10005.66			95.77	INVERT
1014	10093.02	10005.64			95.99	WS
1015	10110.15	9998.04			103.29	TOPOFCURB
1016	10159.46	9992.89			103.34	TOPOFMEDIAN
1017	10355.48	10001.68			94.18	INVERT
1018	10027.61	10009.50			96.58	GREDEOFWATER
1019	10028.11	10013.67			98.43	GR
1020	10029.58	10029.49			99.06	GR
1021	10025.35	10043.64			101.77	GR
1022	10020.43	10060.70			99.71	GR
1023	10046.01	10553.59			99.94	GR
1024	9906.10	10077.34			96.84	WS
1025	9778.65	9999.76	314.43	0.66	98.06	FLANDWATERSURCUL
1026	9776.46	10001.43			100.74	TOPOFCULVERT
1027	10092.71	9992.47			95.39	CULVERTXSECTION
1028	10093.09	10000.79			95.38	CULVERTXSECTION
1029	10093.01	10002.06			95.74	CULVERTXSECTION
1030	10093.11	10009.32			95.87	CULVERTXSECTION
1031	10093.18	10010.65			95.55	CULVERTXSECTION
1032	10093.07	10018.45			95.39	CULVERTXSECTION
1033	10093.00	10017.49			95.34	CULVERTXSECTION

Cross-Section Points

ID	X (ft)	Y (ft)	Distance (ft)	Station (ft)	Z (ft)	Label
1010	10015.52	9899.56		0.00	104.24	TOPOFCURB
1011	10016.97	9912.98	13.49	13.49	104.15	BMVIGILPLS20699
1008	10012.37	9933.27	20.81	34.30	100.11	GR
1007	10026.21	9990.70	59.07	93.37	100.29	GR
1000	10028.15	9994.84	4.58	97.95	100.00	BASETRANSMIT
1006	10027.41	9997.81	3.06	101.01	99.41	GR
1005	10028.77	10001.15	3.61	104.62	97.50	GR
1004	10029.95	10004.62	3.66	108.28	96.52	GRANDWTSURFACE
1003	10029.73	10006.28	1.67	109.95	95.84	CENTERFL
1018	10027.61	10009.50	3.86	113.81	96.58	GREDFGEOWATER
1019	10028.11	10013.67	4.20	118.01	98.43	GR
1020	10029.58	10029.49	15.89	133.90	99.06	GR
1021	10025.35	10043.64	14.76	148.66	101.77	GR
1022	10020.43	10060.70	17.76	166.42	99.71	GR
1023	10046.01	10553.59	493.56	659.98	99.94	GR

