



PROJECT # AND NAME: Clinton Creek, 16-240.3, Water Program

Date and Time (24hr) 22 July 2016  
 Site ID E1(A) Prop # 1  
 Station UTM's 0512851/7147433  
 Left Bank (m)' 11.83  
 Right Bank (m)' 0.77  
 Wetted Width (m) 11.06  
 Staff Gauge (start) 0.775  
 Field Photo # \_\_\_\_\_

Field Staff GR/NS  
 Type of meter Used SWOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 11:08  
 End Time (24 hr) 11:57  
 Staff Gauge (end) 0.777

**Method Summary**

Measure the width of the wetted cross section of the stream (m)

Divide the wetted width by 20 to establish the width of each flow gauging panel

If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)

If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only

If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	0.77	0.0	0.00			
2	1.32	6.0	0.00			
3	1.87	14.0	0.00			
4	2.42	18.0	0.00			main
5	2.97	25.0	0.16			@ the edge of flow
6	3.53	34.0	0.22			
7	4.08	41.0	0.25			
8	4.63	44.0	0.24			
9	5.18	46.0	0.29			
10	5.73	45.5	0.32			
11	6.28	44.0	0.28			
12	6.84	40.0	0.27			
13	7.39	42.0	0.25			
14	7.95	39.5	0.25			
15	8.49	42.0	0.27			
16	9.05	42.0	0.27			
17	9.60	40.0	0.23			
18	10.15	35.0	0.22			
19	10.75	25.0	0.09			
20	11.24	9.5	0.18			on a rock
21	11.83	0.5	0.00			11.33

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	11.83	0.5	0.00			11.34
2	11.20	9.0	0.19			on a rock
3	11.80	21.0	0.21			
4	11.26	31.0	0.24			
5	10.97	39.9	0.27			
6	9.15	42.0	0.28			
7	8.61	42.0	0.28			
8	8.05	38.0	0.29			
9	7.51	39.5	0.23			
10	6.95	43.0	0.28			
11	6.39	41.0	0.30			
12	5.85	46.0	0.31			
13	5.28	47.0	0.25			
14	4.77	45.0	0.26			
15	4.20	40.0	0.23			
16	3.65	34.0	0.23			
17	3.10	29.0	0.15			
18	2.55	19.0	0.00			
19	2.00	15.5	0.00			
20	1.42	6.5	0.00			
21	0.77	0.0	0.00			

Notes:

Left bank and right bank are always based on looking downstream.

<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

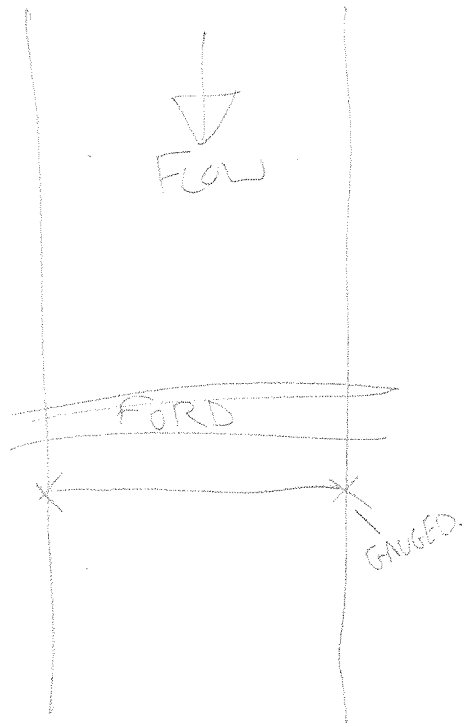
<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

RAIN EASED OFF  
SLIGHTLY AT START  
OF SECOND CROSSING

Calculations (e.g., wetted width / 20 = panel width):  
 $11.06 / 20 = 0.553$

RB

LB





PROJECT # AND NAME: Clinton Creek, 16-240.3, Water Program

Date and Time (24hr) JULY 21 2016  
 Site ID EZ Prop # 1  
 Station UTM's 0514163 7147076  
 Left Bank (m) 7.53  
 Right Bank (m) 0.86  
 Wetted Width (m) 6.67  
 Staff Gauge (start) N/A  
 Field Photo # 6856 - 6850

Field Staff GR + MB  
 Type of meter Used SWAPPER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 17:35  
 End Time (24 hr) 18:19  
 Staff Gauge (end) N/A

Method Summary

Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB (RB) 1	0.86	0.0	0.00			
2	1.19	16.0	0.34			
3	1.52	22.0	0.40			
4	1.85	26.0	0.30			
5	2.16	28.0	0.35			
6	2.49	23.0	0.48			@ the edge of a rock on a rock
7	2.84	11.0	0.57			
8	3.17	26.0	0.66			
9	3.50	29.0	0.71			
10	3.88	25.0	0.71			
11	4.21	29.0	0.40			
12	4.54	29.0	0.79			
13	4.87	22.0	0.54			
14	5.20	20.0	0.58			
15	5.53	18.0	0.43			
16	5.86	15.0	0.41			
17	6.19	12.5	0.23			
18	6.52	8.5	0.13			
19	6.85	6.0	0.08			
20	7.13	3.5	0.00			
21	7.53	0.0	0.00			17:59
	Total		8.16			

Average 0.386

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB (RB) 1	7.53	0.0	0.00			17:59
2	7.13	3.5	0.00			Very shallow / left bank
3	6.84	7.0	0.07			
4	6.51	9.5	0.14			
5	6.18	12.0	0.25			
6	5.84	16.0	0.37			
7	5.51	19.5	0.47			
8	5.19	20.0	0.60			
9	4.86	24.5	0.57			
10	4.54	27.0	0.86			
11	4.22	29.0	0.46			
12	3.87	26.0	0.65			
13	3.54	27.5	0.74			
14	3.22	24.0	0.75			
15	2.85	12.0	0.62			On a rock
16	2.50	22.0	0.50			@ Edge of rock
17	2.17	22.0	0.33			
18	1.84	29.0	0.30			
19	1.51	22.0	0.37			
20	1.18	19.0	0.29			
21	0.86	0.0	0.00			18:19
	Total		8.34			

Average 0.397

Notes:

Left bank and right bank are always based on looking downstream.

<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

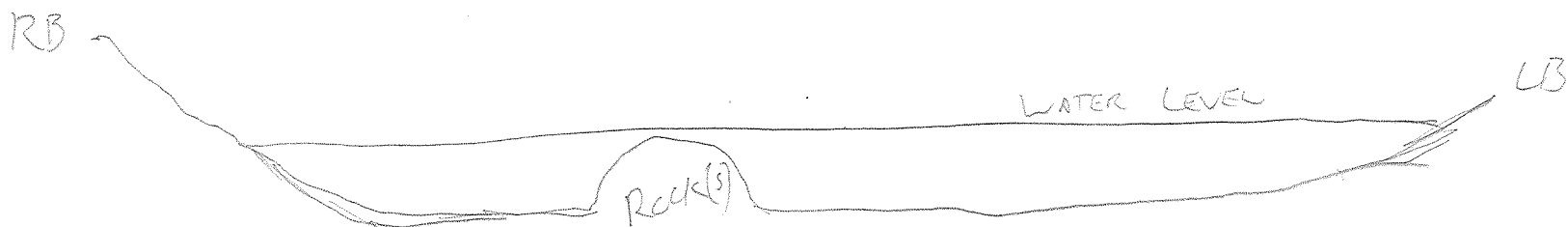
<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):

6.67 / 20 = 0.333

\* Light rain

2/2



GENERALLY, SMALLER ANGULAR  
SUBSTRATE THAN ~~FB~~ AT EQ



PROJECT # AND NAME: Clinton Creek. 16-240.3. Water Program

Date and Time (24hr) 19 July 2016 / 11:43

Field Staff GR + NB

Site ID E3(H)

Prop # 1

Type of meter Used SWEEPER

Station UTM 0514161 / 7147602

Waypoint E3H

Datum NAD 83

Left Bank (m) 4.380

Calibration No. 605

Right Bank (m) 0.700

Start Time (24 hr) 11:43

Wetted Width (m) 3.680

End Time (24 hr) 12:35

Staff Gauge (start) 0.278

Staff Gauge (end) 0.278

Field Photo # 6786-6789

**Method Summary**  
 Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (1 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	0.700	0.0	0.0			
2	0.900	4.0	0.0			On rock
3	1.070	15.0	0.10			
4	1.240	19.0	0.07			
5	1.420	18.0	0.180			
6	1.600	16.0	0.230			
7	1.800	16.0	0.300			
8	1.950	15.0	0.390			
9	2.130	14.0	0.390			
10	2.290	10.0	0.240			
11	2.470	10.0	0.410			
12	2.520	9.50	0.440			
13	2.680	9.0	0.340			
14	2.820	5.0	0.150			
15	3.050	9.0	0.210			
16	3.220	5.0	0.180			
17	3.380	9.0	0.090			
18	3.580	6.0	0.300			
19	3.770	7.0	0.160			
20	3.970	4.0				Need to jump a rock
21	4.09	3.0	0.0			
22	4.380	0	0			

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (1 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	4.380	0	0			12:13 start time
2	4.130	3.0	0			
3	3.930	2.0	0.20			On a rock
4	3.750	8.0	0.15			
5	3.580	7.0	0.28			
6	3.390	9.0	0.03			in a small eddy
7	3.200	9.5	0.20			On a rock
8	3.020	9.0	0.25			
9	2.840	7.0	0.21			
10	2.650	9.0	0.40			
11	2.460	9.5	0.39			
12	2.280	13.0	0.22			
13	2.110	11.0	0.40			On a rock
14	1.940	17.0	0.37			
15	1.750	16.0	0.240			
16	1.580	16.0	0.210			
17	1.400	19.0	0.150			
18	1.240	17.5	0.05			
19	1.120	14.0	0.07			
20	0.900	3.0	0.02			On a rock
21	0.700	0.0	0.0			
						12:35 end time

Notes:

Left bank and right bank are always based on looking downstream.

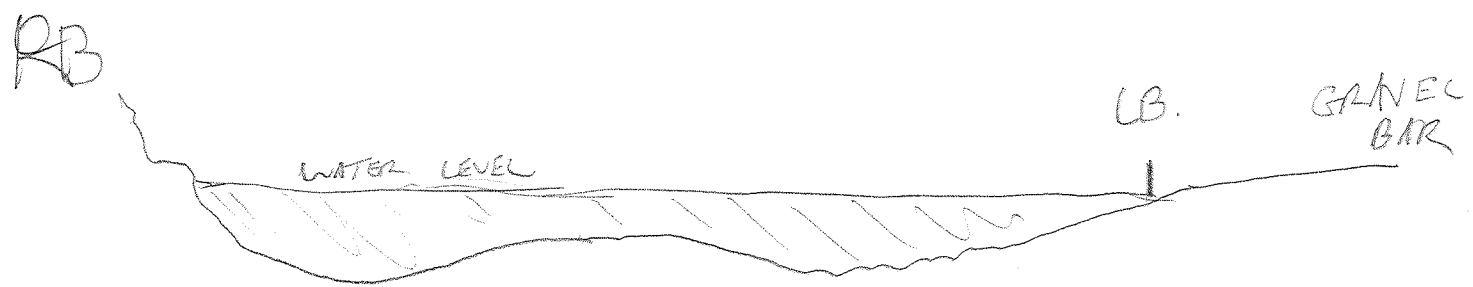
<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

TURN OVER

Calculations (e.g., wetted width / 20 = panel width):  
 0.184 per panel.  
 Still slow WATER. ~~CR~~

2/2



NO GAUGING PROBLEMS.



PROJECT # AND NAME: Clinton Creek, 16-240.3, Water Program

Date and Time (24hr) July 21, 2016 @ 15:28 Field Staff GR+NB  
 Site ID E14 Prop # 1 Type of meter Used SWOFFER  
 Station UTM's 0515945/7145287 Datum NAD 83  
 Left Bank (m)' 7.38 Calibration No. 605  
 Right Bank (m)' 1.03 Start Time (24 hr) 15:36  
 Wetted Width (m) 6.35 End Time (24 hr) 16:25  
 Staff Gauge (start) N/A Staff Gauge (end) N/A  
 Field Photo # 6851-6855

Method Summary

Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	7.38	18.0	0.92			
2	7.07	21.0	0.86			
3	6.77	26.0	0.13			Behind a rock
4	6.46	25.0	0.57			
5	6.15	24.0	0.92			
6	5.83	25.0	0.92			
7	5.52	26.0	0.68			
8	5.22	26.0	0.76			
9	4.90	26.0	0.86			
10	4.59	22.0	0.64			
11	4.28	20.0	0.59			
12	3.97	20.5	0.58			
13	3.66	21.0	0.66			
14	3.35	19.0	0.66			
15	3.04	14.0	0.65			
16	2.73	19.0	0.15			Behind a rock
17	2.44	19.0	0.35			
18	2.13	17.0	0.20			
19	1.83	14.5	0.03			Behind a rock
20	1.50	5.0	0.10			
21	1.20	5.5	0.20			
22	1.03	1.5	0.00			@ 16:02

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	1.03	1.5	0.00			Start 16:02
2	1.34	8.0	0.21			
3	1.65	6.0	0.02			
4	1.96	15.0	0.11			
5	2.28	19.5	0.16			Behind a rock
6	2.58	21.5	0.34			
7	2.89	16.0	0.36			
8	3.20	17.0	0.88			
9	3.51	20.0	0.62			
10	3.82	20.0	0.36			
11	4.12	17.0	0.78			
12	4.44	21.0	0.56			
13	4.75	25.0	0.65			
14	5.06	23.0	0.88			
15	5.37	26.0	0.85			
16	5.68	25.0	0.97			
17	5.99	25.0	1.02			
18	6.30	24.0	0.90			
19	6.61	25.0	0.93			
20	6.91	21.0	1.06			
21	7.20	22.0	0.88			
22	7.38	17.0	0.91			16:25

Notes:

Left bank and right bank are always based on looking downstream.

<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

Total 11.43  
 Average 0.519

Note: light rain  
 WATER LEVELS/FLOW  
 SEEMED TO INCREASE DURING  
 2ND CROSSING. — RAIN INCREASED  
 FLOWS

Calculations (e.g., wetted width / 20 = panel width):

6.25 / 20 = 0.3125  
 16% DIFFERENCE DUE TO RAIN.

Total 13.45  
 Average 0.611

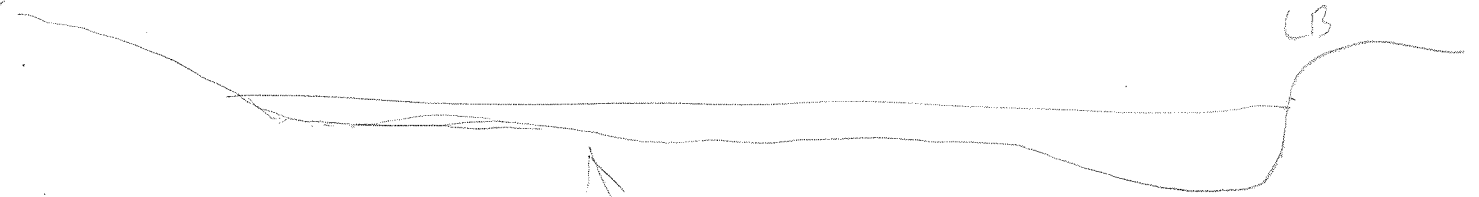
2.92  
 24.08 = 12.44

2/2

RB

LB

↑  
WHOLE BED IS ANGULAR ROCK/LARGE COBBLES







PROJECT # AND NAME: Clinton Creek. 16-240.3. Water Program

Date and Time (24hr) JULY 22 2016  
 Site ID E7 Prop # 1  
 Station UTMs 0519362 / 7142041  
 Left Bank (m)<sup>1</sup> 13.90  
 Right Bank (m)<sup>1</sup> 1.20  
 Wetted Width (m) 12.7  
 Staff Gauge (start) N/A  
 Field Photo # 6893 - 6898

Field Staff GR/NB  
 Type of meter Used SNOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 15:46  
 End Time (24 hr) 16:32  
 Staff Gauge (end) N/A

**Method Summary**  
 Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s)	Velocity (m/s)	Comments
			@ 60% depth <sup>2</sup>	@ 80% depth <sup>2</sup> (2 x depth)	
①	1.20	0.0	0.00		
LB / RB 1	1.83	21.0	0.08		
2	2.47	27.0	0.16		
3	3.10	33.0	0.25		
4	3.73	34.0	0.28		
5	4.38	24.0	0.31		
6	5.03	29.0	0.41		
7	5.66	34.0	0.31		
8	6.29	41.5	0.28		
9	6.90	43.0	0.37		
10	7.54	45.0	0.42		
11	8.18	35.0	0.42		
12	8.80	44.5	0.49		
13	9.44	40.0	0.41		
14	10.07	36.0	0.42		
15	10.70	34.5	0.34		
16	11.33	34.5	0.35		
17	11.96	34.0	0.31		
18	12.58	30.0	0.22		
19	13.20	19.5	0.21		
② 20	13.94	0.0	0.00		16:10

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s)	Velocity (m/s)	Velocity (m/s)	Comments
			@ 60% depth <sup>2</sup>	@ 80% depth <sup>2</sup> (2 x depth)	@ 20% depth <sup>2</sup> (0.5 x depth)	
LB / RB 1	13.94	0.0	0.00			
2	13.31	19.0	0.24			
3	12.68	28.0	0.26			
4	12.04	35.0	0.32			
5	11.41	34.0	0.36			
6	10.78	35.5	0.42			
7	10.15	36.0	0.42			
8	9.52	39.0	0.41			
9	8.87	44.0	0.50			
10	8.25	44.0	0.44			
11	7.62	46.0	0.39			
12	6.99	46.0	0.37			
13	6.36	44.0	0.35			
14	5.73	35.0	0.36			
15	5.09	26.0	0.37			
16	4.46	29.5	0.30			
17	3.83	35.0	0.32			
18	3.20	33.0	0.28			
19	2.57	26.0	0.24			
20	1.94	23.0	0.06			
	1.20	0.0	0.00			16:42 32

Notes:

Left bank and right bank are always based on looking downstream.

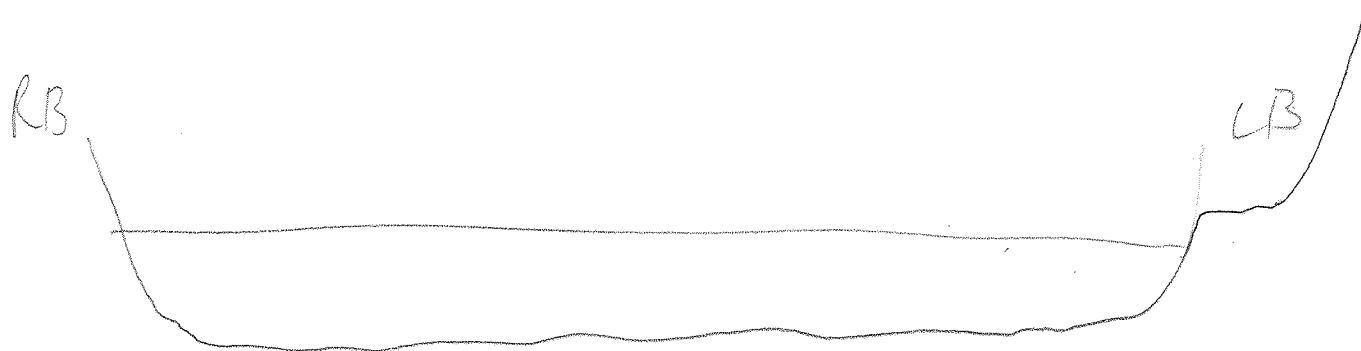
<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):

12.7 / 20 = 63.5

2/2



A

TOO TURBID TO SEE SUBSTRATE  
FEELT LIKE A MIX OF FINES WITH  
SMALLER COBBLES AND STONES.



MOORATE

Hydrology Field Sheet

PROJECT # AND NAME: Clinton Creek. 16-240.3. Water Program

\* RAIN

Date and Time (24hr) July 22 / 2016  
 Site ID GWCC-5 Prop # 1  
 Station UTM's 05/3983/7147127  
 Left Bank (m)' 2.90  
 Right Bank (m)' 1.10 1.06  
 Wetted Width (m) 0.80 1.24  
 Staff Gauge (start) N/A  
 Field Photo # 0805-0866

Field Staff GR/NB  
 Type of meter Used SWOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 09:06  
 End Time (24 hr) 9:32  
 Staff Gauge (end) N/A

Method Summary

Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	1.00	0.0	0.00			
2	1.18	2.0	0.00			
3	1.30	3.5	0.00			Behind rocks
4	1.54	4.5	0.11			
5	1.68	4.5.0	0.11			
6	1.92	3.5	0.14			
7	2.07	4.0	0.13			
8	2.36	3.0	0.00			
9	2.47	3.0	0.00			
10	2.70	3.5	0.00			
11	2.90	0.0	0.00			9:25
12						
13						
14						
15						
16						
17						
18						
19						
20						

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	2.90	0.0	0.00			
2	2.71	3.5	0.00			
3	2.50	3.5	0.00			
4	2.41	4.0	0.01			
5	2.10	4.0	0.18			
6	1.82	2.5	0.10			
7	1.68	4.2.5	0.26			Main flow area
8	1.56	3.0	0.18			
9	1.31	2.0	0.00			
10	1.06	0.0	0.00			
11						9:32
12						
13						
14						
15						
16						
17						
18						
19						
20						

Notes:

Left bank and right bank are always based on looking downstream.

<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

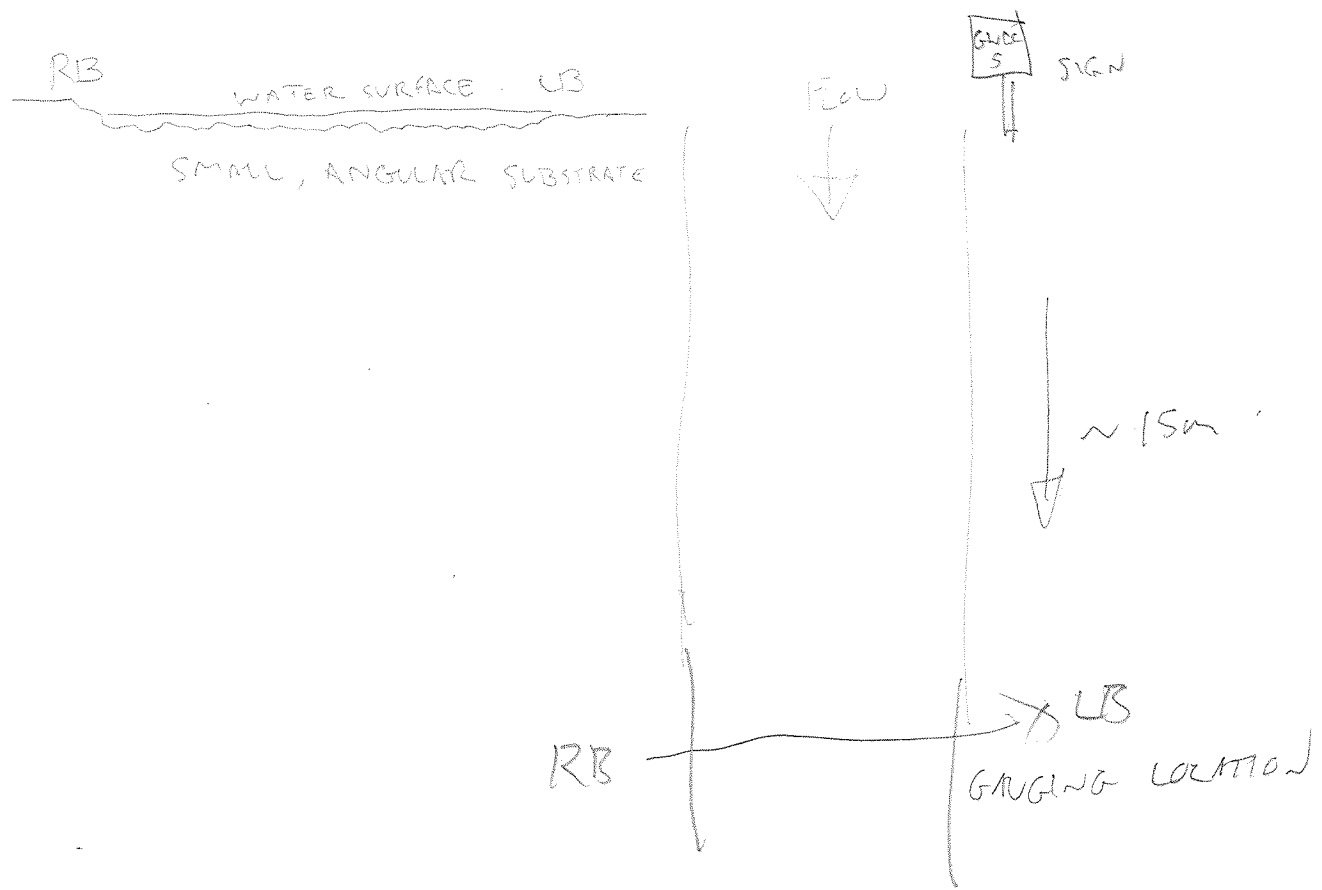
<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

\* Shallow & uneven bottom; algae tangles the prop  
 INDIAN CREEK  
 GAUGING STATION  
 10/10/2016

Calculations (e.g., wetted width / 20 = panel width):

0.8 / 8 = 10 cm

2/2





PROJECT # AND NAME: Clinton Creek. 16-240.3. Water Program

Date and Time (24hr) JULY 23 2016  
 Site ID R1 Prop # 1  
 Station UTMs 07W 0510597 7147500  
 Left Bank (m)<sup>1</sup> 8.36 8.40  
 Right Bank (m)<sup>1</sup> 0.60  
 Wetted Width (m) 7.76  
 Staff Gauge (start) N/A  
 Field Photo # 6915 - 6919

Field Staff CR + NB  
 Type of meter Used SWOFFER  
 Datum NAD 83  
 Calibration No. 506  
 Start Time (24 hr) 14:26  
 End Time (24 hr) 15:15  
 Staff Gauge (end) N/A

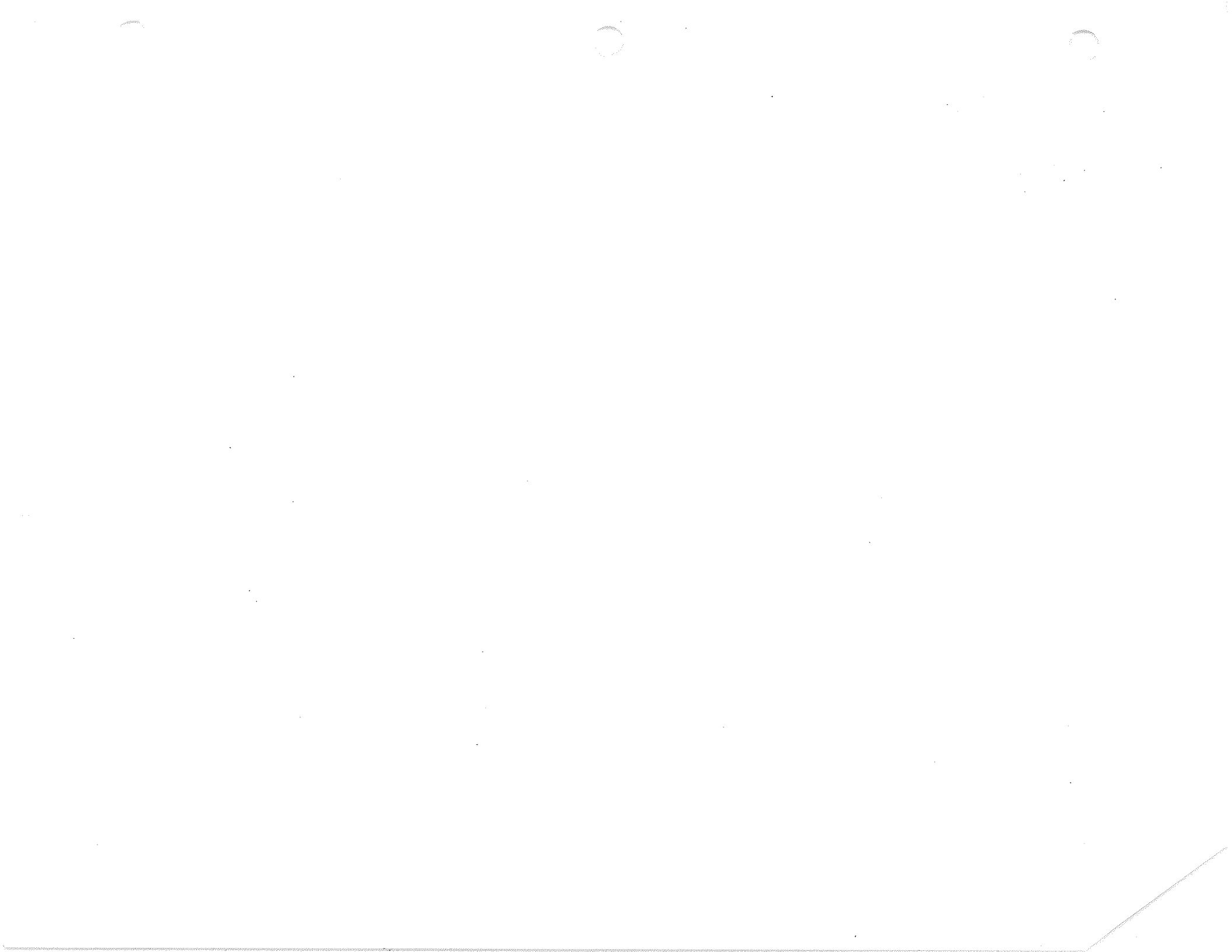
**Method Summary**  
 Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	0.60	0.0	0.00			
2	0.99	14.0	0.00			Soft bottom
3	1.37	25.0	0.29			
4	1.75	29.0	0.50			
5	2.14	31.0	0.67			
6	2.53	30.0	0.78			
7	2.92	34.0	0.82			
8	3.30	35.0	0.89			
9	3.69	36.0	0.77			
10	4.08	37.0	0.89			
11	4.46	39.0	0.77			
12	4.84	41.0	0.85			
13	5.22	44.5	0.82			
14	5.60	48.0	0.86			
15	5.98	50.0	0.81			
16	6.37	51.0	0.91			
17	6.75	54.0	0.83			
18	7.13	54.0	0.58			
19	7.51	50.0	0.25			
20	7.86	39.0	0.03			
21	8.40	0.0	0.00			

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments	
LB / RB 1	8.40	0.0	0.00				
2	8.16	25.0	0.00			Soft bottom	
3	7.60	47.0	0.14				
4	7.22	54.0	0.49				
5	6.84	55.5	0.80				
6	6.46	55.0	0.76				
7	6.08	51.0	0.76				
8	5.70	48.0	0.88				
9	5.31	44.0	0.80				
10	4.92	41.0	0.90				
11	4.54	38.0	0.88				
12	4.16	37.5	0.96				
13	3.77	36.0	0.97				
14	3.38	34.5	0.95				
15	3.00	34.5	0.89				
16	2.62	30.5	0.80				
17	2.24	30.0	0.71				
18	1.86	29.5	0.54				
19	1.48	24.0	0.37				
20	1.10	20.0	0.01				Soft bottom
21	0.60	0.0	0.00				15.15

Notes:  
 \* Water too turbid to see prop.  
 Left bank and right bank are always based on looking downstream.  
<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.  
<sup>2</sup> Depth from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):  
 $7.76 / 20 = 38.8 \text{ cm}$





PROJECT # AND NAME: Clinton Creek. 16-240.3. Water Program

Date and Time (24hr) 23 July 2016  
 Site ID R2 Prop # 1  
 Station UTM's 0512033/7148063  
 Left Bank (m)' 2.97  
 Right Bank (m)' 0.54  
 Wetted Width (m) 2.43  
 Staff Gauge (start) N/A  
 Field Photo # 6924-6927

Field Staff GR + NB  
 Type of meter Used SWOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 16:15  
 End Time (24 hr) 16:46  
 Staff Gauge (end) N/A

**Method Summary**  
 Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB/RB 1	2.97	0.0	0.00			
2	2.78	30.0	0.57			
3	2.63	28.0	0.91			
4	2.46	25.5	1.02			
5	2.29	24.5	1.08			
6	2.12	21.0	1.04			
7	1.95	18.0	0.95			
8	1.78	17.0	0.89			
9	1.61	14.5	0.76			
10	1.43	14.0	0.70			
11	1.26	9.5	0.64			
12	1.09	7.5	0.61			
13	0.92	5.0	0.37			
14	0.75	1.5	0.03			
15	0.54	0.0	0.00			16:30
16						
17						
18						
19						
20						

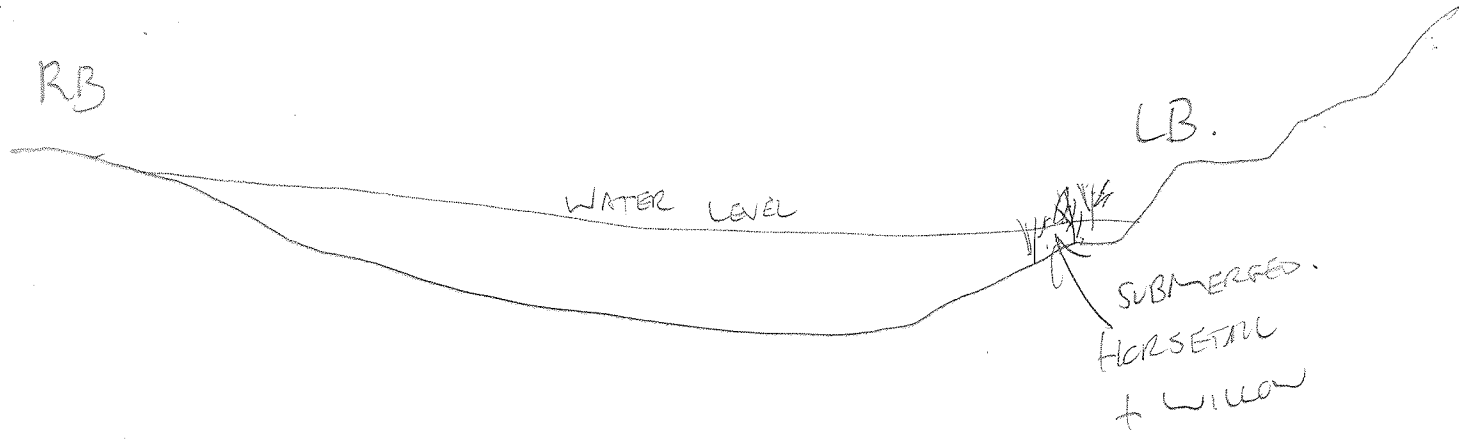
Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB/RB 1	0.54	0.0	0.00			
2	0.86	4.5	0.41			
3	1.03	6.0	0.48			
4	1.20	9.5	0.62			
5	1.37	11.0	0.66			
6	1.54	13.5	0.71			
7	1.71	15.0	0.84			
8	1.88	16.0	0.86			
9	2.05	19.5	1.02			
10	2.22	23.0	1.08			
11	2.36	25.0	1.09			
12	2.53	25.0	0.88			
13	2.69	29.0	0.82			
14	2.97	0.0	0.00			16:46
15						
16						
17						
18						
19						
20						

⊗ Water too turbid to see prop, ~~PROP~~ DEBRIS HITTING PROP. MAY AFFECT ACCURACY OF READINGS.

- Notes:  
 Left bank and right bank are always based on looking downstream.  
<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.  
<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):  
 2.43 / 14 = 17.3

2/2







PROJECT # AND NAME: Clinton Creek, 16-240.3, Water Program

Date and Time (24hr) 1715 JULY 19 2016  
 Site ID R3 Prop # 1  
 Station UTM: "R3" 7W 0513750 7148678  
 Left Bank (m) 5.05  
 Right Bank (m) 3.22  
 Wetted Width (m) 5.05 1.83  
 Staff Gauge (start) N/A  
 Field Photo # 6802-6805

Field Staff GR+NB  
 Type of meter Used SUNOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 17:20  
 End Time (24 hr) 17:47  
 Staff Gauge (end) N/A

**Method Summary**  
 Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	3.22	14.5	0.01			
2	3.33	17.0	0.05			
3	3.47	16.5	0.23			
4	3.62	17.0	0.27			
5	3.77	17.0	0.50			
6	3.93	17.0	0.56			
7	4.08	16.0	0.48			
8	4.25	16.0	0.23			
9	4.40	14.0	0.04			@ the edge of main flow
10	4.55	6.0	0.01			
11	4.70	1.5	0.0			
12	4.87	0.5	0.0			
13	5.05	0.0	0.0			@ 17:36
14						
15						
16						
17						
18						
19						
20						
Average flow: 0.183						

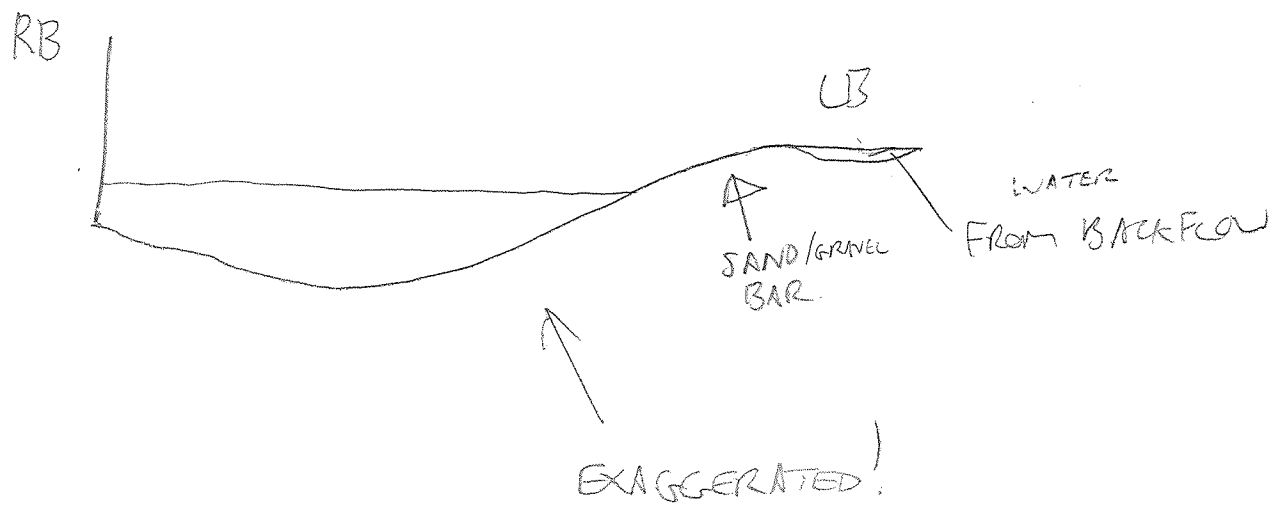
Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	5.05	0.0	0.0			17:37
2	4.88	0.5	0.0			
3	4.73	2.0	0.0			
4	4.57	5.0	0.02			
5	4.42	13.0	0.03			@ edge of main flow
6	4.26	16.0	0.17			
7	4.12	15.5	0.49			
8	3.97	16.0	0.52			
9	3.82	17.5	0.53			Middle of main flow
10	3.67	17.0	0.31			
11	3.52	16.5	0.25			
12	3.37	15.0	0.14			
13	3.22	14.0	0.01			End @ 17:47
14						
15						
16						
17						
18						
19						
20						
Average flow: 0.19						

Notes:  
 Left bank and right bank are always based on looking downstream.  
<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.  
<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):  
 $5.05 / 20 = 0.2525$   
 $0.007$

OVER  
 2:37 2:47  
 0:091  
 2:425

2/2





PROJECT # AND NAME: Clinton Creek. 16-240.3. Water Program

Date and Time (24hr) July 21, 2016 @ 14:03  
 Site ID R4 Prop # 1  
 Station UTM's 0515980/7145352  
 Left Bank (m)' 2.33  
 Right Bank (m)' 0.41  
 Wetted Width (m) 1.92  
 Staff Gauge (start) N/A  
 Field Photo # 6843 - 6844, 49

Field Staff GR/NB  
 Type of meter Used SWOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 14:05  
 End Time (24 hr) 14:47  
 Staff Gauge (end) N/A

**Method Summary**  
 Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

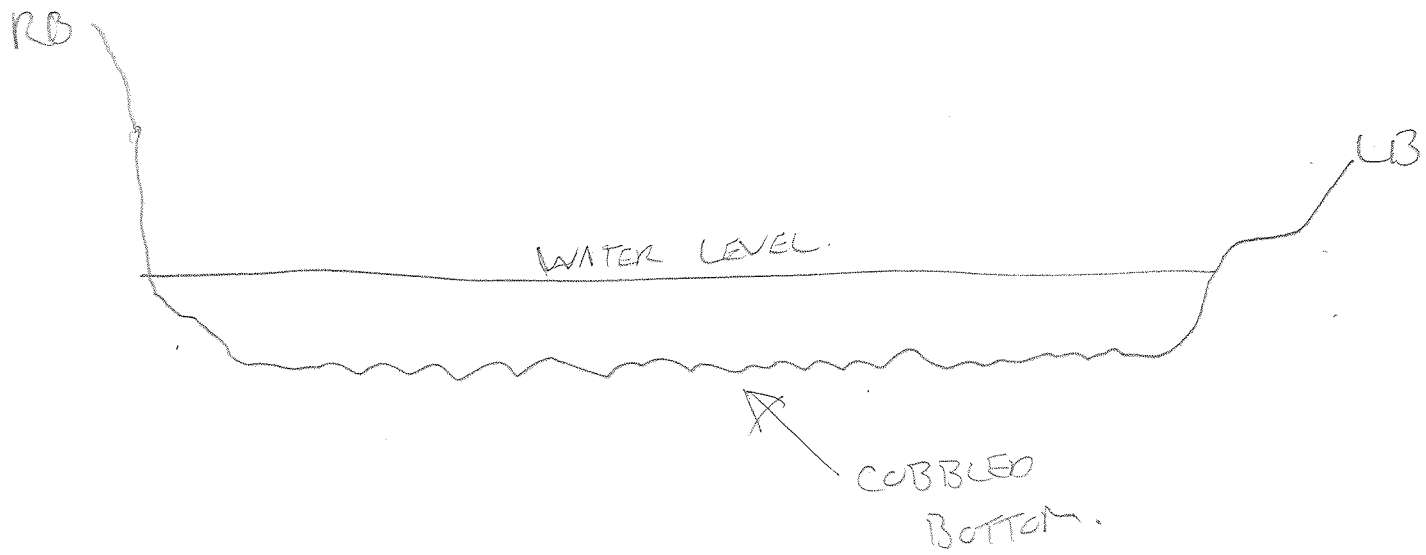
Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s)	Velocity (m/s)	Comments
				@ 80% depth <sup>2</sup> (2 x depth)	@ 20% depth <sup>2</sup> (0.5 x depth)	
LB (RB) 1	0.41	2.5	0.08			
2	0.51	8.0	0.28			
3	0.62	11.0	0.58			
4	0.72	12.0	0.48			
5	0.83	13.0	0.59			
6	0.94	14.0	0.54			
7	1.04	17.0	0.65			
8	1.15	18.0	0.47			
9	1.26	15	0.46			On a rock
10	1.36	12.5	0.45			
11	1.47	9.0	0.38			
12	1.57	9.0	0.24			
13	1.67	9.0	0.12			
14	1.78	9.0	0.14			
15	1.89	7.0	0.21			
16	1.99	6.0	0.15			
17	2.10	7.5	0.04			Rock in front of prop
18	2.21	6.0	0.00			
19	2.33	0.5	0.00			End 14:28
20						
		Total	5.86			
		Average	0.30			

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s)	Velocity (m/s)	Comments
				@ 80% depth <sup>2</sup> (2 x depth)	@ 20% depth <sup>2</sup> (0.5 x depth)	
LB / RB 1	2.33	0.5	0.00			Start @ 14:28
2	2.22	7.0	0.00			Rock in front of prop
3	2.11	7.0	0.04			Rock in front of prop
4	2.01	9.0	0.09			
5	1.90	6.5	0.22			
6	1.79	9.0	0.16			
7	1.69	9.0	0.10			
8	1.58	9.5	0.29			
9	1.48	9.0	0.41			
10	1.37	13.0	0.49			
11	1.27	15.0	0.43			
12	1.16	19.5	0.43			
13	1.05	18.0	0.68			
14	0.95	15.0	0.60			On a rock
15	0.85	16.0	0.54			
16	0.74	14.5	0.52			
17	0.65	12.0	0.49			
18	0.54	5.0	0.42			
19	0.42	1.5	0.04			14:47
20						
		Total	5.95			
		Average	0.31			

- Notes:
- 1 Left bank and right bank are always based on looking downstream.
  - 2 Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.
  - 3 Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):  
 $1.92 / 18 = 10.6 \text{ cm}$

2/2



STRAIGHT SECTION OF STREAM



PROJECT # AND NAME: Clinton Creek. 16-240.3. Water Program

Date and Time (24hr) JULY 29 2016.  
 Site ID R7 Prop # 1  
 Station UTM's 0513003 7145659 07W  
 Left Bank (m)<sup>1</sup> 1.93  
 Right Bank (m)<sup>1</sup> 1.30  
 Wetted Width (m) 0.63  
 Staff Gauge (start) N/A  
 Field Photo # 6817 - 6820.

Field Staff GRT NB  
 Type of meter Used SWOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 13:48  
 End Time (24 hr) 14:08  
 Staff Gauge (end) N/A

**Method Summary**  
 Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB (RB) 1	1.30	4.0	0.00			
2	1.39	10.0	0.02			
3	1.47	10.0	0.00			
4	1.56	7.0	0.08			
5	1.65	14.0	0.34			@ Center flow
6	1.74	13.0	0.03			e edge of flow zone
7	1.83	7.5	-0.03			NEGATIVE FLOW!
8	1.92	5.0	0.0			13:59 end
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
	Average flow			0.055		

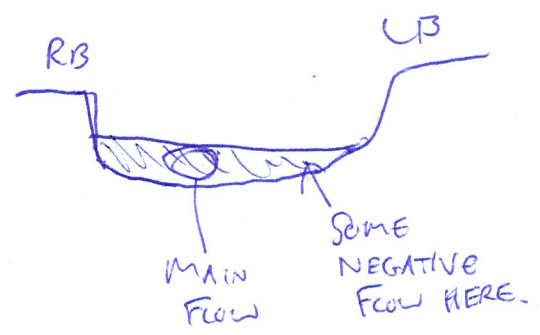
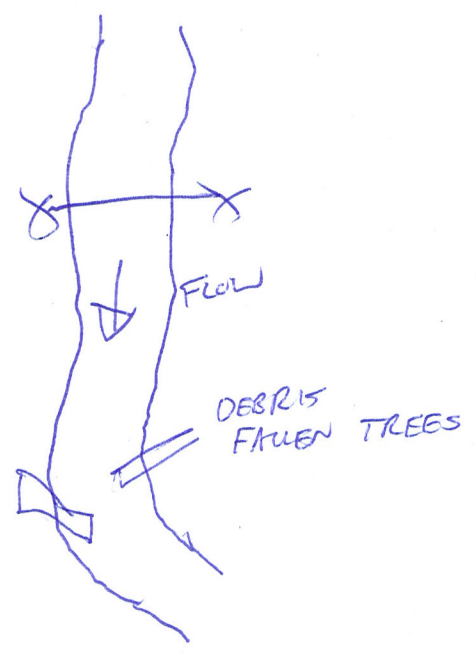
Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
(LB) RB 1	1.93	5.0	0.0			13:59 start
2	1.83	7.5	-0.07			NEGATIVE FLOW!
3	1.75	12.0	0.02			
4	1.65	14.0	0.34			@ center flow
5	1.54	7.0	0.03			e edge of flow zone
6	1.46	10.0	0.00			
7	1.37	8.0	0.00			
8	1.28	4.5	0.00			End @ 14:08
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
	Average flow		0.04			

Notes:  
 Left bank and right bank are always based on looking downstream.  
<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.  
<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):  
 $0.63 / 7 = 0.09$  (9cm)

2/2

GAUGED A FEW METRES FROM WQZ SAMPLING LOCATION  
ON SAME DAY. ONLY 0.6m wide.





PROJECT # AND NAME: Clinton Creek. 16-240.3. Water Program

Date and Time (24hr) JULY 23 2016  
 Site ID R8 Prop # 1  
 Station UTM's 0511895/7147900  
 Left Bank (m)<sup>1</sup> 1.90  
 Right Bank (m)<sup>1</sup> 1.02  
 Wetted Width (m) 0.88  
 Staff Gauge (start) N/A  
 Field Photo # 6928 - 6932

Field Staff GR & NB  
 Type of meter Used SWOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 17:29  
 End Time (24 hr) 17:47  
 Staff Gauge (end) N/A

**Method Summary**  
 Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	1.02	0.0	0.00			
2	1.18	5.0	0.00			
3	1.28	6.5	0.06			
4	1.36	6.0	0.15			
5	1.45	6.0	0.19			
6	1.56	10.0	0.23			
7	1.68	12.0	0.28			Main flow
8	1.77	13.0	0.36			
9	1.86	13.0	0.23			
10	1.90	0.0	0.00			17:42
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB / RB 1	1.90	0.0	0.00			
2	1.85	12.5	0.18			
3	1.76	13.0	0.39			Main flow
4	1.63	12.0	0.24			
5	1.52	9.0	0.24			
6	1.41	5.0	0.17			
7	1.30	6.0	0.07			
8	1.19	4.0	0.00			
9	1.02	0.0	0.00			@ 17:47
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Notes:

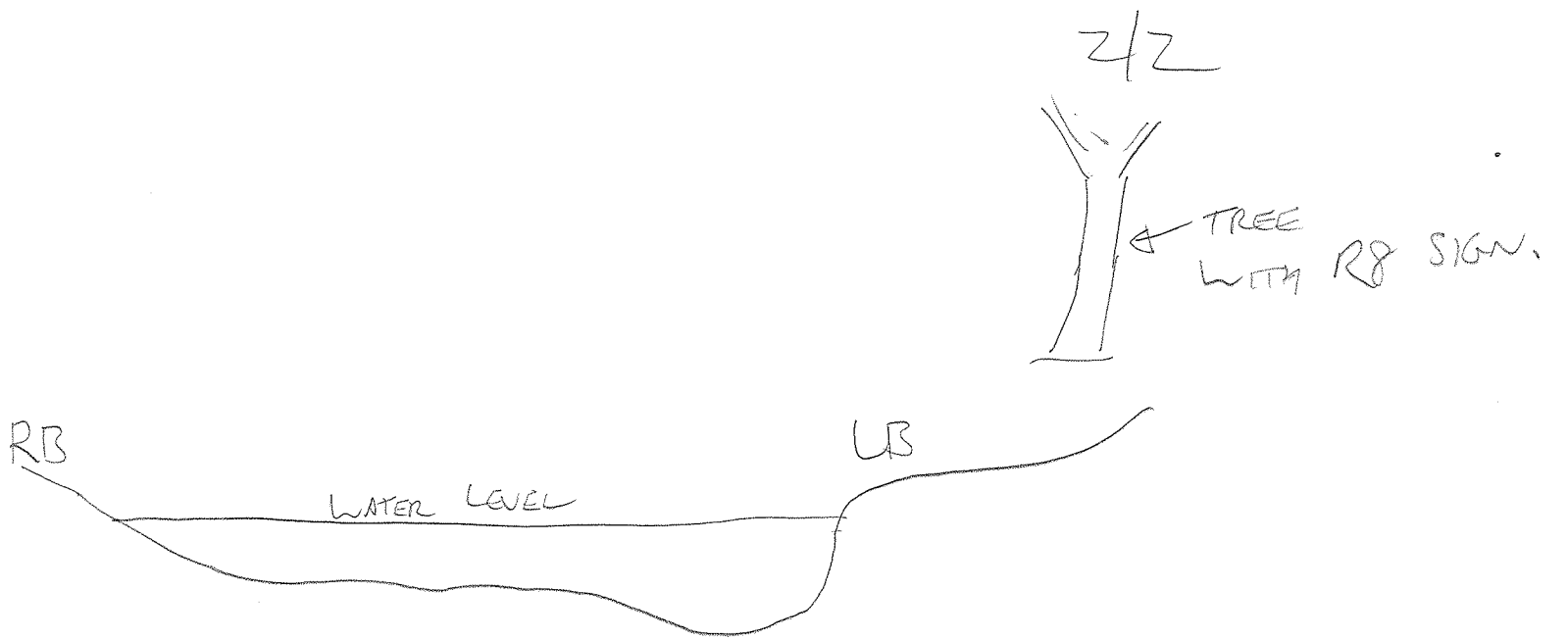
Left bank and right bank are always based on looking downstream.

<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):

$0.8 / 20 =$   
 $0.8 / 8 = 11 \text{ cm}$







# Hydrology Field Sheet

PROJECT # AND NAME: Clinton Creek 16-240.3. Water Program

Date and Time (24hr) JULY 23 2016  
 Site ID R9 Prop # 1  
 Station UTM's 0512340 7146752  
 Left Bank (m)<sup>1</sup> 0.42  
 Right Bank (m)<sup>1</sup> 1.01  
 Wetted Width (m) 59  
 Staff Gauge (start) N/A  
 Field Photo # 6933 - 6937

Field Staff CR4 + NB  
 Type of meter Used SWOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 17:23  
 End Time (24 hr) 18:50  
 Staff Gauge (end) N/A

### Method Summary

Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s)	Velocity (m/s)	Comments
				@ 80% depth <sup>2</sup> (2 x depth)	@ 20% depth <sup>2</sup> (0.5 x depth)	
LB (RB) 1	0.42	10.0	0.36			
2	0.48	14.0	0.86			
3	0.54	39.0	0.75			
4	0.60	37.0	0.72			
5	0.66	35.0	0.67			
6	0.74	33.0	0.63			
7	0.80	30.0	0.64			
8	0.86	30.0	0.68			
9	0.92	29.0	0.63			
10	1.01	28.0	0.21			@ 18:40
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s)	Velocity (m/s)	Comments
				@ 80% depth <sup>2</sup> (2 x depth)	@ 20% depth <sup>2</sup> (0.5 x depth)	
(LB) / RB 1	1.01	28.0	0.25			
2	0.94	28.0	0.69			
3	0.88	28.0	0.81			
4	0.82	28.0	0.68			
5	0.76	29.0	0.63			
6	0.70	32.0	0.70			
7	0.63	32.0	0.66			
8	0.56	37.0	0.70			
9	0.46	12.5	0.84			
10	0.42	10.0	0.37			@ 18:50
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Notes: Water is too turbid to see the prop

Left bank and right bank are always based on looking downstream.

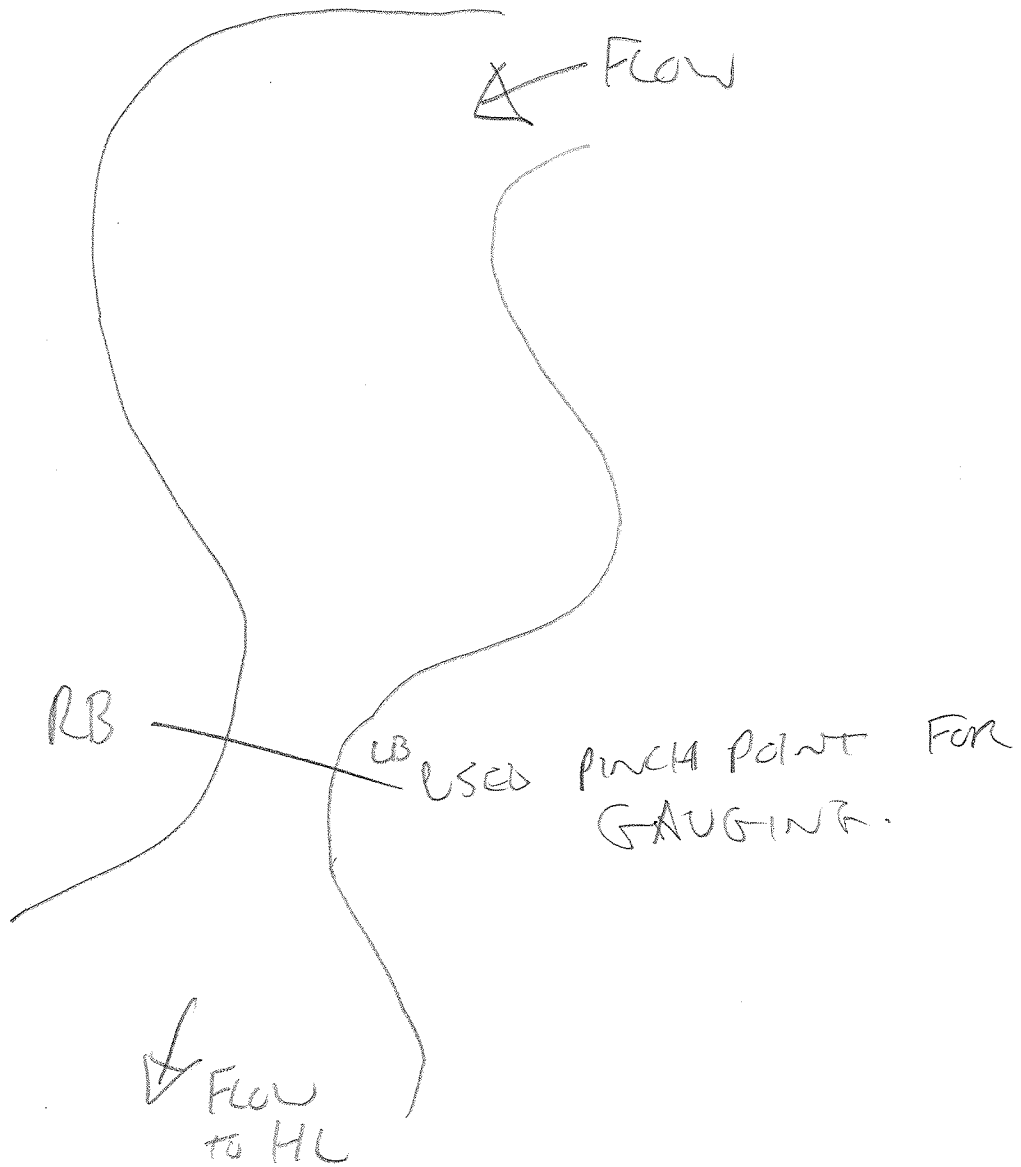
<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):

$$59 / 20 = \sim 3 \text{ cm}$$

2/2





PROJECT # AND NAME: Clinton Creek, I6-240.3, Water Program

Date and Time (24hr) 1520  
 Site ID R11 (H) - off way to R11 (H) 1  
 Station UTMs 0514160 / 7147793 w Point  
 Left Bank (m)' 2.48  
 Right Bank (m)' 0.70  
 Wetted Width (m) 1.68  
 Staff Gauge (start) N/A  
 Field Photo # 6798-6801

Field Staff GR + NB  
 Type of meter Used SWOFFER  
 Datum NAD 83  
 Calibration No. 605  
 Start Time (24 hr) 15:29  
 End Time (24 hr) 15:55  
 Staff Gauge (end) N/A

**Method Summary**  
 Measure the width of the wetted cross section of the stream (m)  
 Divide the wetted width by 20 to establish the width of each flow gauging panel  
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)  
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only  
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB RB 1	0.700	0	0.0			
2	0.850	4.0	0.0			
3	1.010	16.0	0.0			
4	1.140	14.5	0.0			
5	1.290	23.0	0.04			
6	1.440	23.0	0.16			
7	1.59	20.5	0.15			
8	1.74	19.0	0.07			@ the edge of main flow
9	1.89	15.0	0.0			
10	2.04	9.05.0	0.0			On a rock
11	2.19	5.0	0.0			
12	2.32	2.5	0.0			
13	2.49	0.0	0.0			
14						
15						
16						
17						
18						
19						
20						
Average:			0.032			

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth <sup>2</sup>	Velocity (m/s) @ 80% depth <sup>2</sup> (2 x depth)	Velocity (m/s) @ 20% depth <sup>2</sup> (0.5 x depth)	Comments
LB RB 1	2.48	0.0	0.0			Start 15:44
2	2.50	2.5	0.0			
3	2.15	7.0	0.0			
4	2.00	5.0	0.0			On a rock
5	1.86	17.0	0.01			Edge of main flow
6	1.70	19.5	0.09			
7	1.56	20.5	0.21			
8	1.41	25.0	0.12			
9	1.26	22.0	0.0			@ the edge of flow area
10	1.12	15.0	0.0			
11	0.93	10.0	0.0			on a rock
12	0.70	0.0	0.0			End @ 15:55
13						
14						
15						
16						
17						
18						
19						
20						
Average:			0.035			

**Notes:**  
 Left bank and right bank are always based on looking downstream.  
<sup>1</sup> Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.  
<sup>2</sup> Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):  
 1.78 / 12 = 0.15 (15 cm)  
 8.9% difference.

2/2.



MAIN FLOW ZONE DUE TO UP STREAM ROCKS.