

FLOW DATA SHEET

Mean Velocity¹ = 6/10ths Depth
 Surface Velocity² = 6/10ths Depth x 2
 Bottom Velocity³ = 6/10ths Depth / 2

24.3 ft

1.6 ft.

BANK FULL

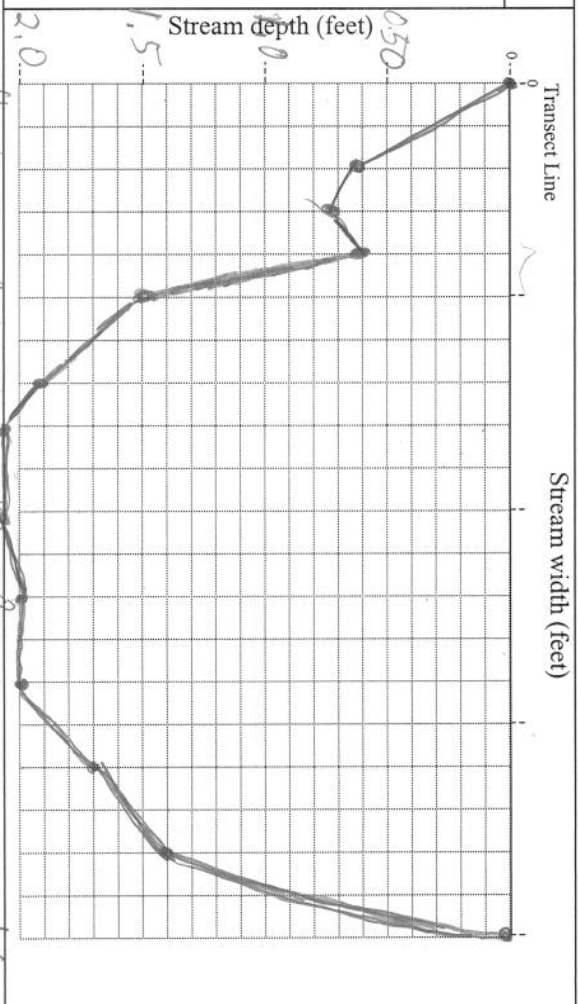
STREAM EDGE

STREAM EDGE

BANK FULL

Stream Edge Width (feet)	24.3	22	20	18	16	14	12	10	8	6	4	2								
Stream Edge Depth (feet)	0	0.6 ft.	0.9 ft.	0.6 ft.	1.5 ft.	1.9 ft.	2.2 ft.	2.1 ft.	2.0 ft.	1.7 ft.	1.6 ft.									
Flow Rate Width (ft/sec)																				
Flow Rate Depth (ft/sec)																				
Substrate/ % Vegetation																				
% Plant Coverage																				
Mean Velocity ¹ (ft/sec)		-0.05 ft.	-0.04 ft.	-0.12 ft.	-0.02 ft.	+0.32 ft.	+0.59 ft.	+0.80 ft.	+1.09 ft.	+0.12 ft.	+0.04 ft.	-0.16 ft.								
Surface Velocity ² (ft/sec)		-0.07 ft.	-0.09 ft.	-0.12 ft.	-0.01 ft.	+0.18 ft.	+0.62 ft.	+0.86 ft.	+0.75 ft.	+0.26 ft.	+0.15 ft.	-0.10 ft.								
Bottom Velocity ³ (ft/sec)		-0.11 ft.	-0.08 ft.	-0.14 ft.	-0.10 ft.	+0.24 ft.	+0.58 ft.	-0.13 ft.	+0.46 ft.	+0.00 ft.	-0.20 ft.	-0.17 ft.								

DATE	10-27-2005	HYDROLAB		
TIME	12:08	WIDTH (feet)	pool	riffle
OBSERVER	K.K. M.T. Hihawai K.K. T.N.	TEMPERATURE (°C)	20.93 °C	26.94 °C
REACH		DISSOLVED OXYGEN (mg/L)	6.54	0.097
TRANSECT#		CONDUCTIVITY (mS/cm)	0.101	6.71
DAR_CODE		pH	7.90	7.93
STREAM	Hiiilawe	TURBIDITY (NTU)	1.4	
TRIBUTARY		TOTAL SUSPENDED SOLIDS (mg/L)		



Kamehameha Schools

FLOW DATA SHEET

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24.5

STREAM EDGE

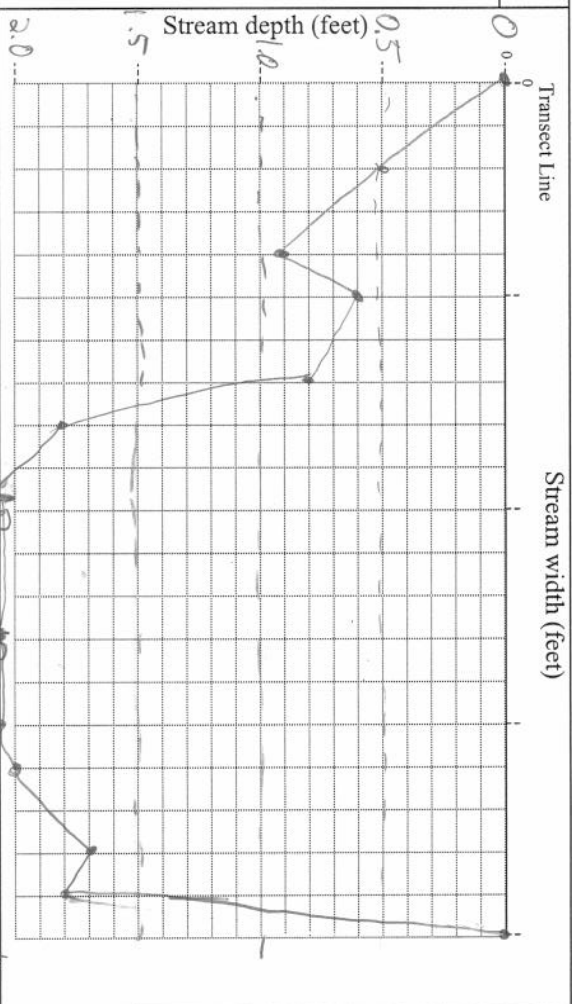
BANK FULL

STREAM EDGE

BANK FULL

Stream Edge Width (feet)	24.5	22	20	18	16	14	12	10	8	6	4	2	1.4						
Stream Edge Depth (feet)	0	0.5	0.9	0.6	0.8	1.8	2.4	2.2	2.1	2	1.7	1.6	0						
Flow Rate Width (ft/sec)																			
Flow Rate Depth (ft/sec)																			
Substrate/ % Vegetation																			
% Plant Coverage																			
Mean Velocity ¹ (ft/sec)		-0.08	-0.06	-0.10	-0.01	0.24	0.68	0.80	1.13	0.76	-0.04	-0.07							
Surface Velocity ² (ft/sec)		-0.10	-0.09	-0.08	0.06	0.01	0.68	0.80	0.80	0.53	0.24	-0.04							
Bottom Velocity ³ (ft/sec)		-0.11	-0.08	-0.10	-0.10	0.29	0.32	-0.08	0.50	0.04	-0.03	-0.17							

DATE	10/21/2005	HYDROLAB			
TIME	13:40	WIDTH (feet)	2001	Rifle	
OBSERVER	Phyllis S. S. S. S. S.	TEMPERATURE (°C)	21.21	21.21	
REACH		DISSOLVED OXYGEN (mg/L)	6.33	6.67	
TRANSECT#		CONDUCTIVITY (mS/cm)	0.102	0.093	
DAR_CODE		pH	7.86	7.88	
STREAM	Hiliawe	TURBIDITY (NTU)	1.43		
TRIBUTARY		TOTAL SUSPENDED SOLIDS (mg/L)			



FLOW DATA SHEET

Mean Velocity¹ = 6/10ths Depth
 Surface Velocity² = 6/10ths Depth x 2
 Bottom Velocity³ = 6/10ths Depth / 2

24.9

BANK FULL

STREAM EDGE

2.7

BANK FULL

STREAM EDGE

Stream Edge Width (feet)	24.9	22	20	18	16	14	12	10	8	6	4	3	2.7						
Stream Edge Depth (feet)	0	0.6	1.0	0.9	1.5	2.1	2.3	2.3	2.1	1.8	1.7	1.6	6						
Flow Rate Width (ft/sec)																			
Flow Rate Depth (ft/sec)																			
Substrate/ % Vegetation																			
% Plant Coverage																			
Mean Velocity ¹ (ft/sec)		-0.08	-0.06	-0.07	0.01	0.21	0.67	0.86	0.78	0.30	-0.19	-0.07							
Surface Velocity ² (ft/sec)			-0.12	-0.09	-0.11	0.13	0.27	0.55	0.60	0.78	0.33	-0.09	-0.15						
Bottom Velocity ³ (ft/sec)		-0.11	-0.03	-0.08	-0.10	0.20	-0.11	0.32	0.33	0.16	-0.18	-0.10							

DATE	10/27/05	HYDROLAB																																
TIME	2:53 PM	WIDTH (feet)				Transsect Line Stream width (feet)																												
OBSERVER	Da Best	TEMPERATURE (°C)	21.31	21.3																														
REACH	ST. I.S. L.I	DISSOLVED OXYGEN (mg/L)	0.1025	6.64																														
TRANSECT#		CONDUCTIVITY (mS/cm)	6.372	0.101																														
DAR_CODE		pH	7.88	7.84																														
STREAM	Hillcove	TURBIDITY (NTU)	1.19																															
TRIBUTARY		TOTAL SUSPENDED SOLIDS (mg/L)																																

KANETHANETHA

Mean Velocity¹ = 6/10ths Depth
Surface Velocity² = 6/10ths Depth x 2
Bottom Velocity³ = 6/10ths Depth / 2

[illegible][illegible]

DATE		HYDROLAB			
10-28-05		River ocean			
TIME	WIDTH (feet)				
OBSERVER	TEMPERATURE (°C)	21.77 °C	22.39 °C		
REACH	DISSOLVED OXYGEN (mg/L)	4.56	4.61		
TRANSECT#	CONDUCTIVITY (mS/cm)	0.115	6.78		
DAR_CODE	pH	7.36	7.30		
STREAM	TURBIDITY (NTU)	2.46	2.70		
TRIBUTARY	TOTAL SUSPENDED SOLIDS (mg/L)				

Stream depth (feet)

Transect Line

Stream width (feet)

10/29/2005

21.3

FLOW DATA SHEET

Mean Velocity¹ = 6/10ths Depth
Surface Velocity² = 6/10ths Depth x 2
Bottom Velocity³ = 6/10ths Depth / 2

High Flow Right Now
Gage Height = 1.8 ft.

10.6/3.9

BANK FULL

STREAM EDGE

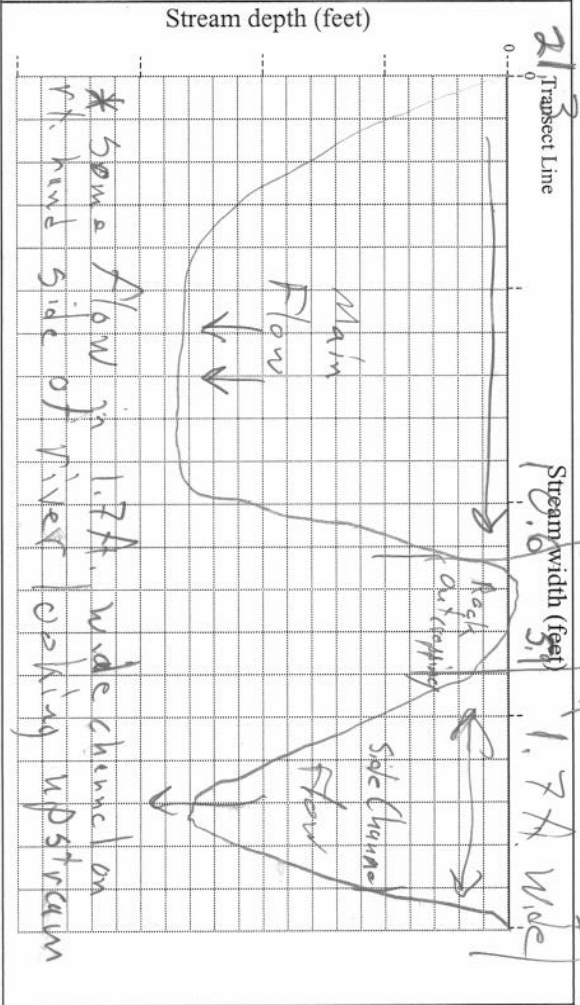
* Measured Flow in Side Channel

STREAM EDGE

BANK FULL

Stream Edge Width (feet)	21.3	20.0	19.0	18	17	16	15	14	13	12	11	10.6	Dry	5.9	4.7	3.9
Stream Edge Depth (feet)	0	1.3	1.9	1.8	1.3	1.1	1.3	0.8	0.6	0.3	0.9	0	Dry	0	0.5	0
Flow Rate Width (ft/sec)																
Flow Rate Depth (ft/sec)																
Flow Rate																
Substrate/ % Vegetation																
% Plant Coverage																
Mean Velocity ¹ (ft/sec)		0.64	0.71	1.63	2.33	1.6	1.81	2.35	3.43	3.61	0.10	Ø	Dry	0.85		
Surface Velocity ² (ft/sec)		2.04	2.08	2.46	2.33	2.60	3.27	3.18	3.66	3.40	3.04	Ø		1.18		
Bottom Velocity ³ (ft/sec)		-0.21	0.31	0.81	0.33	0.78	0.97	2.05	2.93	3.43	-0.44	Ø		0.35		

DATE	10/29/2005	HYDROLAB	
TIME	1005 hrs.	WIDTH (feet)	
OBSERVER	Ron E. / David P.	TEMPERATURE (°C)	
REACH		DISSOLVED OXYGEN (mg/L)	
TRANSECT#		CONDUCTIVITY (mS/cm)	
DAR_CODE		pH	
STREAM	La Graca - Below Dam	TURBIDITY (NTU)	
TRIBUTARY		TOTAL SUSPENDED SOLIDS (mg/L)	



Floris loved
than yesterday

Mean Velocity¹ = 6/10ths Depth
Surface Velocity² = 6/10ths Depth x 2
Bottom Velocity³ = 6/10ths Depth / 2

Surface Velocity² = 6/10ths Depth x 2
Bottom Velocity³ = 6/10ths Depth / 2

Surface Velocity² = 6/10ths Depth x 2
Bottom Velocity³ = 6/10ths Depth / 2

Surface Velocity² = 6/10ths Depth x 2
Bottom Velocity³ = 6/10ths Depth / 2

STREAM EDGE

STREAM EDGE

16c

Stream Edge Width (feet)	7.2	8	9	10	11	12	13	14	15	16	16.6
Stream Edge Depth (feet)	0	1.6	1.1	1.5	1.7	2.0	2.2	2.4	1.6	1.9	0
Flow Rate Width (ft/sec)											
Flow Rate Depth (ft/sec)											
Substrate/ % Vegetation											
% Plant Coverage							70.75				
Mean Velocity ¹ (ft/sec)	0.24	0.30	0.15	0.67	1.08	0.75	1.53	0.30	0.23		
Surface Velocity ² (ft/sec)	0.69	1.07	1.56	1.66	1.83	2.61	3.24	2.00	0.46		
Bottom Velocity ³ (ft/sec)	0.09	-0.44	0.05	0.24	0.01	0.10	-0.35	0.59	-0.58		

DATE				HYDROLAB			
10-30-2005							
TIME				WIDTH (feet)			
1159 hrs							
OBSERVER				TEMPERATURE (°C)			
Ken / David							
REACH				DISSOLVED OXYGEN (mg/L)			
TRANSECT#				CONDUCTIVITY (mS/cm)			
DAR_CODE				pH			
STREAM				TURBIDITY (NTU)			
Cahoon-Belem							
TRIBUTARY				TOTAL SUSPENDED SOLIDS (mg/L)			
Dam							

Stream depth (feet)

Transect Line

Stream width (feet)