

## San Francisco Estuary Institute

7770 Pardee Lane, 2nd Floor • Oakland, CA 94621-1424  
Office (510) 746-SFEI (7334) • Fax (510) 746-7300



## ASSOCIATION OF BAY AREA GOVERNMENTS

Representing City and County Governments of the San Francisco Bay Area



ABAG

### MEMORANDUM

Date : Dec. 20, 2006

To : Interested parties

From : Rainer Hoenicke, Kathleen Van Velsor, Nicole David

Re : Wet weather water and soil testing – FMR CCA

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Limited water and soil evaluation has been undertaken by the consultant team in several FMR watersheds prior to the Thanksgiving rain storm event. The sampling locations were chosen to get a read on water quality and hydrologic conditions west and east of Highway One in Moss Beach. Samples were taken on public properties, and the purpose of collecting both water and soil samples was to: a) link soils literature to actual stream conditions, b) add to a growing “baseline” of water quality and soils data for the FMR CCA, against which the performance of best management practices (BMPs) will be evaluated, and c) begin to more comprehensively characterize the current condition of streams within the FMR CCA during both dry and wet weather.

Data are useful in answering assessment questions and the FMR CCA consultant team has identified several priority assessment questions that are tied to the Regional Water Quality Control Board’s Section 303(d) listed pollutant – *pathogens* – and *nutrients and sediment* that are issues of regional concern. Here are some of these assessment questions:

- ❖ What levels of pathogen indicators are considered “natural background” during both dry and wet weather flows?
- ❖ Where are the potential pathogen-generating land uses located in relation to drainages?
- ❖ What was “baseline” prior to BMP implementation?
- ❖ Which stream segments show elevated nutrient levels or signs of eutrophic conditions?
- ❖ Where are highly erosive soils located within the watershed?
- ❖ Which stream segments show elevated sedimentation rates?
- ❖ How does bank erosion contribute to sedimentation?

SFEI field staff measured the following parameters (see Appendix A, attached):

- ❖ stream velocity
- ❖ dissolved oxygen
- ❖ turbidity
- ❖ electrical conductivity

- ❖ temperature
- ❖ salinity
- ❖ redox potential in soil.

No chemical analysis of samples was conducted.

Samples were collected to describe soil types and erosion potential according to USDA soil classification charts. We intend to use this information to explore the feasibility and effort required to produce erodibility and stream condition maps. Water quality samples will be used to assess the risk of increased sediment mobilization as it relates to oxygenation and the adsorption of pollutants, including pathogens.

This documentation is preliminary only and is not for general distribution. We are providing it to you in order to solicit any comments that you may have. Please respond to Nicole David at [Nicoled@sfei.org](mailto:Nicoled@sfei.org).

## Appendix. **Results and Soil Photos**

Name	ID	Lat	Long	EPE	Date	Time	Weather	Water Color	Ave. Water Depth	Ave Channel Width
Upper Denniston Creek at dam	UDC	N37.519930°	W122.48907°	19 feet	11/22/2006	11:50	cloudy	brownish	0.84	NA (pond)
Sampling Depth	Water Temp.	DO	EC	Salinity	Turbidity	Eh (soil)	Ave. Velocity	Soil Sample	Soil Class	
m	C	mg/L	umhos/cm	ppt	NTU	mV	m/s			
0.2	12.1	9.58	278	0	4.92	128	0	yes	Clay loam	

Name	ID	Lat	Long	EPE	Date	Time	Weather	Water Color	Ave. Water Depth	Ave Channel Width
Lower Denniston Creek	LDC	N37.50450°	W122.48700°	17 feet	11/22/2006	12:50	cloudy	clear	0.11	1.35
Sampling Depth	Water Temp.	DO	EC	Salinity	Turbidity	Eh (soil)	Ave. Velocity	Soil Sample	Soil Class	
m	C	mg/L	umhos/cm	ppt	NTU	mV	m/s			
0.1	12.5	11.52	295	0	4.22	-48	0.27	yes	Loamy sand	

Name	ID	Lat	Long	EPE	Date	Time	Weather	Water Color	Ave. Water Depth	Ave Channel Width
Upper Vicente Creek	UVC	N37.52896°	W122.49763°	34 feet	11/22/2006	13:58	cloudy	clear	0.14	1.04
Sampling Depth	Water Temp.	DO	EC	Salinity	Turbidity	Eh (soil)	Ave. Velocity	Soil Sample	Soil Class	
m	C	mg/L	umhos/cm	ppt	NTU	mV	m/s			
0.1	12.4	11.7	245	0	9.00	-72	0.2	yes	Sandy clay loam	

Name	ID	Lat	Long	EPE	Date	Time	Weather	Water Color	Ave. Water Depth	Ave Channel Width
Lower Vicente Creek	LVC	N37.52347°	W122.51569°	27 feet	11/22/2006	14:30	cloudy	clear-brown	0.18	0.82
Sampling Depth	Water Temp.	DO	EC	Salinity	Turbidity	Eh (soil)	Ave. Velocity	Soil Sample	Soil Class	
m	C	mg/L	umhos/cm	ppt	NTU	mV	m/s			
0.1	12.6	10.52	267	0	10.8	295	0.23	yes	Sand	

Name	ID	Lat	Long	EPE	Date	Time	Weather	Water Color	Ave. Water Depth	Ave Channel Width
Lower Martini Creek Wadable only!	LMC	N37.55281°	W122.57278°	24 feet	11/23/2006	11:20	clear	clear	0.15	0.54
Sampling Depth	Water Temp.	DO	EC	Salinity	Turbidity	Eh (soil)	Ave. Velocity	Soil Sample	Soil Class	
m	C	mg/L	umhos/cm	ppt	NTU	mV	m/s			
0.1	11.8	11.65	256	0	4.01	234	0.37	yes	Sandy loam	

Name	ID	Lat	Long	EPE	Date	Time	Weather	Water Color	Ave. Water Depth	Ave Channel Width
Sampling Depth	Water Temp.	DO	EC	Salinity	Turbidity	Eh (soil)	Ave. Velocity	Soil Sample	Soil Class	
m	C	mg/L	umhos/cm	ppt	NTU	mV	m/s			







