Appendix A
Survey of Imported Materials

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BACON AND WEBB TRACT ISLAND LEVEE CONSTRUCTION
DWR FEASIBILITY STUDY
IMPORT MATERIAL SURVEYS

Project Location: Bacon and Webb Tract Island, Sacramento – San Joaquin River Delta, California
Estimated Construction Duration : 5 years

Person Quoting/Title: Harry Stewart **Company** Dutra Materials

Address: 1000 Point San Pedro Rd, San Rafael CA **Distance from the Site :** 40 ± Miles

Phone: 415-258-6876 **Fax:** 415 258 9714

Ability to produce the Specified Quantities (yes/no) : yes **Lead Time Required:** 6-8 mos.

Approximate Production Rate per Day: 6000 Ton **Plant will be operated in the next 10 years (yes/no)** yes

Recorded by: George Chiu **Date:** _____

Notes:

1) All unit cost quotation shall include approximate County tax.
2) All riprap materials shall conforms to CALTRANS Standard Specifications Section 72 and gradation as specified in the attached tables, and shall be durable, dense, sound, angular, free from cracks, seams, and other natural causes and free from foreign matter.
3) All sand filter materials shall conforms to CALTRANS Standard Specifications Section 72 and gradation as specified in the attached tables, and ASTM C33 and shall consist of sound, durable processed sands free from organic matter, clay balls, soft particles and other foreign matter.
4) Please indicate if the supplied material is form river-run, rock quarry, or process from alluvium, etc.

*1 = Permitting [illegible]
*2 = San Rafael Rock Quarry
*3 = Budgetary only

MATERIAL PRODUCT SHEET (Rock Berm Option)

@ 1.6 Ton/cy

Barge Delivery

Item	Materials	Material required for Duration	Estimated Quantities (~~Ton~~) cy	Source of Materials (note 4)	Cost per Ton @ Plant *3	Cost per Ton deliver to Site	Remarks/ Assumptions
1	Sand Filter	Year 1 to 3	2,400,000 3,840,000 T.	*1 In Bay Deposits.	11.00/Ton	+ 3.50/T.	Barge Delivery
2	Bedding	Year 3 to 5	336,000 537,600 T.	SRRQ *2	10.75/Ton	+ 3.50/T.	Barge Delivery
3	Riprap, Large	Year 3 to 5	780,000 1,248,000 T.	SRRQ *2	12.75/Ton	+ 3.50/T.	Barge Delivery
4	Riprap, Small	Year 3 to 5	32,000 51,200 T.	SRRQ *2	11.25/Ton	+ 3.50/T	Barge Delivery
5	Rockfill	Year 1 to 3	700,000 1,120,000 T.	SRRQ *2	14.75/Ton	+ 5.50/T	Barge Delivery

4,248,000 cy
6,796,800 T.

SAND FILTER

Particle Size	Percent Passing
1.5-inch	100
#4 sieve	60 – 75
#200 sieve	3

BEDDING

Particle Size	Percent Passing
3-inch	100
1-inch	70 – 85
#4 sieve	40 – 60
#200 sieve	5

ROCKFILL (Caltrans ¼ Ton)

Rock Mass	Percent Larger Than
450 kg (1/2 Ton)	0-5
220 kg (1/4 Ton)	50 – 100
34 kg (75 Lbs)	95 – 100

RIPRAP Large

Particle Weight (lbs)	Percent Passing
1,500	100
250	40 – 60
5	15 – 25
1	0 – 5

RIPRAP Small

Particle Weight (lbs)	Percent Passing
750	100
125	40 – 60
5	15 – 25
1	0 – 5

*1 = Permitting likely required
*2 - San Rafael Rock Quarry
*3 - Budgetary only.

MATERIAL PRODUCT SHEET (Bench Option)

@ 1.6 T/cy

Barge

Item	Materials	Material required for Duration	Estimated Quantities (Ton) cy	Source of Materials (note 4)	Cost per Ton @ Plant *3	Cost per Ton deliver to Site	Remarks/ Assumptions
1	Sand Filter	Year 1 to 3	3,070,000 4,912,000 T.	In Bay Deposits *1	11.00/Ton	+3.50/Ton	Barge Delivery
2	Bedding	Year 3 to 5	435,000 696,000 T	*2 SIZED	10.75/Ton	+3.50/Ton	Barge Delivery
3	Riprap, Large	Year 3 to 5	780,000 1,248,000 T.	*2 SIZED	12.75/Ton	+3.50/Ton	Barge Delivery
4	Riprap, Small	Year 3 to 5	230,000 368,000 T.	*2 SIZED	11.25/Ton	+3.50/Ton	Barge Delivery

4,515,000 cy
7,224,000 T.

SAND FILTER

Particle Size	Percent Passing
1.5-inch	100
#4 sieve	60 – 75
#200 sieve	3

BEDDING

Particle Size	Percent Passing
3-inch	100
1-inch	70 – 85
#4 sieve	40 – 60
#200 sieve	5

ROCKFILL (Caltrans ¼ Ton)

Rock Mass	Percent Larger Than
450 kg (1/2 Ton)	0-5
220 kg (1/4 Ton)	50 – 100
34 kg (75 Lbs)	95 – 100

RIPRAP Large

Particle Weight (lbs)	Percent Passing
1,500	100
250	40 – 60
5	15 – 25
1	0 – 5

RIPRAP Small

Particle Weight (lbs)	Percent Passing
750	100
125	40 – 60
5	15 – 25
1	0 – 5