Appendix F.

Construction Schedules and Equipment Lists

Alternative No. 1 - Port Development and Environmental Enhancement

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
Demolition - NW Slip Fill (5 acres)	5 Acres							
Main Hoist - Clamshell Dredge	1,200	0.5	1	600	30.6	12	35	252,000
Main Generator - Clamshell Dredge	900	0.5	1	450	23	12	35	189,000
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	4	35	20,160
Backhoe	80	0.5	3	120	2	12	35	50,400
Front End Loader	80	0.5	2	80	18.8	16	35	44,800
Haul Truck (2)	N/A	N/A	12	N/A	N/A	10	35	4,200
Tug Boat	800	0.2	1	160	8	12	35	3,360
Demolition - Berth 243-245 (2 acres)	2 Acres							
Main Hoist - Clamshell Dredge	1,200	0.5	1	600	30.6	12	77	554,400
Main Generator - Clamshell Dredge	900	0.5	1	450	23	12	77	415,800
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	4	77	44,352
Backhoe	80	0.5	3	120	2	12	77	110,880
Front End Loader	80	0.5	2	80	18.8	16	77	98,560
Haul Truck (2)	N/A	N/A	12	N/A	N/A	5	77	4,620
Tug Boat	800	0.2	1	160	8	12	77	7,392

Alternative No. 1 - Port Development and Environmental Enhancement

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
NW Slip Fill Dike Construction (5 Acres)	Quarry Run Placement - Total 350,000 Tons							
Barge Equipment	195	0.5	2	195	10.9	12	148	346,320
Derrick Barge Crane	180	0.5	1	90	5	12	148	159,840
Tugboat - Derrick Barge Crane	800	0.25	1	200	11.2	12	148	19,891
Tugboat - Q.R. Transport to site	2,200	0.5	2	2200	110	3	148	48,840
Berth 243-245 Dike Construction (8 Acres)	Quarry Run Placement - Total 270,000 Tons							
Barge Equipment	195	0.5	2	195	10.9	12	115	269,100
Derrick Barge Crane	180	0.5	1	90	5	12	115	124,200
Tugboat - Derrick Barge Crane	800	0.25	1	200	11.2	12	115	15,456
Tugboat - Q.R. Transport to site	2,200	0.5	2	2200	110	2	115	25,300
Cabrillo SWH Dike Construction (50 Acres)	Quarry Run Placement - Total 550,000 Tons							
Barge Equipment	195	0.5	2	195	10.9	12	206	482,040
Derrick Barge Crane	180	0.5	1	90	5	12	206	222,480
Tugboat - Derrick Barge Crane	800	0.25	1	200	11.2	12	206	27,686
Tugboat - Q.R. Transport to site	2,200	0.5	2	2200	110	2	206	45,320
Quarry Run Dike Summary: Total 1,170,000 Tons, Crew Needed: 11 Persons/Vehicles per Rig, 12 hour Workday								

Notes: (1) For vessel sources, represents total gallons of fuel use.
(2) "# Active" are miles/round trip, "Hours/Day" are the daily trips and "Total HP-Hrs." are annual miles.

Alternative No. 1 - Port Development and Environmental Enhancement

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
NW Slip Dike Construction (5 Acres)	Armor Stone Placement- Total 25,000 Tons							
Barge Equipment	195	0.5	2	195	10.9	12	12	28,080
Derrick Barge Crane	180	0.5	1	90	5	12	12	12,960
Tugboat - Derrick Barge Crane	800	0.25	1	200	11.2	12	12	1,613
Tugboat - Armor Transport to site	2,200	0.5	2	2200	110	3	12	3,960
Berth 243-245 Dike Construction (8 Acres)	Armor Stone Placement- Total 20,000 Tons							
Barge Equipment	195	0.5	2	195	10.9	12	10	23,400
Derrick Barge Crane	180	0.5	1	90	5	12	10	10,800
Tugboat - Derrick Barge Crane	800	0.25	1	200	11.2	12	10	1,344
Tugboat - Armor Transport to site	2,200	0.5	2	2200	110	3	10	3,300
Armor Rock Dike Summary: Total 45,000 Tons, Crew Needed: 11 Persons/Vehicles per Rig, 12 hour Workday								

Alternative No. 1 - Port Development and Environmental Enhancement

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
NW Slip Trench Excavation (5 Acres)	Sidecast Excavation - Total 50,000 CY							
Main Hoist - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	7.0	N/A
Main Generator - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	7.0	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	7.0	5,040
Tug Boat	800	0.2	1	160	8	4	7.0	224
Berth 243-245 Trench Excavation (8 Acres)	Sidecast Excavation - Total 90,000 CY							
Main Hoist - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	13.0	N/A
Main Generator - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	13.0	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	13.0	9,360
Tug Boat	800	0.2	1	160	8	4	13.0	416
Cabrillo SWH Trench Excavation (50 Acres)	Sidecast Excavation - Total 40,000 CY							
Main Hoist - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	6.0	N/A
Main Generator - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	6.0	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	6.0	4,320
Tug Boat	800	0.2	1	160	8	4	6.0	192
Trench Excavation Summary: Total 180,000 CY, Crew Needed: 14 Persons/Vehicles per Rig, 24 hour Workday								

Notes: (1) For vessel sources, represents total gallons of fuel use.
(2) "# Active" are miles/round trip, "Hours/Day" are the daily trips and "Total HP-Hrs." are annual miles.

Alternative No. 1 - Port Development and Environmental Enhancement

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
S.W. Slip A#1 Surcharge Removal - Loading	Load - Total 815,000 CY							
Scraper			5			12	109	
Backhoe	80	0.5	2	80	2	12	109	104,640
Main Hoist - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	12	109	N/A
Main Generator - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	12	109	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	109	78,480
Dozer	335	0.5	2	335	18.8	12	109	438,180
Off-Road Truck			4				109	
Water Truck	325	0.5	1	162.5	8.3	12	109	212,550
Grader	180	0.5	1	90	4.6	8	109	78,480
S.W. Slip A#1 Surcharge Removal - Transport	Transport - Total 815,000 CY							
Scows	N/A	N/A	2	N/A	N/A	12	109	N/A
Tug Boat	800	0.2	1	160	8	4	109	3,488
S.W. Slip A#1 Surch'ge Removal - Unload CSWH	Unload - Total 815,000							
Main Hoist - Clamshell Dredge	1,200	0.5	1	600	30.6	16	109	1,046,400
Main Generator - Clamshell Dredge	900	0.5	1	450	23	16	109	784,800
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	109	78,480
Scows	N/A	N/A	2	N/A	N/A	12	109	N/A
SW Slip Surcharge Summary: Total 815,000 CY, Crew Needed: 33 Persons/Vehicles per Rig, 12 hrs. Workday Loading, 16 hrs Unloading Workday								

Alternative No. 1 - Port Development and Environmental Enhancement

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
Clamshell Dredging - Contaminated	Contaminated Dredge Excavation - Total 85,000							
Main Hoist - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	26	N/A
Main Generator - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	26	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	26	18,720
Scows	N/A	N/A	2	N/A	N/A	24	26	N/A
Tug Boat	800	0.2	1	160	8	8	26	1,664
Electric Pump	N/A	N/A	1	N/A	N/A	24	26	N/A
Skiff			1			4	26	
Contaminated Dredge Summary: Total 85,000 CY, Crew Needed: 30 Persons/Vehicles, 24 hrs. Workday								

Notes: (1) For vessel sources, represents total gallons of fuel use.
(2) "# Active" are miles/round trip, "Hours/Day" are the daily trips and "Total HP-Hrs." are annual miles.

Alternative No. 1 - Port Development and Environmental Enhancement

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
Hydraulic Dredging - CSWH (50 Acres)	Dredge/Transport/Unload - Total 845,000							
Electric - Hydraulic Dredge	N/A	N/A	1	N/A	N/A	24	38	N/A
Derrick Hoist	240	0.7	1	168	8.6	4	38	25,536
Derrick Winch	87	0.7	1	60.9	3.1	1	38	2,314
Anchor Barge Winch	180	0.7	1	126	6.4	4	38	19,152
Generator	350	0.6	1	210	10.5	4	38	31,920
Survey Boat			1	0		5	38	-
Crew Boat			1	0		5	38	-
Tug Boat	850	0.5	1	425	21.3	18	38	14,569
Electric Pump	N/A	N/A	1	N/A	N/A	24	38	N/A
Clamshell Dredging - Berth 243/245	Dredge/Transport/Unload - Total 193,000							
Electric - Clamshell Dredge	N/A	N/A	1	N/A	N/A	24	26	N/A
Main Generator - Clamshell Dredge	N/A	N/A	1	N/A	N/A	24	26	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	26	18,720
Reel Barge			1	0			26	-
Survey Boat			1	0		5	26	-
Crew Boat			1	0		5	26	-
Scows	N/A	N/A	2	N/A	N/A	24	26	N/A
Tug Boat	800	0.2	1	160	8	8	26	1,664
Electric Pump	N/A	N/A	1	N/A	N/A	24	26	N/A
Clamshell Dredging - NW Slip	Dredge/Transport/Unload - Total 78,000							
Electric - Clamshell Dredge	N/A	N/A	1	N/A	N/A	24	11	N/A
Main Generator - Clamshell Dredge	N/A	N/A	1	N/A	N/A	24	11	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	11	7,920
Reel Barge			1	0			11	-
Survey Boat			1	0		5	11	-
Crew Boat			1	0		5	11	-
Scows	N/A	N/A	2	N/A	N/A	24	11	N/A
Tug Boat	800	0.2	1	160	8	8	11	704
Electric Pump	N/A	N/A	1	N/A	N/A	24	11	N/A
Clamshell Dredging - Open Water Disposal at LA 2	Dredge/Transport/Unload - Total 799,000							
Electric - Clamshell Dredge	N/A	N/A	1	N/A	N/A	24	200	N/A
Main Generator - Clamshell Dredge	N/A	N/A	1	N/A	N/A	24	200	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	200	144,000
Tugboat*	2,200	0.6	4	5,280	264	10	200	528,000
Dredge Summary: Total 1,915,000 CY, Crew Needed: 30 Persons/Vehicles, 24 hrs. Workday								

* Dredge slurry assumed to be 40% water, resulting in a daily water bulked disposal volume to LA-3 of 8,000 cy. At a barge capacity of 2,000 cy, this requires 4 daily barge trips. At a distance of 25 nautical miles and a speed of 5 knots, each round trip would take 10 hours.

Notes: (1) For vessel sources, represents total gallons of fuel use.
(2) "# Active" are miles/round trip, "Hours/Day" are the daily trips and "Total HP-Hrs." are annual miles.

Alternative No. 2 - Environmental Enhancement and Ocean Disposal

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
Cabrillo SWH Dike Construction (50 Acres)	Quarry Run Placement - Total 550,000 Tons							
Barge Equipment	195	0.5	2	195	10.9	12	206	482,040
Derrick Barge Crane	180	0.5	1	90	5	12	206	222,480
Tugboat - Derrick Barge Crane	800	0.25	1	200	11.2	12	206	27,686
Tugboat - Q.R. Transport to site	2,200	0.5	2	2200	110	2	206	45,320
Quarry Run Dike Summary: Total 550,000 Tons, Crew Needed: 11 Persons/Vehicles per Rig, 12 hour Workday								

Alternative No. 2 - Environmental Enhancement and Ocean Disposal

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
Cabrillo SWH Trench Excavation (50 Acres)	Sidecast Excavation - Total 40,000 CY							
Main Hoist - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	6.0	N/A
Main Generator - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	24	6.0	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	6.0	4,320
Tug Boat	800	0.2	1	160	8	4	6.0	192
Trench Excavation Summary: Total 40,000 CY, Crew Needed: 14 Persons/Vehicles per Rig, 24 hour Workday								

Alternative No. 2 - Environmental Enhancement and Ocean Disposal

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
S.W. Slip A#1 Surcharge Removal - Loading	Load - Total 815,000 CY							
Scraper			5			12	109	
Backhoe	80	0.5	2	80	2	12	109	104,640
Main Hoist - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	12	109	N/A
Main Generator - Clamshell Dredge (Electric)	N/A	N/A	1	N/A	N/A	12	109	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	109	78,480
Dozer	335	0.5	2	335	18.8	12	109	438,180
Off-Road Truck			4				109	
Water Truck	325	0.5	1	162.5	8.3	12	109	212,550
Grader	180	0.5	1	90	4.6	8	109	78,480
S.W. Slip A#1 Surcharge Removal - Transport	Transport - Total 815,000 CY							
Scows	N/A	N/A	2	N/A	N/A	12	109	N/A
Tug Boat	800	0.2	1	160	8	4	109	3,488
S.W. Slip A#1 Surch'ge Removal - Unload CSWH	Unload - Total 815,000							
Main Hoist - Clamshell Dredge	1,200	0.5	1	600	30.6	16	109	1,046,400
Main Generator - Clamshell Dredge	900	0.5	1	450	23	16	109	784,800
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	109	78,480
Scows	N/A	N/A	2	N/A	N/A	12	109	N/A
SW Slip Surcharge Summary: Total 815,000 CY, Crew Needed: 33 Persons/Vehicles per Rig, 12 hrs. Workday Loading, 16 hrs Unloading Workday								

Notes: (1) For vessel sources, represents total gallons of fuel use.
(2) "# Active" are miles/round trip, "Hours/Day" are the daily trips and "Total HP-Hrs." are annual miles.

Alternative No. 2 - Environmental Enhancement and Ocean Disposal

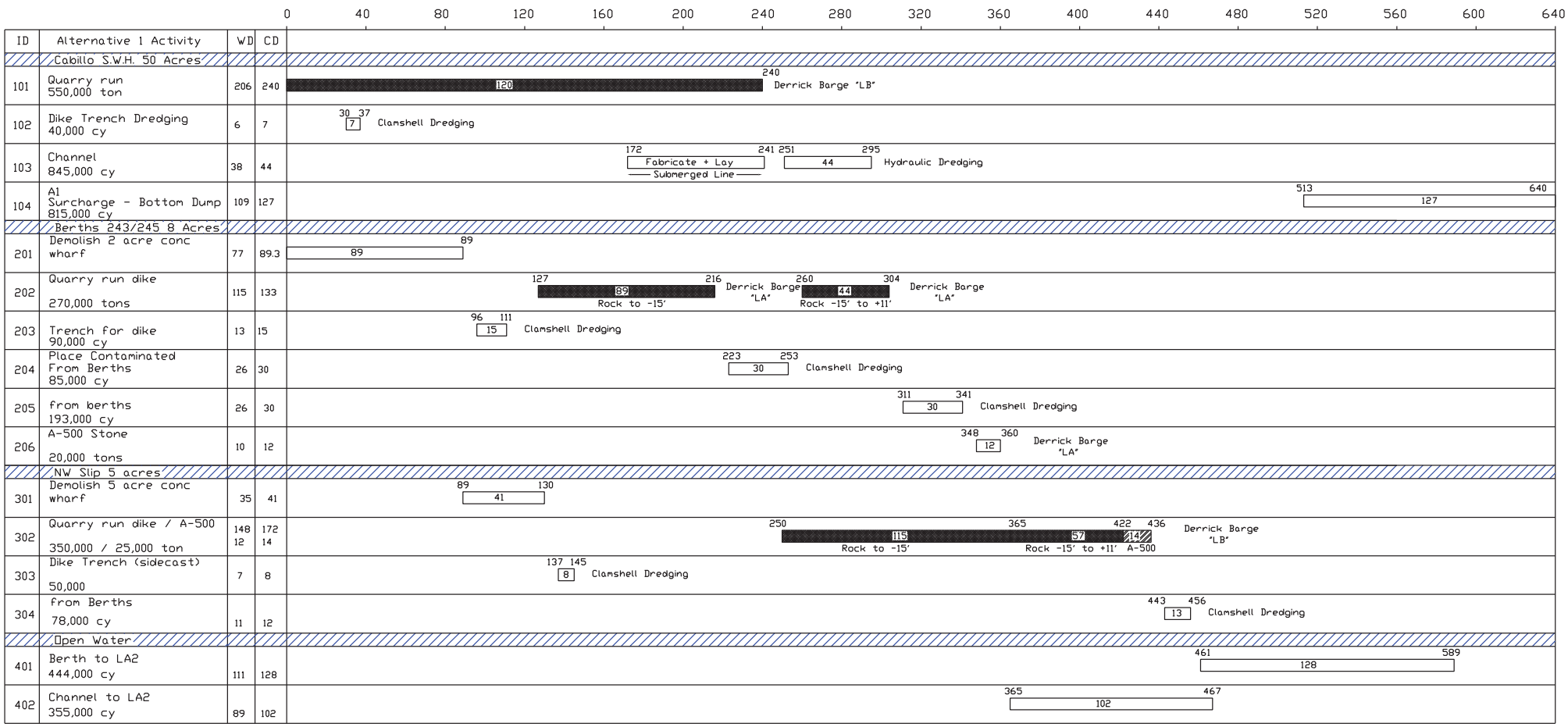
Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
Clamshell Dredging - Contaminated	Contaminated Dredge Excavation - Total 85,000							
Main Hoist - Clamshell Dredge with environmental bucket	N/A	N/A	1	N/A	N/A	24	26	N/A
Main Generator - Clamshell Dredge	N/A	N/A	1	N/A	N/A	24	26	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	26	18,720
Scows	N/A	N/A	2	N/A	N/A	24	26	N/A
Tug Boat	800	0.2	1	160	8	8	26	1,664
Electric Pump	N/A	N/A	1	N/A	N/A	24	26	N/A
Skiff			1			4	26	
Dozer	335	0.5	2	335	17.1	8	26	69,680
Grader	180	0.5	2	180	9.2	8	26	37,440
Compactor	250	0.33	2	165	8.4	8	26	34,320
Water Truck	240	0.5	1	120	6.1	8	26	24,960
Contaminated Dredge Summary: Total 85,000 CY, Crew Needed: 30 Persons/Vehicles, 24 hrs. Workday								

Alternative No. 2 - Environmental Enhancement and Ocean Disposal

Construction Activity/Equipment Type	Power Rating (HP)	Load Factor	# Active	Hourly HP-Hrs.	Fuel Use (Gal/Hr.)	Hours Per Day	Total Work Days	Total HP-Hrs.(1)
Hydraulic Dredging - CSWH (50 Acres)	Dredge/Transport/Unload - Total 845,000							
Electric - Hydraulic Dredge	N/A	N/A	1	N/A	N/A	24	38	N/A
Derrick Hoist	240	0.7	1	168	8.6	4	38	25,536
Derrick Winch	87	0.7	1	60.9	3.1	1	38	2,314
Anchor Barge Winch	180	0.7	1	126	6.4	4	38	19,152
Generator	350	0.6	1	210	10.5	4	38	31,920
Survey Boat			1	0		5	38	-
Crew Boat			1	0		5	38	-
Tug Boat	850	0.5	1	425	21.3	18	38	14,569
Electric Pump	N/A	N/A	1	N/A	N/A	24	38	N/A
Clamshell Dredging - Open Water Disposal at LA 2/3	Dredge/Transport/Unload - Total 1,215,000 CY							
Electric - Clamshell Dredge	N/A	N/A	1	N/A	N/A	24	304	N/A
Main Generator - Clamshell Dredge	N/A	N/A	1	N/A	N/A	24	304	N/A
Deck Generator - Clamshell Dredge	240	0.6	1	144	7.3	5	304	218,880
Tugboat*	2,200	0.6	4	5,280	264	10	304	802,560
Dredge Summary: Total 2,060,000 CY, Crew Needed: 30 Persons/Vehicles, 24 hrs. Workday								

* Dredge slurry assumed to be 40% water, resulting in a daily water bulked disposal volume to LA-3 of 8,000 cy. At a barge capacity of 2,000 cy, this requires 4 daily barge trips. At a distance of 25 nautical miles and a speed of 5 knots, each round trip would take 10 hours.

Notes: (1) For vessel sources, represents total gallons of fuel use.
(2) "# Active" are miles/round trip, "Hours/Day" are the daily trips and "Total HP-Hrs." are annual miles.



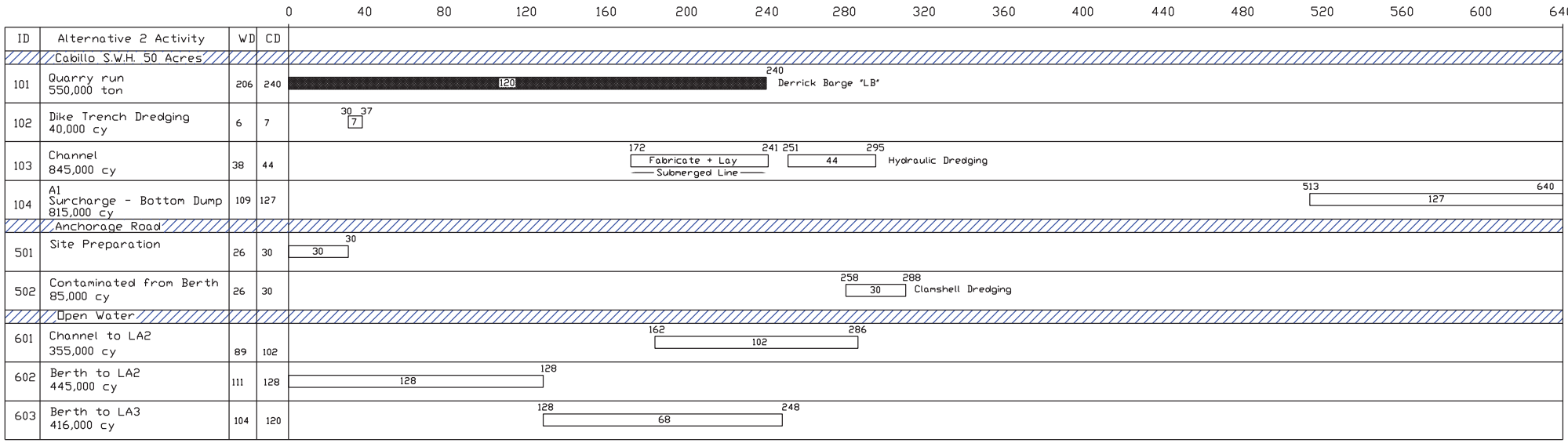
Alternative 1

Port Development and Environmental Enhancement

SEIS Base Rev 1 12/05/08

Production Rates

Quarry Run below -15' = 2,286 tons/CD
Quarry Run above -15' = 1,522 tons/CD
Armour Stone = 1,714 tons/CD
Hydraulic Dredging = 19,286 cy/CD
Clamshell Dredging = 6,426 cy/CD
Dredging contaminated material = 2,857 cy/CD
Offshore disposal = 4,000 cy/WD



Alternative 2
SEIS Base Rev 1 12/05/08
Environmental Enhancement and Ocean Disposal

Production Rates

Quarry Run below -15' = 2,286 tons/CD
Quarry Run above -15' = 1,522 tons/CD
Armour Stone = 1,714 tons/CD
Hydraulic Dredging = 19,286 cy/CD
Clamshell Dredging = 6,426 cy/CD
Dredging contaminated material = 2,857 cy/CD
Offshore disposal = 4,000 cy/WD