APPENDIX E – COST ESTIMATES
NAVIGATION IMPROVEMENTS
HAINES, ALASKA

THIS ESTIMATE IS BASED ON THE SCOPE CONTAINED IN THE FEASIBILITY, DATED: 1 APR 00

PROJECT: SMALL BOAT HARBOR
LOCATION: HAINES, ALASKA

DISTRICT: ALASKA
P.O.C.: FRANK ANTOLIN, CHIEF, CE

ACCOUNT NUMBER	FEATURE DESCRIPTION		CURRENT MCACES ESTIMATE PREPARED: 12 FEB 02 EFFECTIVE PRICING LEVEL: Apr 2002 COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	AUTHORIZ./BUDGET YEAR: FY2003 EFFECT. PRICING LEVEL: 1 Oct 2002 COST ($K)	CNTG ($K)	TOTAL ($K)	.....FULLY FUNDED ESTIMATE..... FEATURE MID PT: Oct 2005 COST ($K)	CNTG ($K)	FULL ($K)
C-06-00	MITIGATION		$50	$10	20%	$60	$51	$10	$61	$56	$11	$67
C-10-01	MOB DEMOB & PREWORK		$280	$56	20%	$336	$281	$56	$337	$307	$61	$368
C-02-03	REMOVALS		$101	$20	20%	$121	$101	$20	$121	$110	$22	$132
C-10-00	BREAKWATERS & SEAWALLS		$9,183	$1,837	20%	$11,019	$9,229	$1,846	$11,075	$10,074	$2,015	$12,089
C-12-02	NAV, PORTS & HARBORS		$5,789	$1,158	20%	$6,947	$5,818	$1,163	$6,981	$6,351	$1,269	$7,620
	TOTAL CONSTRUCTION COSTS =====>		$15,403	$3,081	20%	$18,484	$15,480	$3,095	$18,575	$16,898	$3,378	$20,276
P-01---	LANDS AND DAMAGES		$17	$3	20%	$20	$16	$4	$20	$18	$4	$22
P-30-02	PLANNING, ENGINEERING, DESIGN	3.4%	$525	$105	20%	$630	$528	$106	$634	$576	$116	$692
P-31-02	CONSTRUCTION MANAGEMENT	4.1%	$625	$125	20%	$750	$628	$126	$754	$685	$138	$823
	TOTAL OWNER COSTS==========>		$1,167	$233	20%	$1,400	$1,172	$236	$1,408	$1,279	$258	$1,537
	TOTAL PROJECT COSTS =========>		**$16,570**	**$3,314**	**20%**	**$19,884**	**$16,652**	**$3,331**	**$19,983**	**$18,177**	**$3,636**	**$21,813**

THIS TPCS REFLECTS A PROJECT COST CHANGE OF $ ~~~~~ ~~~~~~~~~~

THE MAXIMUM PROJECT COST IS =======> $ ~~~~~ ~~~~~~~~~~

TOTAL FEDERAL SHARED COSTS ==== 56% $12,174

TOTAL NON-FEDERAL COSTS ======= 44% $9,639

DISTRICT APPROVED:

_____ CHIEF, COST ENGINEERING

_____ CHIEF, REAL ESTATE

_____ CHIEF, ENGINEERING

_____ CHIEF, CON-OPS

_____ PROJECT MANAGER

_____ DDE (PM)

DIVISION APPROVED:

_____ CHIEF, COST ENGINEERING

_____ DIRECTOR, REAL ESTATE

_____ CHIEF, PROGRAMS MANAGEMENT

_____ DIRECTOR OF PPMD

APPROVED DATE: _____

THIS ESTIMATE IS BASED ON THE SCOPE CONTAINED IN THE FEASIBILITY, DATED: 1 APR 00

PROJECT: SMALL BOAT HARBOR
LOCATION: HAINES, ALASKA

DISTRICT: ALASKA
P.O.C.: FRANK ANTOLIN, CHIEF, CE

		CURRENT MCACES ESTIMATE PREPARED: 12 FEB 02 EFFECTIVE PRICING LEVEL: Apr 2002				AUTHORIZ./BUDGET YEAR: FY2003 EFFECT. PRICING LEVEL: 1 Oct 2002				.....FULLY FUNDED ESTIMATE..... CWCCIS - 30 Sep 98				
ACCOUNT NUMBER	FEATURE DESCRIPTION	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	OMB (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	FEATURE MID PT	OMB (%)	COST ($K)	CNTG ($K)	FULL ($K)
C-06-00	MITIGATIONMITIGATIONMITIGATION	$50	$10	20%	$60	0.5%	$51	$10	$61	Oct 2005	9.2%	$56	$11	$67
C-10-01	MOB DEMOB & PREWORK	$280	$56	20%	$336	0.5%	$281	$56	$337	Oct 2005	9.2%	$307	$61	$368
C-10-00	BREAKWATERS & SEAWALLS	$7,652	$1,530	20%	$9,183	0.5%	$7,691	$1,538	$9,229	Oct 2005	9.2%	$8,395	$1,679	$10,074
C-12-02	MECHANICAL DREDGING	$105	$21	20%	$126	0.5%	$106	$21	$127	Oct 2005	9.2%	$116	$23	$139
C-12-02			$0	20%	$0	0.5%	$0	$0	$0	Oct 2005	9.2%	$0	$0	$0
	TOTAL CONSTRUCTION COSTS =====>	$8,088	$1,618	20%	$9,705		$8,129	$1,625	$9,754			$8,874	$1,774	$10,648
P-01---	LANDS AND DAMAGES 0.1%	$8	$2	20%	$10	0.5%	$8	$2	$10	Oct 2005	9.2%	$9	$2	$11
P-30-02	PLANNING, ENGINEERING, DESIGN 6.5%	$525	$105	20%	$630	0.5%	$528	$106	$634	Oct 2005	9.2%	$576	$116	$692
P-31-02	CONSTRUCTION MANAGEMENT 7.7%	$625	$125	20%	$750	0.5%	$628	$126	$754	Oct 2005	9.2%	$685	$138	$823
	TOTAL COSTS ==========>	$9,246	$1,849	20%	$11,095		$9,293	$1,859	$11,152			$10,144	$2,030	$12,174

CONTRACT B - NON-FEDERAL | **** TOTAL CONTRACT COST SUMMARY **** |

THIS ESTIMATE IS BASED ON THE SCOPE CONTAINED IN THE FEASIBILITY, DATED: 1 APR 00

PROJECT: SMALL BOAT HARBOR
LOCATION: HAINES, ALASKA

DISTRICT: ALASKA
P.O.C.: FRANK ANTOLIN, CHIEF, CE

		CURRENT MCACES ESTIMATE PREPARED: 12 FEB 02 EFFECTIVE PRICING LEVEL: Apr 2002				AUTHORIZ./BUDGET YEAR: FY2003 EFFECT. PRICING LEVEL: 1 Oct 2002				.....FULLY FUNDED ESTIMATE..... CWCCIS - 30 Sep 98				
ACCOUNT NUMBER	FEATURE DESCRIPTION	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	OMB (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	FEATURE MID PT	OMB (%)	COST ($K)	CNTG ($K)	FULL ($K)
C-12-01	MOB DEMOB & PREWORK	$0	$0	20%	$0	0.5%	0	0	0	Oct 2005	9.2%	0	0	0
C-02-03	REMOVALS	$101	$20	20%	$121	0.5%	$101	$20	$121	Oct 2005	9.2%	$110	$22	$132
C-10-00	BREAKWATERS & SEAWALLS (BETTERMENT)	$1,531	$306	20%	$1,837	0.5%	$1,538	$308	$1,846	Oct 2005	9.2%	$1,679	$336	$2,015
C-12-08	INNER HARBOR FACILITIES	$5,684	$1,137	20%	$6,821	0.5%	$5,712	$1,142	$6,854	Oct 2005	9.2%	$6,235	$1,246	$7,481
				20%										
	TOTAL CONSTRUCTION COSTS =====>	$7,315	$1,463	0%	$8,778		$7,351	$1,470	$8,821			$8,024	$1,604	$9,628
P-01---	LANDS AND DAMAGES	$8	$2	20%	$10	0.5%	$8	$2	$10	Oct 2005	9.2%	$9	$2	$11
P-30-01	PLANNING, ENGINEERING, DESIGN 0.0%	$0	$0	20%	$0	0.5%	$0	$0	$0	Oct 2005	9.2%	$0	$0	$0
P-31-01	CONSTRUCTION MANAGEMENT 0.0%	$0	$0	20%	$0	0.5%	$0	$0	$0	Oct 2005	9.2%	$0	$0	$0
	TOTAL COSTS ==========>	$7,324	$1,465	20%	$8,788		$7,359	$1,472	$8,831			$8,033	$1,606	$9,639

Alt 4, Haines SBH, Alaska
UPC=HNS001
** FEASIBILITY CWE **
Y:\CIV\SBH\HNS001\PSP\HNS002

Designed By:	Alaska District Corp. Of Eng.
Estimated By:	CENPA-EN-CE
Prepared By:	AL ARRUDA / FRANK J. ANTOLIN 753-5672
Preparation Date:	02/12/02
Effective Date of Pricing:	03/01/02
Est Construction Time:	850 Days
Sales Tax:	0.00%

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DISCRIPTION OF WORK:
1. Construct a Small Boat Harbor for 279 vessels at Haines, Alaska, South of Skagway, Alaska.

2. Rubblemound Breakwater:Land-connected rubblemound breakwaters with a gap for fish passage and a crest of 7.89 meters (25.9ft) MLLW. Remove 46m (150.9lf) of existing breakwater. Construct a 72.9m (239.2lf) north spur; a 109.4m (358.9lf) north breakwater; a 489.1m (1604.7lf) main breakwater, a 62.2m (204.1lf) extension of existing south breakwater; and 49.9m (163.7lf) south spur. Maximum water depth is -7.25m (-23.8ft) MLLW along breakwater.

3. Rock Quantities:	Neatline	+ Overplace	= (Total CY)
Armor Rock	38,500CM	770CM	51,363LCY
B Rock	39,100CM	1,955CM	53,698LCY
Core Rock	191,100CM	19,110CM	274,944LCY

4. Rock Source: The Contractor may use a local quarry or an off-site commercial source for the rock. The rock material can be barged or trucked to the site and placed by dumping combined with bucket/crane.

5. Unit prices for rubblemound construction are based upon quotes from Southeast Roadbuilders, Inc., which included mining and truck hauling from a quarry within 5 miles of the site. Assumed dredging and placing rock with land-based earth-moving equipment by the prime contractor.

6. Inner harbor prices are based upon data from AKDOT.

7. Dredge maneuver channel and outer basin to -4.9m and inner basin to -4.3m MLLW.

Haines is located at 59° 14' N, 135° 26' W, on a narrow peninsula extending into Lynn Canal, between the Chilkoot and Chilkat Inlets, 80 air miles northwest of Juneau. It is just south of the Canadian border at British Columbia, 775 road miles from Anchorage.

Transportation: Access to Haines is via the Haines Highway from Haines Junction, Yukon Territory, Alaska State Ferries and scheduled air Taxi's. Haines is a major trans-shipment point because of its ice-free, deep water port and dock, and year-round road access to Canada and Interior Alaska on the Haines and Alaska Highways. It is a northern terminus of the Alaska Marine Highway (ferry) System, a cruise ship port-of-call, and a hub for transportation to and from southeast Alaska. Haines has a State-owned 4,600' airport runway, with daily scheduled flights to Juneau by small aircraft. There is also a State-owned seaplane base, two small boat harbors with a total of 190 moorage slips, a State Ferry terminal, and a cruise ship dock.

Economy: Forestry, commercial fishing, tourism, and transportation are the primary employers. Tourism businesses, crafts, and the traffic Haines draws as a result of its road connection to the State Ferry have become increasingly important. Over 180 cruise ships dock at Haines each summer. 143 residents hold commercial fishing permits. Haines has a population of 1,260 people. Haines has the largest concentration of bald eagles in the world, at the Alaska Chilkat Bald Eagle Preserve. Another popular attraction is the historically recreated gold rush town "Dalton City" for the movie "White Fang". There are also native history performances by the Chilkat Indian Dancers at the Chilkat Center for the Arts.

Facilities: Water is derived from Lily Lake and the Piedad Springs well, is treated and stored in a 500,000-gallon tank, and is distributed throughout Haines. Sewage is collected by a piped system and receives primary treatment. Over 95% of homes are fully plumbed. Haines Sanitation Inc., a privately-held firm, collects refuse and owns the permitted landfill. Accommodations are provided by 6 hotel/motels, 4 bed & breakfasts, 1 hostel, and 10 restaurants. SEARHC Haines Medical Clinic -- a private non-profit corporation, operates the medical clinic with two doctors and a staff of nurses. Patients may receive both primary care and emergency service. Juneau, Seattle and Whitehorse offer facilities to those who require more intensive care. Haines has a full time dentist, two chiropractors, an acupuncturist, a home health care provider, and an itinerant eye doctor. There is also a public health nurse and a state supported mental health clinic.

Climate: Haines has a maritime climate characterized by cool summers and mild winters. Average summer temperatures range from 46 to 66; winter temperatures average 17 to 36. Temperature extremes have been recorded from -16 to 90. Total precipitation averages 60 inches a year, with 133 inches of snow.

Contacts:
Emergency: 911
Haines Borough Offices: 907-766-2711
Haines Chamber of Commerce: 907-766-2202

Haines City Offices: 907-766-2231
Haines Ferry Terminal: 907-766-2111
Haines Medical Center: 907-766-2521
Harbor Master: 907-766-2448 or 2948 Police: 907-766-2121
State Parks: 907-766-2292
Weather Information: 907-766-2727

Haines Convention and Visitors Bureau
P.O. Box 530 Haines AK 99827
907-766-2234 800-458-3579 (Toll Free) hcvb@haines.ak.us

SUMMARY REPORTS SUMMARY PAGE

PROJECT OWNER SUMMARY - Bid Item.....1
PROJECT OWNER SUMMARY - Facility.....2

DETAILED ESTIMATE DETAIL PAGE

01. Mob, Demob & Preparatory Work
02. Relocations
5. Abandon Existing Sewer Line.....1
10. Furnish and Install HDPE Sewer.....2
10. Breakwaters and Seawalls
2 . Construct Breakwater Core.....4
3 . Construct Breakwater 'B' Rock.....6
4 . Construct Breakwater 'A' Rock.....8
5 . Demo Existing Breakwater.....10
7 . Provide Hydrographic Surveys.....11
9 . Construct Nav Aid Marker Base.....12
12. Navigation Ports & Harbors
10. Relocate Rock Under Water.....13
11. Mech Dredge (soft clay).....14
12. Mech Dredge (hard clay).....15
13. Inner harbor facilities.....16
14. Provide Hydrographic Surveys.....17
30. Planning, Engineering and Design
31. Construction Management (S&I)
_1. Lands and Damages

BACKUP REPORTS BACKUP PAGE

CREW BACKUP.....1
LABOR BACKUP.....4
EQUIPMENT BACKUP.....5

* * * END TABLE OF CONTENTS * * *

		QUANTITY UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST	NOTES
01	Mob, Demob & Preparatory Work		280,000	0	56,000	336,000		
02	Relocations		100,500	0	20,100	120,600		
10	Breakwaters and Seawalls	783.49 M	9,182,900	0	1,836,600	11,019,500	14064.61	
12	Navigation Ports & Harbors	6.56 HEC	5,789,100	0	1,157,800	6,947,000	1059647	
TOTAL	Alt 4, Haines SBH, Alaska		15,352,500	0	3,070,500	18,423,000		
	********** ALTERNATES **********							
30	Planning, Engineering and Design		525,000	0	105,000	630,000		
31	Construction Management (S&I)		625,000	0	125,000	750,000		
_1	Lands and Damages		16,700	0	3,300	20,000		

	QUANTITY UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST	NOTES
01 Mob, Demob & Preparatory Work		280,000	0	56,000	336,000		
02 Relocations							
02. 5 Abandon Existing Sewer Line	320.04 M	21,100	0	4,200	25,300	79.19	
02.10 Furnish and Install HDPE Sewer	335.28 M	79,400	0	15,900	95,200	284.07	
TOTAL Relocations		100,500	0	20,100	120,600		
10 Breakwaters and Seawalls							
10.2 Construct Breakwater Core	191102.01 M3	6,017,300	0	1,203,500	7,220,700	37.78	
10.3 Construct Breakwater 'B' Rock	39100.57 M3	1,338,300	0	267,700	1,606,000	41.07	
10.4 Construct Breakwater 'A' Rock	38500.38 M3	1,710,600	0	342,100	2,052,700	53.32	
10.5 Demo Existing Breakwater	3600.33 M3	49,000	0	9,800	58,800	16.34	
10.7 Provide Hydrographic Surveys		33,900	0	6,800	40,600		
10.9 Construct Nav Aid Marker Base	4.00 EA	33,900	0	6,800	40,600	10157.00	
TOTAL Breakwaters and Seawalls	783.49 M	9,182,900	0	1,836,600	11,019,500	14064.61	
12 Navigation Ports & Harbors							
12.10 Relocate Rock Under Water	1899.94 M3	19,300	0	3,900	23,200	12.20	
12.11 Mech Dredge (soft clay)	159901.68 M3	915,300	0	183,100	1,098,300	6.87	
12.12 Mech Dredge (hard clay)	5199.80 M3	40,700	0	8,100	48,800	9.39	
12.13 Inner harbor facilities	6.56 HEC	4,780,000	0	956,000	5,736,000	874933.16	
12.14 Provide Hydrographic Surveys		33,900	0	6,800	40,600		
TOTAL Navigation Ports & Harbors	6.56 HEC	5,789,100	0	1,157,800	6,947,000	1059647	
30 Planning, Engineering and Design		525,000	0	105,000	630,000		
31 Construction Management (S&I)		625,000	0	125,000	750,000		
_1 Lands and Damages		16,700	0	3,300	20,000		

** CONTRACTOR SETTINGS **

		AMOUNT	PCT	PCT S	RISK	DIFF	SIZE	PERIOD	INVEST	ASSIST	SUBCON
AA General/Prime											
OVERHEAD	P		10.00								
HOME OFC	P		4.00								
PROFIT	C		7.30		0.090	0.090	0.040	0.120	0.080	0.120	0.030
BOND	C			(Class: B)							
EST CONT	P		5.00								

		QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
	TOTAL Mob, Demob & Preparatory Work					0	0	0	0	215,000	215,000	
02. Relocations												
02. 5. Abandon Existing Sewer Line (USER)												
AF AA <02215 2500 >	Waste, backfill, excess excavated on-site material Backfill, trench, front-end loader, 40 - 60 HP, no compaction	4013.96	M3	CODFB10N	114.68	0.01 53	0.59 2,388	0.26 1,064	0.00 0	0.00 0	0.86 3,451	0.86
	Assume trench is 5' wide at bottom and 10' deep. Assume 0.5 cy waste per lf of trench excavation.											
MIL AA <02228 0344 >	Excavate trench, hvy soil, 6'-10' D, 1.5 CY excavator	3211.17	M3	CODEB12B	103.98	0.02 62	0.85 2,727	0.62 1,981	0.00 0	0.00 0	1.47 4,708	1.47
	Assume trench is 5' wide at bottom and 10' deep. Assume 4 cy/lf of trench excavation.											
	The qty was off by one decimal. Should be 3211.2M3 (4200cy)											
CIV AA <02046 2930 >	Site dml, pipe removal, 15" dia, conc, water/sewer, no excavation	320.04	M	CODLB6	5.72	0.52 168	22.71 7,268	2.48 792	0.00 0	0.00 0	25.18 8,060	25.18
	TOTAL Abandon Existing Sewer Line	320.04	M			282	12,383	3,837	0	0	16,219	50.68

02.10. Furnish and Install HDPE Sewer		QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
02.10. Furnish and Install HDPE Sewer (USER) Furnish and Install 335 LM (1100LF) of (406.4mm (16inch) HDPE sewer line and DIP diffuser.												
MIL AA <02215 1220 >	Backfill, trench, front-end loader, 40 - 60 HP, no compaction Assume trench is 5' wide at bottom and 10' deep. Assume 3.6 cy backfill per lf of trench excavation.	3027.67	M3	CODFB10N	38.23	0.04 119	1.78 5,403	0.79 2,407	0.00 0	0.00 0	2.58 7,810	2.58
M MIL AA <02215 2460 >	Backfill, sand bedding trenches, front-end loader, 1.5 CY Assume trench is 5' wide at bottom and 10' deep. Assume 0.4 cy sand bed per lf of trench excavation. QUOTE: Pipe Bedding $6.00/cy, Truck $4.50/cy, Southeast Roadbuilders & Quarry, Haines, 907-766-2833, 7 Jan 02. AA	336.41	M3	CODFB10N	36.32	0.04 14	1.88 632	0.84 282	13.73 4,620	0.00 0	16.45 5,533	16.45
AF AA <02215 2500 >	Waste, backfill, excess excavated on-site material Backfill, trench, front-end loader, 40 - 60 HP, no compaction Assume trench is 5' wide at bottom and 10' deep. Assume 0.5 cy waste per lf of trench excavation.	420.51	M3	CODFB10N	114.68	0.01 6	0.59 250	0.26 111	0.00 0	0.00 0	0.86 362	0.86
MIL AA <02220 6400 >	Compaction, 1 ton roller, around structures & trenches Assume trench is 5' wide at bottom and 10' deep. Assume compact top 3 cy/lf of trench excavation.	2523.06	M3	COFCB10A	19.11	0.08 198	3.57 9,005	0.46 1,164	0.00 0	0.00 0	4.03 10,168	4.03
AF AA <02220 7060 >	Compaction, struct/trench, 8" lifts, 2 passes 18" wide, vib plate	841.02	M3	COFCB18	41.10	0.07 61	3.10 2,606	0.04 31	0.00 0	0.00 0	3.13 2,636	3.13

02.10. Furnish and Install HDPE Sewer	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
Assume compact sand bed and first 2 ft of backfill. Assume 1 cy/lf of trench.											
M MIL AA <02220 9000 > Compaction, water, truck, 3000 gal, 3 mile haul	3364.08	M3	COKBB45	180.44	0.01 37	0.53 1,776	0.28 932	0.30 1,006	0.00 0	1.10 3,714	1.10
Assume trench is 5' wide at bottom and 10' deep. Assume compact 4 cy/lf of trench excavation.											
MIL AA <02228 0344 > Excavate trench, hvy soil, 6'-10' D, 1.5 CY excavator	3364.08	M3	CODEB12B	103.98	0.02 65	0.85 2,857	0.62 2,075	0.00 0	0.00 0	1.47 4,932	1.47
Assume trench is 5' wide at bottom and 10' deep. Assume 4 cy/lf of trench excavation.											
AF AA <02752 8000 > CB or manholes, sewer connection charge	1.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00
B CIV AA <02766 6060 > Piping, D&S, 20' sect, 16", corr polthn, type S, smooth wall	335.28	M	CLABB14	7.39	0.81 272	34.79 11,665	1.91 642	34.48 11,561	0.00 0	71.19 23,867	71.19
M CIV AA <02766 6130 > Piping, D&S, corr polthn, coupler, 16"	55.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	10.93 601	0.00 0	10.93 601	10.93
M MIL AA <02753 0110 > Headwall, conc, CIP, 18" dia pipe, 30 deg skewed wingwall	1.00	EA	ACARC14H	0.29	20.96 21	1014.46 1,014	12.92 13	299.72 300	0.00 0	1327.11 1,327	1327.11
TOTAL Furnish and Install HDPE Sewer	335.28	M			793	35,207	7,656	18,088	0	60,951	181.79
TOTAL Relocations					1,075	47,589	11,493	18,088	0	77,170	

10.2 . Construct Breakwater Core	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST

10. Breakwaters and Seawalls
10.2 . Construct Breakwater Core

10.2 . 10 . Breakwater Core Complete
0.5 kf (1#) - 86kg (190#)

176,573 M3 (230,950 cy) x 1.10 overplace = 194,230 M3 (254,045 cy)

10.2 . 10 .2 . 'C' Rock - Commercial Quarry
Purchase rock and truck to site, 1#-190#. Core rock $8.00/cy, Load/haul $4.50/cy, TOTAL $12.50/cy.

QUOTE: Core rock $8.00/cy, Truck $4.50/cy, Southeast Roadbuilders & Quarry, Haines, 907-766-2833, 7 Jan 02. AA

TOTAL 'C' Rock - Commercial Quarry	274944	LCY			0	0	0	3,436,799	0	3,436,799	12.50

10.2 . 10 ._7. Place Core Stone - Land (ZOC DREDG1) ** OVERTIME **
160,600 M3 (210,060 cy) x 1.9Ton/cy = 339,108Ton x 1.1 overplace = 439,020Ton

Assume breakwater construction in less than 20ft depth of water.
Assume Core rock placement on land-connected BW by truck end-dump, dozer spread and backhoe dress up.
Assume 'B' rock placement by end-dump, dozer push and backhoe spread/dress up.
Assume 'A' rock placement by truck delivery, backhoe placement and floating crane dress up.

USR AA <02900 9001 > Core Placement: Assume spread time equals time to truck dump.	3326.82	HR	CODTN	1.00	1.25 4,159	71.68 238,455	138.79 461,745	0.00 0	0.00 0	210.47 700,200	210.47
L USR AA <02900 9001 > 10% Dress Slope: productivity 5	43076	MT	ZOC EXCAV4	95.25	0.04 1,809	2.14 92,326	1.82 78,199	0.00 0	0.04 1,709	4.00 172,234	4.00
L MIL AA <02234 0610 > Hauling, hwy haulers, 16.5 CY, Back down BW and end dump. Assume truck load/haul of material from quarry source to site/stage is covered under material cost and occurs just in time (no stockpiling or reloading).	210212	M3	CTDHB34C	63.08	0.02 3,327	0.88 185,917	0.60 125,787	0.00 0	0.00 0	1.48 311,704	1.48

Stage for backing 1.5min
Backup 720LF @3ft/sec 4.0min
Dump/place load 1.5min

10.2 . Construct Breakwater Core	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
Return 720LF @4ft/sec 3.0min Total truck cycle time 10.0min Productivity: 1cycle/10min x 50/hr = 5.0cycle/hr 16.5lcy/cycle x 5.0cycle/hr = 82.5 lcy/hr											
TOTAL Place Core Stone - Land	274944	LCY			9,294	516,697	665,732	0	1,709	1,184,138	4.31
TOTAL Breakwater Core Complete	274944	LCY			9,294	516,697	665,732	3,436,799	1,709	4,620,937	16.81
TOTAL Construct Breakwater Core	191102	M3			9,294	516,697	665,732	3,436,799	1,709	4,620,937	24.18

10.3 . Construct Breakwater 'B' Rock	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST

10.3 . Construct Breakwater 'B' Rock

10.3 . 15 . Breakwater 'B' Rock Complete
29 kg (64#) - 310 kg (683#)

37,500 M3 (49,048 cy) x 1.10 overplace = 41,250 M3 (51,500 cy)

10.3 . 15 .2 . 'B' Rock - Commercial Quarry
Purchase rock and truck to site, 190#-1890#. B rock $10.00/cy, Load/haul

$4.50/cy, TOTAL $14.50/cy. QUOTE: B rock $10.00/cy, Truck
$4.50/cy, Southeast Roadbuilders & Quarry, Haines, 907-766-2833, 7 Jan 02.
AA AA

TOTAL 'B' Rock - Commercial Quarry	51258	LCY			0	0	0	743,243	0	743,243	14.50

10.3 . 15 ._7. Place 'B' Stone - Land (ZOC DREDG1) ** OVERTIME **
160,600 M3 (210,060 cy) x 1.9Ton/cy = 339,108Ton x 1.1 overplace =
439,020Ton

Assume breakwater construction in less than 20ft depth of water.
Assume Core rock placement on land-connected BW by truck end-dump, dozer spread and backhoe dress up.
Assume 'B' rock placement by end-dump, dozer push and backhoe spread/dress up.
Assume 'A' rock placement by truck delivery, backhoe placement and floating crane dress up.

USR AA <02900 9001 > Core Placement: Assume spread time equals time to truck dump.	620.22	HR	CODTN	1.00	1.25 775	71.68 44,455	138.79 86,084	0.00 0	0.00 0	210.47 130,539	210.47
L USR AA <02900 9001 > 30% Dress Slope: Backhoe,	24092	MT	ZOC EXCAV4	95.71	0.04 1,007	2.13 51,393	1.81 43,529	0.00 0	0.04 956	3.98 95,878	3.98
L MIL AA <02234 0610 > Hauling, hwy haulers, 16.5 CY, Back down BW and end dump. Assume truck load/haul of material from quarry source to site/stage is covered under material cost and occurs just in time (no stockpiling or reloading).	39190	M3	CTDHB34C	63.08	0.02 620	0.88 34,661	0.60 23,451	0.00 0	0.00 0	1.48 58,111	1.48

Stage for backing 1.5min
Backup 720LF @3ft/sec 4.0min
Dump/place load 1.5min
Return 720LF @4ft/sec 3.0min
Total truck cycle time 10.0min

10.3 . Construct Breakwater 'B' Rock	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
Productivity: 1cycle/10min x 50/hr = 5.0cycle/hr 16.5lcy/cycle x 5.0cycle/hr = 82.5 lcy/hr											
TOTAL Place 'B' Stone - Land	51258	LCY			2,402	130,509	153,064	0	956	284,529	5.55
TOTAL Breakwater 'B' Rock Complete	53698	LCY			2,402	130,509	153,064	743,243	956	1,027,772	19.14
TOTAL Construct Breakwater 'B' Rock	39101	M3			2,402	130,509	153,064	743,243	956	1,027,772	26.29

10.4 . Construct Breakwater 'A' Rock	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST

10.4 . Construct Breakwater 'A' Rock

10.4 . 20 . Breakwater 'A' Rock Complete
857 kg (1890#) - 1430 kg (3150#)

56,400 M3 (73,768cy) x 1.02 overplace = 57,530 M3 (75,245 cy)

10.4 . 20 .2 . 'A' Rock - Commercial Quarry
Purchase rock and truck to site, 1890#-3150#. A rock $12.00/cy, Load/haul

$4.50/cy, TOTAL $16.50/cy. QUOTE: A rock $12.00/cy, Truck
$4.50/cy, Southeast Roadbuilders & Quarry, Haines, 907-766-2833, 7 Jan 02.
AA AA

TOTAL 'A' Rock - Commercial Quarry	51363	LCY		0	0	0	847,491	0	847,491	16.50

10.4 . 20 ._1. Place 'A' Stone - Land (ZOC DREDG1) ** OVERTIME **
160,600 M3 (210,060 cy) x 1.9Ton/cy = 339,108Ton x 1.1 overplace = 439,020Ton

Assume breakwater construction in less than 20ft depth of water.
Assume Core rock placement on land-connected BW by truck end-dump, dozer spread and backhoe dress up.
Assume 'B' rock placement by end-dump, dozer push and backhoe spread/dress up.
Assume 'A' rock placement by truck delivery, backhoe placement and floating crane dress up.

L USR AA <02900 9001 > 60% Dress Slope:Backhoe,					0.04	2.13	1.81	0.00	0.04	3.98	
	53098	MT	ZOC EXCAV4	95.71	2,218	113,268	95,937	0	2,107	211,313	3.98
L MIL AA <02234 0610 > Hauling, hwy haulers, 16.5 CY, Back down BW and end dump. Assume truck load/haul of material from quarry source to site/stage is covered under material cost and occurs just in time (no stockpiling or reloading).					0.02	0.88	0.60	0.00	0.00	1.48	
	39255	M3	CTDHB34C	63.08	621	34,718	23,489	0	0	58,207	1.48

Stage for backing 1.5min
Backup 720LF @3ft/sec 4.0min
Dump/place load 1.5min
Return 720LF @4ft/sec 3.0min
Total truck cycle time 10.0min

Productivity:
1cycle/10min x 50/hr =
5.0cycle/hr

10.4 . Construct Breakwater 'A' Rock	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
16.5lcy/cycle x 5.0cycle/hr = 82.5 lcy/hr											
USR AA <02900 9001 > 40% Dress Slope: Floating Crane					0.05	2.73	2.82	0.00	0.00	5.55	
	35399	MT	ZOC DREDG1	157.85	1,795	96,759	99,838	0	0	196,596	5.55
TOTAL Place 'A' Stone - Land	51343	LCY			4,634	244,745	219,264	0	2,107	466,116	9.08
TOTAL Breakwater 'A' Rock Complete	51363	LCY			4,634	244,745	219,264	847,491	2,107	1,313,608	25.57
TOTAL Construct Breakwater 'A' Rock	38500	M3			4,634	244,745	219,264	847,491	2,107	1,313,608	34.12

10.5 . Demo Existing Breakwater	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
10.5 . Demo Existing Breakwater											
10.5 . 15 . Breakwater 'B' Rock Complete 75 kg (64#) - 250 kg (683#)											
3600 M3 (4709 cy)											
10.5 . 15 2._ . Remove Rock (USER) 3600 M3 (4709 cy) x 1.9 Ton/cy = 8947Ton				** OVERTIME **							
L USR AA <02900 9001 > Remove Armored slope:Backhoe,	8116.59	MT	ZOC EXCAV4	95.71	0.04 339	2.13 17,314	1.81 14,665	0.00 0	0.04 322	3.98 32,301	3.98
L MIL AA <02234 0610 > Hauling, hwy haulers, 16.5 CY, Back down BW and end dump. Assume truck load/haul of material from quarry source to site/stage is covered under material cost and occurs just in time (no stockpiling or reloading). Stage for backing 1.5min Backup 720LF @3ft/sec 4.0min Dump/place load 1.5min Return 720LF @4ft/sec 3.0min Total truck cycle time 10.0min Productivity: 1cycle/10min x 50/hr = 5.0cycle/hr 16.5lcy/cycle x 5.0cycle/hr = 82.5 lcy/hr	3600.33	M3	CTDHB34C	63.08	0.02 57	0.88 3,184	0.60 2,154	0.00 0	0.00 0	1.48 5,339	1.48
TOTAL Remove Rock	4709.00	LCY			396	20,498	16,819	0	322	37,640	7.99
TOTAL Breakwater 'B' Rock Complete	3600.33	M3			396	20,498	16,819	0	322	37,640	10.45
TOTAL Demo Existing Breakwater	3600.33	M3			396	20,498	16,819	0	322	37,640	10.45

10.7 . Provide Hydrographic Surveys	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
10.7 . Provide Hydrographic Surveys											
10.7 . . Hydro Surveys for Items 2 thru 7											
TOTAL Pre/Post Hydrographic Surveys	2.00	EA			0	0	0	0	18,000	18,000	9000.00
10.7 . . . Interim Hydrographic Surveys	** OVERTIME **										
USR AA <02000 > Hydrographic Survey					0.00	0.00	0.00	0.00	8000.00	8000.00	
	1.00	EA		0.00	0	0	0	0	8,000	8,000	8000.00
TOTAL Interim Hydrographic Surveys	1.00	EA			0	0	0	0	8,000	8,000	8000.00
TOTAL Hydro Surveys for Items 2 thru 7					0	0	0	0	26,000	26,000	
TOTAL Provide Hydrographic Surveys					0	0	0	0	26,000	26,000	

10.9 . Construct Nav Aid Marker Base	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
10.9 . Construct Nav Aid Marker Base											
10.9 . _ . Navigation Foundation (USER)	** OVERTIME **										
USR AA < > Navigation Foundation					0.00	0.00	4000.00	2500.00	0.00	6500.00	
	4.00	EA		0.00	0	0	16,000	10,000	0	26,000	6500.00
TOTAL Navigation Foundation	4.00	EA			0	0	16,000	10,000	0	26,000	6500.00
TOTAL Construct Nav Aid Marker Base	4.00	EA			0	0	16,000	10,000	0	26,000	6500.00
TOTAL Breakwaters and Seawalls	783.49	M			16,727	912,450	1,070,879	5,037,534	31,095	7,051,957	9000.69

12.10. Relocate Rock Under Water	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST

12. Navigation Ports & Harbors
Dredge 5.19 hec (558,650sf) basin and maneuver channel.
Soft Clay 5.0 hec (544,010sf) = (268,330cy)
Hard Clay 0.19 hec (14,640sf) = (11,180cy)

12.10. Relocate Rock Under Water
Assume slabs of shale rock too large to be 'dredged' will be drilled under water, broken and removed by crane.
Total dredge quantity: 2500 CM (3270cy) rock

12.10. . Rock Removal Complete
Assume that prep work, and drilling will be done for total quanity of rock.
Assume 10% of total dredge quantity for rock removal.

12.10. .10. Dredging rock (ZOC EXCAV4) ** OVERTIME **
Rock material removed w/barge and clam shell crane.

Use 37% swell factor for broken rock:
13,825bcy x 1.37 = 18940LCY

L USR AA <	> Rock dredge: productivity 5 CY bucket x 1.9 Tons x .55 fill factor = 5.2Tons/bucket Cycle time 50min work/hr x 1 cycle/2.2 min = 23 cycle/hr. 23 cycles/hr x 5.2 Tons cycle = 120 Ton/hr	4283.28	MT	ZOC EXCAV4	108.86	0.04 157	1.88 8,033	1.59 6,804	0.00 0	0.00 0	3.46 14,837	3.46
	TOTAL Dredging rock	2485.00	LCY			157	8,033	6,804	0	0	14,837	5.97
	TOTAL Rock Removal Complete	1899.94	M3			157	8,033	6,804	0	0	14,837	7.81
	TOTAL Relocate Rock Under Water	1899.94	M3			157	8,033	6,804	0	0	14,837	7.81

12.11. Mech Dredge (soft clay)	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
12.11. Mech Dredge (soft clay) 227,200 M3 (297,166cy)											
12.11.2 . Mech Dredge (soft clay) (USER)											
USR AA <02900 9001 > Tug & Barge, for dredging.					3.50	150.04	160.59	0.00	0.00	310.64	
	1195.00	HR	ZOC BARGE1	1.00	4,183	179,302	191,909	0	0	371,210	310.64
USR AA < > Mechanical Dredge, 5cy capacity long-reach excavator					0.01	0.66	1.41	0.00	0.00	2.07	
	159902	M3	CODEB12J	133.80	2,384	105,533	226,123	0	0	331,656	2.07
TOTAL Mech Dredge (soft clay)	38555	M2			6,567	284,834	418,032	0	0	702,866	18.23
TOTAL Mech Dredge (soft clay)	159902	M3			6,567	284,834	418,032	0	0	702,866	4.40

12.12. Mech Dredge (hard clay)	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
12.12. Mech Dredge (hard clay)											
5600 M3 (7325cy)											
12.12.1 . Mech Dredge (hard clay)											
USR AA <02900 9001 > Tug & Barge, for dredging.					3.50	150.04	160.59	0.00	0.00	310.64	
	50.00	HR	ZOC BARGE1	1.00	175	7,502	8,030	0	0	15,532	310.64
USR AA < > Mechanical Dredge, 5cy capacity					0.02	0.96	2.06	0.00	0.00	3.02	
long-reach excavator	5199.80	M3	CODEB12J	91.75	114	5,005	10,723	0	0	15,728	3.02
TOTAL Mech Dredge (hard clay)	525.07	M2			289	12,507	18,753	0	0	31,260	59.53
TOTAL Mech Dredge (hard clay)	5199.80	M3			289	12,507	18,753	0	0	31,260	6.01

12.13. Inner harbor facilities			QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
12.13. Inner harbor facilities													
12.13.1 . Inner harbor facilities Inner harbor costs provided by AKDOT Coastal Engineer thru CEPOA-EN-CW-HH.													
USR	<	> Floats, driven-down, plus 3 gangways and approach ramps, per AKDOT memo, 26Oct 01.	1.00	LS		0.00	0.00 0	0.00 0	0.00 0	0.00 0	4500000 4,500,000	4500000.00 4,500,000	4500000
USR	<	> Lighting, per AKDOT memo, 26Oct 01.	1.00	LS		0.00	0.00 0	0.00 0	0.00 0	0.00 0	280000.00 280,000	280000.00 280,000	280000.00
		TOTAL Inner harbor facilities	279.00	EA			0	0	0	0	4,780,000	4,780,000	17132.62
		TOTAL Inner harbor facilities	6.56	HEC			0	0	0	0	4,780,000	4,780,000	729110.96

12.14. Provide Hydrographic Surveys	QUANTY UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
12.14. Provide Hydrographic Surveys										
12.14. . Hydro Surveys for Items 2 thru 7										
TOTAL Pre/Post Hydrographic Surveys	2.00 EA			0	0	0	0	18,000	18,000	9000.00
12.14. . . Interim Hydrographic Surveys	** OVERTIME **									
USR AA <02000 > Hydrographic Survey				0.00	0.00	0.00	0.00	8000.00	8000.00	
	1.00 EA		0.00	0	0	0	0	8,000	8,000	8000.00
TOTAL Interim Hydrographic Surveys	1.00 EA			0	0	0	0	8,000	8,000	8000.00
TOTAL Hydro Surveys for Items 2 thru 7				0	0	0	0	26,000	26,000	
TOTAL Provide Hydrographic Surveys				0	0	0	0	26,000	26,000	
TOTAL Navigation Ports & Harbors	6.56 HEC			7,013	305,374	443,589	0	4,806,000	5,554,963	847318.96
TOTAL Alt 4, Haines SBH, Alaska				24,815	1,265,413	1,525,961	5,055,622	5,052,095	12,899,091	

30. Planning, Engineering and Design

	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
TOTAL Planning, Engineering and Design					0	0	0	0	525,000	525,000	
TOTAL Construction Management (S&I)					0	0	0	0	625,000	625,000	

	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
TOTAL Lands and Damages					0	0	0	0	16,667	16,667	

SRC	ITEM ID	DESCRIPTION	NO.	UOM	RATE	**** LABOR **** HOURS	**** LABOR **** COST	**** EQUIP **** HOURS	**** EQUIP **** COST	TOTAL COST
	ACARC14H	3 carpnters + 1 vibrator, concrete			PROD = 100%				CREW HOURS =	3
MIL	B-CARPNTERF	Carpenters	1.00	HR	50.24	1.00	50.24			50.24
MIL	B-CARPNTERL	Carpenters	2.00	HR	49.24	2.00	98.47			98.47
MIL	B-RODMAN L	Rodmen, (Reinforcing)	1.00	HR	54.31	1.00	54.31			54.31
MIL	B-LABORER L	Laborers, (Semi-Skilled)	1.00	HR	42.11	1.00	42.11			42.11
MIL	B-CEMTFINRL	Cement Finishers	1.00	HR	45.31	1.00	45.31			45.31
GEN	XMEZ9520 E	VIBRATOR, CONCRETE	1.00	HR	3.70			1.00	3.70	3.70
	TOTAL					6.00	290.44	1.00	3.70	294.14
	CLABB14	5 laborers + 1 loader, BH, wheel, 0.80 CY FE bkt			PROD = 100%				CREW HOURS =	45
MIL	B-LABORER F	Laborers, (Semi-Skilled)	1.00	HR	43.11	1.00	43.11			43.11
MIL	B-LABORER L	Laborers, (Semi-Skilled)	4.00	HR	42.11	4.00	168.43			168.43
MIL	B-EQOPRLT L	Equip. Operators, Light	1.00	HR	45.57	1.00	45.57			45.57
GEN	L50Z4640 E	LOADER/BH, WH, 0.80 CY (0.6 M3)	1.00	HR	14.15			1.00	14.15	14.15
	TOTAL					6.00	257.11	1.00	14.15	271.25
	CODEB12B	1 eqoprcrn + 1 hydr excavator, crawler, 1.50 CY			PROD = 100%				CREW HOURS =	63
MIL	B-EQOPRCRNL	Equip. Operators, Crane/Shovel	1.00	HR	49.24	1.00	49.24			49.24
MIL	B-EQOPROILL	Equip. Operators, Oilers	1.00	HR	39.07	1.00	39.07			39.07
GEN	H25Z3185 E	HYD EXCV, CRAWELR, 1.50 CY	1.00	HR	64.15			1.00	64.15	64.15
	TOTAL					2.00	88.31	1.00	64.15	152.46
	CODEB12J	1 eqoprcrn + 1 hydr excavator, crawler, 5.75 CY			PROD = 100%				CREW HOURS =	1252
MIL	B-EQOPRCRNL	Equip. Operators, Crane/Shovel	1.00	HR	49.24	1.00	49.24			49.24
MIL	B-EQOPROILL	Equip. Operators, Oilers	1.00	HR	39.07	1.00	39.07			39.07
MIL	H25CA031 E	HYD EXCAV, CRWLR, 5.75 CY BKT,	1.00	HR	189.21			1.00	189.21	189.21
	TOTAL					2.00	88.31	1.00	189.21	277.51
	CODFB10N	1 eqoprmed + 1 loader, F/E, crawler, 1.50 CY			PROD = 100%				CREW HOURS =	127
MIL	B-EQOPRMEDL	Equip. Operators, Medium	1.00	HR	47.16	1.00	47.16			47.16
MIL	B-LABORER L	Laborers, (Semi-Skilled)	0.50	HR	42.11	0.50	21.05			21.05
GEN	L35Z4240 E	LOADER, F/E, CRWLR, 1.50 CY	1.00	HR	30.39			1.00	30.39	30.39
	TOTAL					1.50	68.22	1.00	30.39	98.61
	CODLB6	1 eqoprlt + 1 loader, BH, wheel,0.80 CY F/E bkt			PROD = 100%				CREW HOURS =	56
MIL	B-LABORER L	Laborers, (Semi-Skilled)	2.00	HR	42.11	2.00	84.22			84.22
MIL	B-EQOPRLT L	Equip. Operators, Light	1.00	HR	45.57	1.00	45.57			45.57
GEN	L50Z4640 E	LOADER/BH, WH, 0.80 CY (0.6 M3)	1.00	HR	14.15			1.00	14.15	14.15
	TOTAL					3.00	129.78	1.00	14.15	143.93
	CODTN	1 eqoprmed + 1 Dozer, Cat D-9L, 460 Hp			PROD = 100%				CREW HOURS =	3947
MIL	B-EQOPRCRNL	Equip. Operators, Crane/Shovel	1.00	HR	49.24	1.00	49.24			49.24
MIL	B-EQOPRCRNF	Equip. Operators, Crane/Shovel	0.25	HR	50.24	0.25	12.56			12.56
MIL	T10CA022 E	BLADE, UNIVERSAL, HYDR (FOR D9	1.00	HR	13.24			1.00	13.24	13.24
MIL	T15CA017 E	DOZER,CWLR, D-9N,PS (ADD BLADE	1.00	HR	136.53			1.00	136.53	136.53
	TOTAL					1.25	61.79	2.00	149.77	211.56

SRC	ITEM ID	DESCRIPTION	NO.	UOM	RATE	**** LABOR **** HOURS	**** LABOR **** COST	**** EQUIP **** HOURS	**** EQUIP **** COST	TOTAL COST
	COFCB10A	1 eqoprmed + 1 roller, walk-behind, vib, dbl			PROD = 100%				CREW HOURS =	132
MIL	B-EQOPRMEDL	Equip. Operators, Medium	1.00	HR	47.16	1.00	47.16			47.16
MIL	B-LABORER L	Laborers, (Semi-Skilled)	0.50	HR	42.11	0.50	21.05			21.05
GEN	C10Z1440 E	ROLLER,WALK-BHND DBL DRUM 29.5"	1.00	HR	8.82			1.00	8.82	8.82
	TOTAL					1.50	68.22	1.00	8.82	77.03
	COFCB18	3 laborers + 1 compactor, vibroplate, 21" x 24"			PROD = 100%				CREW HOURS =	20
MIL	B-LABORER F	Laborers, (Semi-Skilled)	1.00	HR	43.11	1.00	43.11			43.11
MIL	B-LABORER L	Laborers, (Semi-Skilled)	2.00	HR	42.11	2.00	84.22			84.22
GEN	C10Z1400 E	COMPACTOR, VIBROPLATE, 21"X24"P	1.00	HR	1.50			1.00	1.50	1.50
	TOTAL					3.00	127.33	1.00	1.50	128.83
	COKBB45	1 eqoprmed + 1 asphalt distributor, 3,000 gal			PROD = 100%				CREW HOURS =	19
MIL	B-EQOPRMEDL	Equip. Operators, Medium	1.00	HR	47.16	1.00	47.16			47.16
MIL	B-TRKDVRHVL	Truck Drivers, Heavy	1.00	HR	48.09	1.00	48.09			48.09
GEN	A25Z0580 E	ASPHALT DISTR,3000 GAL(11355L)	1.00	HR	16.60			1.00	16.60	16.60
GEN	T50Z7580 E	TRUCK, 40,000 - 45,000 (18 144	1.00	HR	33.37			1.00	33.37	33.37
	TOTAL					2.00	95.25	2.00	49.98	145.23
	CTDHB34C	1 trkdvrhv + 1 trailer, dump, 17 CY			PROD = 100%				CREW HOURS =	4633
MIL	B-TRKDVRHVL	Truck Drivers, Heavy	1.00	HR	48.09	1.00	48.09			48.09
GEN	T50Z7420 E	TRUCK, 40,000 - 45,000 (18 144	1.00	HR	35.03			1.00	35.03	35.03
GEN	T45Z7080 E	TRAILER, END DUMP,17 CY (13 M3)	1.00	HR	5.22			1.00	5.22	5.22
	TOTAL					1.00	48.09	2.00	40.25	88.34
	ZOC BARGE1	Tug and flat barge			PROD = 100%				CREW HOURS =	1245
MIL	M10SM021 E	INLAND TUG, 44' X 14', 1000HP,	1.00	HR	138.56			1.00	138.56	138.56
NON	XX0XX006 E	DREDGE BARGE, 500 TO 800 TON	1.00	HR	22.03			1.00	22.03	22.03
MIL	X-EQOPRMEDL	Outside Equip. Operators, Mediu	1.00	HR	47.54	1.00	47.54			47.54
MIL	X-DIVERTEDF	Outside Divers Tenders	1.00	HR	59.05	1.00	59.05			59.05
MIL	X-LABORER L	Outside Laborers, (Semi-Skilled	1.00	HR	37.93	1.00	37.93			37.93
FOP	FE-KITCH L	Kitchen Chiefs & Cooks	0.50	HR	11.04	0.50	5.52			5.52
	TOTAL					3.50	150.04	2.00	160.59	310.64
	ZOC DREDG1	150T Floating Mech Dredge, 5CY Bucket & Tug			PROD = 100%				CREW HOURS =	224
USR *	XX0XX001 E	150ton Floating Crane 290hp W/2	1.00	HR	193.18			1.00	193.18	193.18
USR *	M10SM008 E	BOAT, 19' RSTABOUT,TRIHULL,2600	1.00	HR	31.92			1.00	31.92	31.92
USR *	H20SK002 E	HOIST, DOUBLE DRUM W/ 7/8" CABL	2.00	HR	40.08			2.00	80.16	80.16
USR *	G10KH003 S	GEN SET, 5.0 KW, PORTABLE	2.00	HR	2.18			2.00	4.36	4.36
USR *	XMIXX020 E	Small Tools	1.00	HR	1.57			1.00	1.57	1.57
USR	B25ES032 S	BKT,CLAM, 5.00CY, HVYDTY/SQ NOS	1.00	HR	14.55			1.00	14.55	14.55
MIL	X-LABORER L	Outside Laborers, (Semi-Skilled	1.00	HR	37.93	1.00	37.93			37.93
MIL	X-EQOPRHVYL	Outside Equip. Operators, Heavy	1.00	HR	49.24	1.00	49.24			49.24
MIL	X-EQOPRMEDL	Outside Equip. Operators, Mediu	1.00	HR	47.54	1.00	47.54			47.54
MIL	X-EQOPROILL	Outside Equip. Oilers	1.00	HR	39.28	1.00	39.28			39.28
MIL	X-EQOPRLT L	Marine Deck Engineer	1.00	HR	53.19	1.00	53.19			53.19

SRC	ITEM ID	DESCRIPTION	NO.	UOM	RATE	**** LABOR **** HOURS	**** LABOR **** COST	**** EQUIP **** HOURS	**** EQUIP **** COST	TOTAL COST
MIL	X-LABORER L	Marine Deck Hand	2.00	HR	37.93	2.00	75.87			75.87
MIL	M10SM021 E	INLAND TUG, 44' X 14',	1.00	HR	138.56			1.00	138.56	138.56
MIL	X-ELECTRN L	Tug Boat Captain	1.00	HR	70.45	1.00	70.45			70.45
GEN	XX0Z9760 E	DREDGE BARGE, 100 - 400 TON	1.00	HR	14.84			1.00	14.84	14.84
	TOTAL					8.00	373.49	10.00	479.14	852.64
*	ZOC EXCAV4	5.75 Cy Hydr. Excavator Long Reach + 3 Lab			PROD = 100%				CREW HOURS = 1383	
MIL	B-EQOPRCRNL	Equip. Operators, Crane/Shovel	1.00	HR	49.24	1.00	49.24			49.24
MIL	B-LABORER L	Laborers, (Semi-Skilled)	2.00	HR	42.11	2.00	84.22			84.22
MIL	B-LABORER F	Laborers, (Semi-Skilled)	1.00	HR	43.11	1.00	43.11			43.11
MIL	H25CA031 E	HYD EXCAV, CRWLR, 5.75 CY BKT,	1.00	HR	189.21			1.00	189.21	189.21
	TOTAL					4.00	176.56	1.00	189.21	365.77

SRC	LABOR ID	DESCRIPTION	BASE	OVERTM	TXS/INS	FRNG	TRVL	RATE	UOM	UPDATE	**** TOTAL **** DEFAULT	HOURS
MIL	B-CARPNTER	Carpenter (added 10% more)	29.81	0.0%	25.9%	11.70	0.00	49.24	HR	01/24/02	31.68	10
MIL	B-CEMTFINR	Cement Finishers (10% more)	29.11	0.0%	25.9%	8.65	0.00	45.31	HR	06/06/02	28.47	3
MIL	B-EQOPRCRN	Equip. Operators, Crane/Shovel	32.55	0.0%	22.1%	9.49	0.00	49.24	HR	01/23/02	32.62	7632
MIL	B-EQOPRLT	Equip. Operators, Light	29.71	0.0%	21.4%	9.49	0.00	45.57	HR	01/23/02	28.51	101
MIL	B-EQOPRMED	Equip. Operators, Medium	31.05	0.0%	21.3%	9.49	0.00	47.16	HR	01/23/02	30.27	278
MIL	B-EQOPROIL	Equip. Operators, Oilers	24.29	0.0%	21.8%	9.49	0.00	39.07	HR	01/23/02	24.69	1315
MIL	B-LABORER	Laborers, (Semi-Skilled)	24.94	0.0%	32.0%	9.20	0.00	42.11	HR	01/23/02	23.81	4682
MIL	B-RODMAN	Rodmen, (Reinforcing)	27.50	0.0%	49.9%	13.10	0.00	54.31	HR	01/24/02	36.56	3
MIL	B-TRKDVRHV	Truck Drivers, Heavy	31.65	0.0%	22.8%	9.22	0.00	48.09	HR	01/24/02	24.66	4652
FOP	FE-KITCH	Kitchen Chiefs & Cooks	8.36	0.0%	21.4%	0.89	0.00	11.04	HR	01/01/96	11.04	623
MIL	X-DIVERTED	Outside Divers Tenders	28.40	0.0%	63.6%	11.60	0.00	58.05	HR	01/24/02	37.48	1245
MIL	X-ELECTRN	Outside Electricians (added 10%	36.96	0.0%	49.9%	15.06	0.00	70.45	HR	06/07/02	33.43	224
MIL	X-EQOPRHVY	Outside Equip. Operators, Heavy	32.55	0.0%	22.1%	9.49	0.00	49.24	HR	01/24/02	31.93	224
MIL	X-EQOPRLT	Outside Equip. Operators, Light	30.34	0.0%	44.0%	9.49	0.00	53.19	HR	01/24/02	28.22	224
MIL	X-EQOPRMED	Outside Equip. Operators, Medium	31.05	0.0%	22.5%	9.49	0.00	47.54	HR	01/24/02	30.68	1469
MIL	X-EQOPROIL	Outside Equip. Oilers	24.29	0.0%	22.7%	9.49	0.00	39.28	HR	01/24/02	24.82	224
MIL	X-LABORER	Outside Laborers, (Semi-Skilled)	25.69	0.0%	11.8%	9.20	0.00	37.93	HR	01/24/02	24.50	1918

SRC	ID.NO.	EQUIPMENT DESCRIPTION	DEPR	FCCM	FUEL	FOG	TR WR	TR REP	EQ REP	TOTAL RATE	TOTAL HOURS
GEN	A25Z0580	ASPHALT DISTR,3000 GAL(11355L)	5.56	1.78		1.80			7.47	16.60 HR	19
MIL	B25ES032	BKT,CLAM, 5.00CY, HVYDTY/SQ NOSE	4.70	1.68					4.87	11.26 HR	224
GEN	C10Z1400	COMPACTOR, VIBROPLATE, 21" X 24"	0.27	0.06	0.47	0.15			0.56	1.50 HR	20
GEN	C10Z1440	ROLLER,WALK-BHND DBL DRUM 29.5"	2.55	0.52	0.37	0.11			5.26	8.82 HR	132
MIL	G10KH003	GENERATOR, 5.0 KW, 120/240V,PORT	0.16	0.05	1.03	0.31			0.14	1.69 HR	449
MIL	H20SK002	HOIST, DOUBLE DRUM W/0.88" CABLE	12.92	4.61	4.86	1.45			16.25	40.08 HR	449
MIL	H25CA031	HYD EXCAV, CRWLR, 5.75 CY BKT,	49.83	24.42	19.07	5.67			90.21	189.21 HR	2635
GEN	H25Z3185	HYD EXCV, CRAWELR, 1.50 CY	18.91	7.44	9.22	4.35			24.24	64.15 HR	63
GEN	L35Z4240	LOADER, F/E, CRWLR, 1.50 CY	6.65	2.62	4.74	2.23			14.15	30.39 HR	127
GEN	L50Z4640	LOADER/BH, WH, 0.80 CY (0.6 M3),	3.15	1.46	3.16	1.25	0.70	0.13	4.30	14.15 HR	101
MIL	M10SM008	BOAT, 19' RSTABOUT,TRIHULL,2600#	2.32	0.98	18.76	7.44			2.40	31.92 HR	224
MIL	M10SM021	INLAND TUG, 44' X 14', 1000HP,	20.23	13.94	52.65	24.81			26.93	138.56 HR	1469
MAP	T10CA022	BLADE, UNIVERSAL, HYDR, D-9	4.90	1.93		0.19			6.23	13.24 HR	3947
MAP	T15CA017	DOZER,CWLR, D-9N,PS	36.96	14.54	19.48	6.76			58.79	136.53 HR	3947
GEN	T45Z7080	TRAILER, END DUMP,17 CY (13 M3)	1.88	0.76			0.63	0.12	1.84	5.22 HR	4633
GEN	T50Z7420	TRUCK, 40,000 - 45,000 (18 144 -	9.27	3.00	9.46	3.29	0.44	0.08	9.49	35.03 HR	4633
GEN	T50Z7580	TRUCK, 40,000 - 45,000 (18 144 -	7.77	2.66	9.46	3.29	1.81	0.34	8.05	33.37 HR	19
GEN	XMEZ9520	VIBRATOR, CONCRETE	1.04	0.16	0.69	0.48			1.33	3.70 HR	3
NON	XMIXX020	SMALL TOOLS	0.50	0.22	0.16	0.07			0.63	1.57 HR	224
NON	XX0XX001	FLOATING CRANE, 150T, 250FT BOOM	64.50	23.00	18.19	7.94			79.55	193.18 HR	224
NON	XX0XX006	DREDGE BARGE, 500 TO 800 TON	7.36	2.63	2.08	0.90			9.07	22.03 HR	1245
GEN	XX0Z9760	DREDGE BARGE, 100 - 400 TON	4.96	1.76	1.40	0.61			6.11	14.84 HR	224

No errors detected...

* * * END OF ERROR REPORT * * *

Haines SBH Mitigation
Haines. Alaska
UPC=HNS001
** FEASIBILITY CWE **
Y:\CIV\SBH\HNS001\PSP\HNS003

Designed By: Alaska District Corp. Of Eng.
Estimated By: CENPA-EN-CE

Prepared By: AL ARRUDA / FRANK J. ANTOLIN
753-5672

Preparation Date: 02/12/02
Effective Date of Pricing: 03/01/02
Est Construction Time: 10 Days

Sales Tax: 0.0%

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SUMMARY REPORTS SUMMARY PAGE

PROJECT OWNER SUMMARY - Facility.....1
PROJECT OWNER SUMMARY - SUB.....2
PROJECT INDIRECT SUMMARY - Facility.....3
PROJECT INDIRECT SUMMARY - SUB.....4
PROJECT DIRECT SUMMARY - Facility.....5
PROJECT DIRECT SUMMARY - SUB.....7

DETAILED ESTIMATE DETAIL PAGE

01. Mob, Demob & Preparatory Work
5. Mob/Demob Complete.....1
30. Planning, Engineering and Design
31. Construction Management (S&I)
_1. Lands and Damages
_6. F & W Facilities - Mitigation
1. Comstock Rd.....4
2. Haines Hwy / Eagle's Nest Motel.....8

BACKUP REPORTS BACKUP PAGE

CREW BACKUP.....1
LABOR BACKUP.....6
EQUIPMENT BACKUP.....7

* * * END TABLE OF CONTENTS * * *

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
01 Mob, Demob & Preparatory Work							
01. 5 Mob/Demob Complete			14,800	0	3,000	17,800	
TOTAL Mob, Demob & Preparatory Work			14,800	0	3,000	17,800	
_1 Lands and Damages							
_6 F & W Facilities - Mitigation							
_6. 1 Comstock Rd.			33,100	0	6,600	39,800	
_6. 2 Haines Hwy / Eagle's Nest Motel			2,500	0	500	3,000	
TOTAL F & W Facilities - Mitigation			35,600	0	7,100	42,800	

		QUANTITY UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
01	Mob, Demob & Preparatory Work						
01. 5	Mob/Demob Complete						
01. 5.1	Mob, Demob & Preparatory Work		12,700	0	2,500	15,300	
01. 5.2	Revise Submittals	1.00 EA	2,100	0	400	2,500	2530.92
	TOTAL Mob/Demob Complete		14,800	0	3,000	17,800	
_1	Lands and Damages						
_6	F & W Facilities - Mitigation						
_6. 1	Comstock Rd.						
_6. 1. 5	Excavate/Remove CMP	57.91 M	6,100	0	1,200	7,300	126.06
_6. 1. 10	Furnish/Install CMP	30.48 M	20,000	0	4,000	24,100	789.36
_6. 1. 15	Repave	185.81 M2	4,700	0	900	5,600	30.32
_6. 1. 20	Regrade stream channel	30.48 M	400	0	100	400	13.90
_6. 1. 25	B Rock - Channel Lining	45.11 M3	2,000	0	400	2,400	52.35
	TOTAL Comstock Rd.		33,100	0	6,600	39,800	
_6. 2	Haines Hwy / Eagle's Nest Motel						
_6. 2. 5	Excavate/remove Conc Blk debris	25.23 M3	400	0	100	500	17.85
_6. 2. 10	Excavate/remove Silt	64.99 M3	700	0	100	800	12.78
_6. 2. 15	Streambank Restoration	110.00 M2	800	0	200	1,000	8.71
_6. 2. 20	Seeding	74.97 M2	600	0	100	800	10.08
	TOTAL Haines Hwy / Eagle's Nest Motel		2,500	0	500	3,000	

** PROJECT INDIRECT SUMMARY - Facility (Rounded to 100's) **

	QUANTITY UOM	DIRECT	OVERHEAD	HOMEOFF	PROFIT	BOND	Est Cont	TOTAL COST	UNIT COST
01 Mob, Demob & Preparatory Work									
01. 5 Mob/Demob Complete		9,800	1,000	400	800	300	2,500	14,800	
TOTAL Mob, Demob & Preparatory Work		9,800	1,000	400	800	300	2,500	14,800	
Const Cont	20.00 %							3,000	
TOTAL INCL OWNER COSTS								17,800	
_1 Lands and Damages									
_6 F & W Facilities - Mitigation									
_6. 1 Comstock Rd.		22,000	2,200	1,000	1,800	700	5,500	33,100	
_6. 2 Haines Hwy / Eagle's Nest Motel		1,700	200	100	100	100	400	2,500	
TOTAL F & W Facilities - Mitigation		23,600	2,400	1,000	2,000	700	5,900	35,600	
Const Cont	20.00 %							7,100	
TOTAL INCL OWNER COSTS								42,800	

		QUANTITY UOM	DIRECT	OVERHEAD	HOMEOFF	PROFIT	BOND	Est Cont	TOTAL COST	UNIT COST
01	Mob, Demob & Preparatory Work									
01. 5	Mob/Demob Complete									
01. 5.1	Mob, Demob & Preparatory Work		8,400	800	400	700	300	2,100	12,700	
01. 5.2	Revise Submittals	1.00 EA	1,400	100	100	100	0	400	2,100	2109.10
	TOTAL Mob/Demob Complete		9,800	1,000	400	800	300	2,500	14,800	
	Const Cont	20.00 %							3,000	
	TOTAL INCL OWNER COSTS								17,800	
_1	Lands and Damages									
_6	F & W Facilities - Mitigation									
_6. 1	Comstock Rd.									
_6. 1. 5	Excavate/Remove CMP	57.91 M	4,000	400	200	300	100	1,000	6,100	105.05
_6. 1. 10	Furnish/Install CMP	30.48 M	13,300	1,300	600	1,100	400	3,300	20,000	657.80
_6. 1. 15	Repave	185.81 M2	3,100	300	100	300	100	800	4,700	25.27
_6. 1. 20	Regrade stream channel	30.48 M	200	0	0	0	0	100	400	11.58
_6. 1. 25	B Rock - Channel Lining	45.11 M3	1,300	100	100	100	0	300	2,000	43.62
	TOTAL Comstock Rd.		22,000	2,200	1,000	1,800	700	5,500	33,100	
	Const Cont	20.00 %							6,600	
	TOTAL INCL OWNER COSTS								39,800	
_6. 2	Haines Hwy / Eagle's Nest Motel									
_6. 2. 5	Excavate/remove Conc Blk debris	25.23 M3	200	0	0	0	0	100	400	14.88
_6. 2. 10	Excavate/remove Silt	64.99 M3	500	0	0	0	0	100	700	10.65
_6. 2. 15	Streambank Restoration	110.00 M2	500	100	0	0	0	100	800	7.26
_6. 2. 20	Seeding	74.97 M2	400	0	0	0	0	100	600	8.40
	TOTAL Haines Hwy / Eagle's Nest Motel		1,700	200	100	100	100	400	2,500	
	Const Cont	20.00 %							500	
	TOTAL INCL OWNER COSTS								3,000	

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
01 Mob, Demob & Preparatory Work									
01. 5 Mob/Demob Complete			200	5,900	3,800	0	200	9,800	
TOTAL Mob, Demob & Preparatory Work			200	5,900	3,800	0	200	9,800	
OVERHEAD	10.00	%						1,000	
SUBTOTAL								10,800	
HOME OFC	4.00	%						400	
SUBTOTAL								11,300	
PROFIT	7.30	%						800	
SUBTOTAL								12,100	
BOND	2.50	%						300	
SUBTOTAL								12,400	
EST CONT	20.00	%						2,500	
TOTAL INCL INDIRECTS								14,800	
Const Cont	20.00	%						3,000	
TOTAL INCL OWNER COSTS								17,800	
_1 Lands and Damages									
_6 F & W Facilities - Mitigation									
_6. 1 Comstock Rd.			200	8,900	2,400	10,700	0	22,000	
_6. 2 Haines Hwy / Eagle's Nest Motel			0	700	300	600	0	1,700	
TOTAL F & W Facilities - Mitigation			200	9,600	2,700	11,300	0	23,600	
OVERHEAD	10.00	%						2,400	
SUBTOTAL								26,000	
HOME OFC	4.00	%						1,000	
SUBTOTAL								27,000	
PROFIT	7.30	%						2,000	
SUBTOTAL								29,000	
BOND	2.50	%						700	
SUBTOTAL								29,700	
EST CONT	20.00	%						5,900	
TOTAL INCL INDIRECTS								35,600	

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
Const Cont	20.00	%						7,100	
TOTAL INCL OWNER COSTS								42,800	

		QUANTITY	UOM	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
01	Mob, Demob & Preparatory Work									
01. 5	Mob/Demob Complete									
01. 5.1	Mob, Demob & Preparatory Work			100	4,600	3,800	0	0	8,400	
01. 5.2	Revise Submittals	1.00	EA	100	1,200	0	0	200	1,400	1396.90
	TOTAL Mob/Demob Complete			200	5,900	3,800	0	200	9,800	
	OVERHEAD	10.00	%						1,000	
	SUBTOTAL								10,800	
	HOME OFC	4.00	%						400	
	SUBTOTAL								11,300	
	PROFIT	7.30	%						800	
	SUBTOTAL								12,100	
	BOND	2.50	%						300	
	SUBTOTAL								12,400	
	EST CONT	20.00	%						2,500	
	TOTAL INCL INDIRECTS								14,800	
	Const Cont	20.00	%						3,000	
	TOTAL INCL OWNER COSTS								17,800	
_1	Lands and Damages									
_6	F & W Facilities - Mitigation									
_6. 1	Comstock Rd.									
_6. 1. 5	Excavate/Remove CMP	57.91	M	100	3,400	600	0	0	4,000	69.58
_6. 1. 10	Furnish/Install CMP	30.48	M	100	4,400	1,100	7,700	0	13,300	435.67
_6. 1. 15	Repave	185.81	M2	0	700	300	2,100	0	3,100	16.74
_6. 1. 20	Regrade stream channel	30.48	M	0	200	100	0	0	200	7.67
_6. 1. 25	B Rock - Channel Lining	45.11	M3	0	200	200	900	0	1,300	28.89
	TOTAL Comstock Rd.			200	8,900	2,400	10,700	0	22,000	
	OVERHEAD	10.00	%						2,200	
	SUBTOTAL								24,200	
	HOME OFC	4.00	%						1,000	
	SUBTOTAL								25,100	
	PROFIT	7.30	%						1,800	

		QUANTITY	UOM	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
	SUBTOTAL								27,000	
	BOND	2.50	%						700	
	SUBTOTAL								27,600	
	EST CONT	20.00	%						5,500	
	TOTAL INCL INDIRECTS								33,100	
	Const Cont	20.00	%						6,600	
	TOTAL INCL OWNER COSTS								39,800	
_6. 2	Haines Hwy / Eagle's Nest Motel									
_6. 2. 5	Excavate/remove Conc Blk debris	25.23	M3	0	100	100	0	0	200	9.85
_6. 2. 10	Excavate/remove Silt	64.99	M3	0	300	200	0	0	500	7.05
_6. 2. 15	Streambank Restoration	110.00	M2	0	300	0	200	0	500	4.81
_6. 2. 20	Seeding	74.97	M2	0	0	0	400	0	400	5.56
	TOTAL Haines Hwy / Eagle's Nest Motel			0	700	300	600	0	1,700	
	OVERHEAD	10.00	%						200	
	SUBTOTAL								1,800	
	HOME OFC	4.00	%						100	
	SUBTOTAL								1,900	
	PROFIT	7.30	%						100	
	SUBTOTAL								2,000	
	BOND	2.50	%						100	
	SUBTOTAL								2,100	
	EST CONT	20.00	%						400	
	TOTAL INCL INDIRECTS								2,500	
	Const Cont	20.00	%						500	
	TOTAL INCL OWNER COSTS								3,000	

** CONTRACTOR SETTINGS **

		AMOUNT	PCT	PCT S	RISK	DIFF	SIZE	PERIOD	INVEST	ASSIST	SUBCON
AA General/Prime											
OVERHEAD	P		10.00								
HOME OFC	P		4.00								
PROFIT	C		7.30		0.090	0.090	0.040	0.120	0.080	0.120	0.030
BOND	C			(Class: B)							
EST CONT	P		20.00								

01. 5. Mob/Demob Complete	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
01. Mob, Demob & Preparatory Work											
01. 5. Mob/Demob Complete											
01. 5.1 . Mob, Demob & Preparatory Work (USER)											
USR AA <01910 > Equipment Setup and Take Down 1					7.00	306.76	102.73	0.00	0.00	409.49	
Days @ 8 Hr/day	8.00	HRS	CLABB60	1.00	56	2,454	822	0	0	3,276	409.49
USR AA <01910 > Establish Survey Controls					3.50	53.10	6.22	0.00	0.00	59.32	
	10.00	HRS	ZHO S	1.00	35	531	62	0	0	593	59.32
USR AA <01910 > Material Handling					1.30	55.04	0.00	0.00	0.00	55.04	
	18.75	HRS	ULABA	1.00	24	1,032	0	0	0	1,032	55.04
USR AA <01910 > Travel Time 4 Men 4 Hrs RD TP					1.00	37.93	0.00	0.00	0.00	37.93	
	16.00	HRS	XLABA	1.00	16	607	0	0	0	607	37.93
MIL AA < > TRK,HWY, 6,250GVW,4X4, 1/2T-PKUP					0.00	0.00	9.06	0.00	0.00	9.06	
	16.00	HR	T50FO002	1.00	0	0	145	0	0	145	9.06
GEN AA < > DOZER, CRWLR, 341-440 HP					0.00	0.00	126.76	0.00	0.00	126.76	
(255-328 KW), PS (W/ U BLADE)	16.00	HR	T15Z6600	1.00	0	0	2,028	0	0	2,028	126.76
MIL AA < > HYD EXCAV, CRWLR, 1.50 CY BKT,					0.00	0.00	47.25	0.00	0.00	47.25	
MASS BOOM	16.00	HR	H25CA024	1.00	0	0	756	0	0	756	47.25
TOTAL Mob, Demob & Preparatory Work					131	4,624	3,813	0	0	8,437	
01. 5.2 . Revise Submittals (USER)											
Includes personnel, equipment, and supplies to produce all QC reports, QC inspections, and all other contract quality requirements.											
USR AA < > Prepare Work Plan, Sect 02220,					56.02	1431.53	0.00	0.00	0.00	1431.53	
par 1.3	0.10	EA	ZHO C	0.04	6	143	0	0	0	143	1431.53
USR AA < > Prepare CQC Plan, Sect 01451,					41.07	1049.40	0.00	0.00	0.00	1049.40	
par 1.3	0.10	EA	ZHO C	0.05	4	105	0	0	0	105	1049.40
USR AA < > Prepare SAP Plan including FSP					80.00	2044.22	0.00	0.00	0.00	2044.22	
and QAPP, Sect 02112, par 1.3	0.10	EA	ZHO C	0.03	8	204	0	0	0	204	2044.22
USR AA < > Prepare SSSHP Plan, Sect 02112,					47.96	1225.55	0.00	0.00	0.00	1225.55	
par 1.3	0.10	EA	ZHO C	0.04	5	123	0	0	0	123	1225.55
USR AA < > Prepare SWPPP Plan Including NOI					69.93	1786.91	0.00	0.00	0.00	1786.91	
and NOT, Sect 01356, par 1.3	0.10	EA	ZHO C	0.03	7	179	0	0	0	179	1786.91
USR AA < > Prepare List & Misc. Submittals,					47.96	1225.55	0.00	0.00	0.00	1225.55	
Section 01330	0.10	EA	ZHO C	0.04	5	123	0	0	0	123	1225.55

01. 5. Mob/Demob Complete	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
USR AA < > Prepare Notices &					80.00	2044.22	0.00	0.00	0.00	2044.22	
Certifications, Section 01330	0.10	EA	ZHO C	0.03	8	204	0	0	0	204	2044.22
USR AA < > Prepare As-Built Drawings, Sect					98.04	1487.42	174.23	0.00	0.00	1661.65	
01720, par 1.4	0.10	EA	ZHO S	0.04	10	149	17	0	0	166	1661.65
USR AA < > CPM Computer Schedule Develop					0.00	0.00	0.00	0.00	1500.00	1500.00	
	0.10	LS	N/A	0.00	0	0	0	0	150	150	1500.00
TOTAL Revise Submittals	1.00	EA			52	1,229	17	0	150	1,397	1396.90
TOTAL Mob/Demob Complete					183	5,854	3,830	0	150	9,834	
TOTAL Mob, Demob & Preparatory Work					183	5,854	3,830	0	150	9,834	

	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
TOTAL Planning, Engineering and Design					0	0	0	0	0	0	
TOTAL Construction Management (S&I)					0	0	0	0	0	0	

	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
TOTAL Lands and Damages					0	0	0	0	0	0	

_6. F & W Facilities - Mitigation
_6. 1. Comstock Rd.

_6. 1. 5. Excavate/Remove CMP (USER) ** OVERTIME **
Assume existing 610mm (24 inch) dia CMP @ 3m (10') depth to invert to be remove and replaced.
Assume 90lf buried below road embankment and 100lf buried just below grade.
Assume 80lf of road crosscut, 4sm/lm (20 sf/lf) of 75mm (3 inch) ACC pavement and 150mm (6 inch)
road base course above, and 7cm/lm (4.7 cy/lf) classified soil trenching.

M RSM AA <02069 0010 > Saw cutting, asphalt, up to 3" deep	36.58	M	COELB89	40.01	0.05 2	2.31 85	0.61 22	1.03 38	0.00 0	3.95 145	3.95
MIL AA <02046 1710 > Site dml, bituminous, pavement removal, roads, 3" thick	148.65	M2	CLADB38	72.12	0.07 10	3.05 454	1.28 190	0.00 0	0.00 0	4.33 644	4.33
MIL AA <02228 0324 > Excavate trench, hvy soil, 4'-6' D, 1 CY excavator	315.76	M3	CODEB12A	79.52	0.03 8	1.11 351	0.72 227	0.00 0	0.00 0	1.83 578	1.83
M MIL AA <02764 2620 > Remove Piping, storm drain, 14 ga, CMP, galv, 20' lengths, 24"	57.91	M	CLABB14	6.67	0.90 52	38.56 2,233	2.12 123	0.00 0	0.00 0	40.68 2,356	40.68
MIL AA <02053 3080 > Rubbish handling,2 mile haul, loading & trucking,machine loading truck	15.29	M3	COEIB17	11.47	0.35 5	15.51 237	4.56 70	0.00 0	0.00 0	20.07 307	20.07
TOTAL Excavate/Remove CMP	57.91	M			77	3,359	632	38	0	4,029	69.58

_6. 1. 10. Furnish/Install CMP (USER) ** OVERTIME **
Assume new 1524mm (60 inch) dia CMP @ 3m (10') depth to invert to be remove and replaced.
Assume 90lf buried below road embankment.
ssume 80lf of road base and paving, 4sm/lm (20 sf/lf) of 75mm (3 inch) ACC pavement and 150mm (6 inch) road base course above, and 7cm/lm (4.1 cy/lf) classified soil backfill.
Assume 100lf channel excavation just below grade.

MIL AA <02232 0225 > Excavate & load, wheeled loader, 1.5 CY, medium matl	7.65	M3	CODFB10S	61.17	0.02 0	1.12 9	0.44 3	0.00 0	0.00 0	1.55 12	1.55
MIL AA <02232 0225 > Excavate & load, wheeled loader, 1.5 CY, medium matl	7.65	M3	CODFB10S	61.17	0.02 0	1.12 9	0.44 3	0.00 0	0.00 0	1.55 12	1.55
M MIL AA <02764 2220 > Piping, storm drain,60" dia, 20'L,10ga, CMP, bitum ctd w/paved invert	30.48	M	UOEHB13B	2.86	2.45 75	104.93 3,198	30.69 936	252.15 7,685	0.00 0	387.77 11,819	387.77

_6. 1. Comstock Rd.			QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
MIL AA <02216 5530 >		Backfill, strl, 6" lifts, w/loader, no compaction, around foundation	242.37	M3	CODFB10N	53.52	0.03 7	1.27 309	0.57 138	0.00 0	0.00 0	1.84 447	1.84
MIL AA <02220 8720 >		Compaction, by hand, around structures & trenches, air tamper	13.00	M3	CODTB11B	61.17	0.03 0	1.46 19	1.74 23	0.00 0	0.00 0	3.20 42	3.20
MIL AA <02220 8900 >		Compaction, structural/trench, by hand w/air tamp, 6" lift	229.37	M3	ULABB9	53.52	0.09 21	3.95 907	0.18 41	0.00 0	0.00 0	4.13 948	4.13
	TOTAL	Furnish/Install CMP	30.48	M			104	4,450	1,144	7,685	0	13,279	435.67
_6. 1. 15. Repave (USER)			** OVERTIME **										
M MIL AA <02505 0854 >		Asphaltic conc pavement, highway, wearing course, 3" thick	33.57	MT	COKCB25B	90.72	0.13 4	5.80 195	1.91 64	37.73 1,266	0.00 0	45.44 1,525	45.44
M AF AA <02244 1530 >		Base course, gravel, bank run, 6" deep, large areas	28.29	M3	COFGB36B	79.80	0.10 3	4.56 129	3.39 96	27.56 780	0.00 0	35.51 1,005	35.51
MIL AA <02512 0020 >		Fine grade, for roadway, base or leveling course	185.81	M2	COFGB11L	142.14	0.01 3	0.63 117	0.25 47	0.00 0	0.00 0	0.88 164	0.88
MIL AA <02243 0010 >		Base, prepare & roll sub-base, small areas to 2500 SY	185.81	M2	COFGB32A	156.78	0.02 4	0.87 162	0.53 98	0.00 0	0.00 0	1.40 260	1.40
MIL AA <02512 0200 >		Fine grade, grade subgrade for base course, roadways	185.81	M2	COFGB11L	365.81	0.01 1	0.24 45	0.10 18	0.00 0	0.00 0	0.34 64	0.34
MIL AA <02220 8800 >		Compaction, structural/trench, by hand, 1 ton roller, 6" lift	28.29	M3	COFCB18	45.87	0.07 2	2.78 79	0.03 1	0.00 0	0.00 0	2.81 79	2.81
M MIL AA <02580 0010 >		Lines on pvmt, acrylic waterborne, white or yellow, 4" wide	15.24	M	CLABB78	762.00	0.01 0	0.34 5	0.05 1	0.45 7	0.00 0	0.85 13	0.85
	TOTAL	Repave	185.81	M2			16	731	325	2,053	0	3,110	16.74
_6. 1. 20. Regrade stream channel (USER)			** OVERTIME **										
MIL AA <02224 7040 >		Excavating, bulk, dozer, 75 HP, small area, open site, rough grade	76.46	M3	CODTB10L	95.57	0.02 1	0.71 55	0.31 23	0.00 0	0.00 0	1.02 78	1.02

_6. 1. Comstock Rd.		QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
MIL AA <02224 7100 >	Excavating, bulk, dozer, small					0.03	1.43	0.61	0.00	0.00	2.04	
	area, open site, shaping w/small dozer	76.46	M3	CODTB10L	47.79	2	109	47	0	0	156	2.04
TOTAL	Regrade stream channel	30.48	M			4	164	70	0	0	234	7.67

_6. 1. 25. B Rock - Channel Lining

_6. 1. 25.2 . 'B' Rock - Commercial Quarry
Purchase rock and truck to site, 190#-1890#. B rock $10.00/cy, Load/haul

$4.50/cy, TOTAL $14.50/cy. QUOTE: B rock $10.00/cy, Truck
$4.50/cy, Southeast Roadbuilders & Quarry, Haines, 907-766-2833, 7 Jan 02.
AA AA

TOTAL	'B' Rock - Commercial Quarry	65.00	LCY			0	0	0	943	0	943	14.50

_6. 1. 25._7. Place 'B' Stone - Land (ZOC EXCAV2) ** OVERTIME **
160,600 M3 (210,060 cy) x 1.9Ton/cy = 339,108Ton x 1.1 overplace = 439,020Ton

Assume breakwater construction in less than 20ft depth of water.
Assume Core rock placement on land-connected BW by truck end-dump, dozer spread and backhoe dress up.
Assume 'B' rock placement by end-dump, dozer push and backhoe spread/dress up.
Assume 'A' rock placement by truck delivery, backhoe placement and floating crane dress up.

USR AA <02900 9001 >	Core Placement: D9 dozer.					1.25	71.68	138.79	0.00	0.00	210.47	
	Assume dozer spread time equals time to truck dump.	0.79	HR	CODTN	1.00	1	56	109	0	0	166	210.47
L USR AA <02900 9001 >	30% Dress Slope: Backhoe,					0.04	2.13	1.81	0.00	0.04	3.98	
		30.55	MT	ZOC EXCAV4	95.71	1	65	55	0	1	122	3.98
L MIL AA <02234 0610 >	Hauling, hwy haulers, 16.5 CY,					0.02	0.88	0.60	0.00	0.00	1.48	
	Back down BW and end dump. Assume truck load/haul of material from quarry source to site/stage is covered under material cost and occurs just in time (no stockpiling or reloading).	49.70	M3	CTDHB34C	63.08	1	44	30	0	0	74	1.48

Stage for backing 1.5min
Backup 720LF @3ft/sec 4.0min

_6. 1. Comstock Rd.	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
Dump/place load 1.5min											
Return 720LF @4ft/sec 3.0min											
Total truck cycle time 10.0min											
Productivity:											
1cycle/10min x 50/hr =											
5.0cycle/hr											
16.5lcy/cycle x 5.0cycle/hr =											
82.5 lcy/hr											
TOTAL Place 'B' Stone - Land	65.00	LCY		3	165	194	0	1	361	5.55	
TOTAL B Rock - Channel Lining	45.11	M3		3	165	194	943	1	1,303	28.89	
TOTAL Comstock Rd.				204	8,870	2,366	10,719	1	21,955		

_6. 2. Haines Hwy / Eagle's Nest Motel	QUANTY	UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
_6. 2. Haines Hwy / Eagle's Nest Motel											
_6. 2. 5. Excavate/remove Conc Blk debris	** OVERTIME **										
MIL AA <02232 0130 > Excavate & load, hydr excavator, 1.5 CY, blasted rock	25.23	M3	CODEB12B	28.67	0.07 2	3.08 78	2.24 56	0.00 0	0.00 0	5.32 134	5.32
MIL AA <02234 0545 > Hauling, hwy haulers, 12 CY, 6 mi round trip @ 40 MPH (2.1 cyc/hr)	27.52	M3	COEIB34B	20.55	0.05 1	2.34 64	1.82 50	0.00 0	0.00 0	4.16 114	4.16
TOTAL Excavate/remove Conc Blk debris	25.23	M3			3	142	107	0	0	249	9.85
_6. 2. 10. Excavate/remove Silt	** OVERTIME **										
MIL AA <02232 0125 > Excavate & load, hydr excavator, 1.5 CY, wet matl	64.99	M3	CODEB12B	62.12	0.03 2	1.42 92	1.03 67	0.00 0	0.00 0	2.45 160	2.45
MIL AA <02234 0545 > Hauling, hwy haulers, 12 CY, 6 mi round trip @ 40 MPH (2.1 cyc/hr)	71.87	M3	COEIB34B	20.55	0.05 3	2.34 168	1.82 131	0.00 0	0.00 0	4.16 299	4.16
TOTAL Excavate/remove Silt	64.99	M3			6	261	198	0	0	458	7.05
_6. 2. 15. Streambank Restoration (USER)	** OVERTIME **										
M RSM AA <02950 0400 > Ground cover & vines, bare root, planting only, 1 year	296.00	EA	ULABB1	112.50	0.03 8	1.13 335	0.00 0	0.66 194	0.00 0	1.79 529	1.79
TOTAL Streambank Restoration	110.00	M2			8	335	0	194	0	529	4.81
_6. 2. 20. Seeding (USER)	** OVERTIME **										
M MIL AA <02932 0300 > Seeding, athletic field mix, mechanical seeding, 50#/MSY	74.97	M2	COELB66	870.98	0.00 0	0.05 4	0.02 1	5.42 407	0.00 0	5.50 412	5.50
M AF AA <02932 7020 > Seeding, apply fertilizer, 1# nitrogen/MSF, spray from truck	74.97	M2	COFWB59	3251.63	0.00 0	0.02 1	0.02 1	0.04 3	0.00 0	0.07 5	0.07
TOTAL Seeding	74.97	M2			0	5	3	409	0	417	5.56
TOTAL Haines Hwy / Eagle's Nest Motel					17	743	307	603	0	1,653	
TOTAL F & W Facilities - Mitigation					221	9,612	2,673	11,322	1	23,608	
TOTAL Haines SBH Mitigation					404	15,466	6,503	11,322	151	33,442	