



**SUMMARY**

DESCRIPTION	TOTAL
ALTERNATIVE ABCE-1 (SR 105 Between Shafer Rd. & Salt Air Shores)	\$85,000
ALTERNATIVE ABCE-MOD (SR 105 Between Shafer Rd. & Salt Air Shores)	\$474,000
ALTERNATIVE I-1-MOD (Cohasset Dunes Area)	\$76,000
ALTERNATIVE I-2-MOD (Cohasset Dunes Area)	\$64,000
ALTERNATIVE K1-1 (Ponding on SE Corner of SR 105 & Chehalis)	\$16,000
ALTERNATIVE K1-1 SUB OPTION (1) (Ponding on SE Corner of SR 105 & Chehalis)	\$20,000
ALTERNATIVE K2-1 (Ponding at NW Corner of SR 105 & Chehalis)	\$11,000
ALTERNATIVE K2-2/K1-2 (Ponding at SR 105 & Chehalis)	\$23,000
ALTERNATIVE K2-2/K1-2 SUB OPTION (1) (Ponding at SR 105 & Chehalis)	\$28,000
ALTERNATIVE L-1 SUB OPTION (a) (233 Chehalis Street)	\$20,000
ALTERNATIVE L-1 SUB OPTIONS (a) & (b)	\$23,000
ALTERNATIVE L-1 SUB OPTIONS (a) & (b) & (c)	\$42,000
ALTERNATIVE L-2 (233 Chehalis Street)	\$25,000
ALTERNATIVE O-1 (SR 105 Between Chehalis & Shafer Rd.)	\$47,000
ALTERNATIVE R-1 SUB OPTION (a) (1814 S. Olympia)	\$16,000
ALTERNATIVE R-1 SUB OPTION (a) & (b)	\$25,000
ALTERNATIVE R-1 SUB OPTION (a) & (b) & (c)	\$44,000
ALTERNATIVE R-2 (1814 S. Olympia)	\$31,000
ALTERNATIVE X-1 (Apple Maggot Ditch)	\$9,000
ALTERNATIVE X-2 (Apple Maggot Ditch)	\$6,000
ALTERNATIVE N-1 (Main Ditch, South of Newell) [Not in Proj. Area]	\$7,000
ALTERNATIVE N-2 (Main Ditch, South of Newell) [Not in Proj. Area]	\$14,000
ALTERNATIVE O-1 (Newell Ave. Culvert Replacement) [Not in Proj. Area]	\$16,000
ALTERNATIVE O-2 (Newell Ave. Bridge) [Not in Proj. Area]	\$68,000

combined

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "ABCE"

DATE: 05/02/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
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ALTERNATIVE ABCE-1 (SR 105 Between Shafer Rd. & Salt Air Shores)

Elevate "E" Fill Volume	224	CY	15		\$3,360 25' top w; qty per T. Platin
Elevate "C1" & "C2" Fill Volume	328	CY	15		\$4,920 30' top w; qty per T. Platin
Elevate "B" Fill Volume	328	CY	15		\$4,920 30' top w; qty per T. Platin
Elevate "A" Fill Volume	328	CY	15		\$4,920 30' top w; qty per T. Platin
Surface Restoration ACP "E"	59	TN	60		\$3,563 Paved Rural Road 25' w x 125'L; 347sy
Surface Restoration ACP "C1" & "C2"	86	TN	60		\$5,130 Paved Rural Road 30' w x 150'L; 500sy
Surface Restoration ACP "B"	86	TN	60		\$5,130 Paved Rural Road 30' w x 150'L; 500sy
Surface Restoration ACP "A"	86	TN	60		\$5,130 Paved Rural Road 30' w x 150'L; 500sy
Surface Restoration Side Slopes of Road (RAISED)	1,583	SY	0.50		\$792 Vegetate to Low Grasses; 375' L TOT;asm 25'w disturb area
Surface Restoration Side Slopes of Road (TAPERED)	689	SY	0.50		\$344 Vegetate to Low Grasses; 200' L TOT;asm 25'w disturb area
Flaggers	1	LS	3840.00		\$3,840 Rural 2-Lane Hwy, 4 locations;2flgrs82day/ea*4places@ \$30/hr

SUBTOTAL ALTERNATIVE ABCE-1					\$42,049
ALLOWANCE	10%				\$4,205
SUBTOTAL					\$46,253
CONTINGENCY	30%				\$13,876
SUBTOTAL					\$60,130
MOBILIZATION	10%				\$6,013
CONSTRUCTION TOTAL ALTERNATIVE ABCE-1					\$66,142
ENGINEERING	15%				\$9,921
CONSTRUCTION MANAGEMENT	5%				\$3,307
SALES TAX	8%				\$5,225
PROJECT TOTAL ALTERNATIVE ABCE-1 (ROUNDED)					\$85,000

NOTE: The above cost opinion is in March 1997 dollars and does not include escalation, financing or O&M costs. In addition, there are not costs included for the mitigation or remediation associated with the potential discovery of hazardous materials. The Order of Magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of the estimate. The final costs of the project will depend on actual labor and material

GRAYS HARBOR COUNTY  
SOUTH COASTAL FHRP  
ORDER OF MAGNITUDE COST ESTIMATE  
LOCATION "ABCE"

DATE: 05/02/97  
PROJECT NO.: 106788.PP.ZZ  
ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
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costs, actual site conditions, productivity, competitive market conditions, final project scope, final schedule and other variable factors. As a result, the final project costs will vary from the estimate presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "ABCE-MOD"

DATE: 05/12/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
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ALTERNATIVE ABCE-MOD (SR 105 Between Shafer Rd. & Salt Air Shores)

CHANNEL A

Construct 1 Culvert - Install 12" Diam. RCP	60	LF	18.10		\$966 Assoc. = \$12.10/lf mt'l+\$4/lf lbr(\$200/hr crew@400lf/day=)
Excavation	36	CY	3		\$107
Bed & Zone	12	CY	20		\$243
Backfill	22	CY	4		\$87
Waste	14	CY	3		\$42
Surface Restoration Road	29	TN	60		\$1,710 Paved Rural Road 25' w x 60'L; 167sy
Clean Existing Ditch	3,800	SY	1		\$3,800 9' w(slopes)*3800'l/8=
Surface Restoration Channel	14,356	SY	0.5		\$7,178 Revegetate to Low Grasses; asm 25'w disturb area
Type 1 Catch Basin	4	EA	1,000		\$4,000

CHANNEL BCE

Construct 14 Culverts - Install 21" Diam. RCP	280	LF	24.70		\$6,916 Assoc. = \$19.40/lf mt'l+\$5.33/lf lbr(\$200/hr crew@300lf/day=)
Excavation	263	CY	3		\$789
Bed & Zone	85	CY	20		\$1,692
Backfill	154	CY	4		\$614
Waste	110	CY	3		\$329
Surface Restoration Gravel Driveways	16	CY	25.00		\$389 Restore Driveways
Construct Trapezoidal Ditch	3,306	CY	8		\$26,444 7000' l; 4' bottom w
Surface Restoration Ditch	36,664	SY	0.5		\$18,332 Revegetate to Low Grasses; asm 25'w disturb area
Construct 4 Culvert - Install 12" Diam. RCP	160	LF	18.10		\$2,576 Assoc. = \$12.10/lf mt'l+\$4/lf lbr(\$200/hr crew@400lf/day=)
Excavation	95	CY	3		\$284
Bed & Zone	32	CY	20		\$648
Backfill	58	CY	4		\$231
Waste	37	CY	3		\$111
Construct Trapezoidal Ditch	1,133	CY	8		\$9,067 2400' l; 4' bottom w
Surface Restoration Ditch	12,571	SY	0.5		\$6,285 Revegetate to Low Grasses; asm 25'w disturb area
Construct 2 Culverts - Install 21" Diam. RCP	80	LF	24.70		\$1,976 Assoc. = \$19.40/lf mt'l+\$5.33/lf lbr(\$200/hr crew@300lf/day=)
Excavation	75	CY	3		\$226
Bed & Zone	24	CY	20		\$483
Backfill	44	CY	4		\$176
Waste	31	CY	3		\$94
Surface Restoration Road	38	TN	60		\$2,280 Paved Rural Road 25' w x 60'L; 142sy
Construct 3 Culverts - Install Double 21" Diam. RCP	120	LF	24.70		\$2,964 Assoc. = \$19.40/lf mt'l+\$5.33/lf lbr(\$200/hr crew@300lf/day=)
Excavation	154	CY	3		\$463

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "ABCE-MOD"

DATE: 05/12/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
Bed & Zone	58	CY	20	\$1,158	
Backfill	88	CY	4	\$343	
Waste	69	CY	3	\$206	
Surface Restoration Gravel Driveways	9	CY	25.00	\$222	Restore Driveways
Install 30" Diam. RCP Beneath Ridge	1,300	LF	50.40	\$65,520	Assoc. = \$44.00/lf mt'+\$6.40/lf lbr(\$200/hr crew@250lf/day=)
Excavation	6,404	CY	3	\$19,211	
Bed & Zone	534	CY	20	\$10,680	
Backfill	5,833	CY	4	\$22,533	
Waste	770	CY	3	\$2,311	
Surface Restoration Paved Lot	137	TN	60	\$8,208	Paved Lot 24' w x 300'L; 800sy
Surface Restoration Ridge	7,078	SY	0.5	\$3,539	Revegetate to Low Grasses; asm 25'w disturb area
<b>SUBTOTAL ALTERNATIVE ABCE-MOD</b>				<b>\$235,434</b>	
<b>ALLOWANCE</b>	10%			<b>\$23,543</b>	
<b>SUBTOTAL</b>				<b>\$258,978</b>	
<b>CONTINGENCY</b>	30%			<b>\$77,693</b>	
<b>SUBTOTAL</b>				<b>\$336,671</b>	
<b>MOBILIZATION</b>	10%			<b>\$33,667</b>	
<b>CONSTRUCTION TOTAL ALTERNATIVE ABCE-MOD</b>				<b>\$370,338</b>	
<b>ENGINEERING</b>	15%			<b>\$55,551</b>	
<b>CONSTRUCTION MANAGEMENT</b>	5%			<b>\$18,517</b>	
<b>SALES TAX</b>	8%			<b>\$29,257</b>	
<b>PROJECT TOTAL ALTERNATIVE ABCE-MOD (ROUNDED)</b>				<b>\$474,000</b>	

NOTE: The above cost opinion is in April 1997 dollars and does not include escalation, financing or O&M costs. In addition, there are not costs included for the mitigation or remediation associated with the potential discovery of hazardous materials.

The Order of Magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of the estimate. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope, final schedule and other variable factors. As a result, the final project costs will vary from the estimate presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "I-MOD"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chepple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>ALTERNATIVE I-1-MOD (Cohasset Dunes Area)</b>					
Construct Ditch - Excavation & Waste	139	CY	8	\$1,111	750' L, 1' h' 3:1 sl
Surface Restoration Ditch	3,137	SY	0.50	\$1,569	Vegetate to Low Grasses; restore surrounding area as needed; asm
Construct Culvert - Install 12" Diam. RCP	51	LF	18.10	\$821	#1=15' L, #2 = 2' 18' L; Assoc. = \$12.10/lf mt'+\$4/lf lbr(\$200/hr crew
Excavation	30	CY	3	\$91	
Bed & Zone	10	CY	20	\$208	
Backfill	18	CY	4	\$74	
Waste	12	CY	3	\$35	
Surface Restoration Road	24	TN	60	\$1,457	Paved Rural Road 25' w x 51' L; 142sy
Construct 3 Culverts - Install 15" Diam. RCP	60	LF	17.80	\$1,068	Assoc. = \$13.80/lf mt'+\$4/lf lbr(\$200/hr crew@400lf/day=)
Excavation	42	CY	3	\$128	
Bed & Zone	14	CY	20	\$282	
Backfill	25	CY	4	\$101	
Waste	17	CY	3	\$50	
Surface Restoration Gravel Driveways	3	CY	25.00	\$83	Restore Driveways
Construct Trapezoidal Channel	235	CY	8	\$1,878	650' l
Surface Restoration Channel	2,947	SY	0.5	\$1,474	Revegetate to Low Grasses; asm 25'w disturb area
Construct Trapezoidal Channel	178	CY	8	\$1,428	550' l
Surface Restoration Channel	2,494	SY	0.5	\$1,247	Revegetate to Low Grasses; asm 25'w disturb area
Pump	1	EA	5,000	\$5,000	115 gpm w/ housing unit; guess per DAH
12" HDPE Pipe	800	LF	17	\$13,408	2' cover in sand; Pipe book \$11.43 matl+300/day@200/hr
Excavation	281	CY	3	\$844	
Bed & Zone	182	CY	20	\$3,238	
Backfill	98	CY	4	\$385	
Waste	185	CY	3	\$556	
Type 1 Catch Basin	1	EA	1,000	\$1,000	
<b>SUBTOTAL ALTERNATIVE I-1-MOD</b>				<b>\$37,530</b>	
ALLOWANCE	10%			\$3,753	
<b>SUBTOTAL</b>				<b>\$41,283</b>	
CONTINGENCY	30%			\$12,385	
<b>SUBTOTAL</b>				<b>\$53,667</b>	
MOBILIZATION	10%			\$5,367	
<b>CONSTRUCTION TOTAL ALTERNATIVE I-1-MOD</b>				<b>\$59,034</b>	
ENGINEERING	15%			\$8,855	

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "I-MOD"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
CONSTRUCTION MANAGEMENT	5%			\$2,952	
SALES TAX	8%			\$4,664	
<b>PROJECT TOTAL ALTERNATIVE I-1-MOD (ROUNDED)</b>				<b>\$76,000</b>	
<b>ALTERNATIVE I-2-MOD (Cohasset Dunes Area)</b>					
Construct 3 Culverts - Install 15" Diam. RCP	60	LF	17.80	\$1,068	Assoc. = \$13.80/ft mt'l + \$4/ft lbr(\$200/hr crew @ 400ft/day=)
Excavation	42	CY	3	\$126	
Bed & Zone	14	CY	20	\$282	
Backfill	25	CY	4	\$101	
Waste	17	CY	3	\$50	
Surface Restoration Gravel Driveways	3	CY	25.00	\$83	Restore Driveways
Elevate Grey Gull Lane	958	CY	15	\$14,375	18' top w, 28' bot w; 750' l
Surface Restoration Road GRAVEL	250	CY	25	\$6,250	Gravel Rural Road 18' w x 750'L* 6" th
Surface Restoration Side Slopes of Road	2,833	SY	0.50	\$1,417	Vegetate to Low Grasses; restore surrounding area as needed; as n
Elevate Cohasset Dunes Lane West	344	CY	15	\$5,167	11' top w, 20' bot w; 400' l
Surface Restoration Road GRAVEL	81	CY	25	\$2,037	Gravel Rural Road 18' w x 750'L* 6" th
Surface Restoration Side Slopes of Road	1,511	SY	0.50	\$756	Vegetate to Low Grasses; restore surrounding area as needed; as n
<b>SUBTOTAL ALTERNATIVE I-2-MOD</b>				<b>\$31,711</b>	
ALLOWANCE	10%			\$3,171	
<b>SUBTOTAL</b>				<b>\$34,882</b>	
CONTINGENCY	30%			\$10,465	
<b>SUBTOTAL</b>				<b>\$45,346</b>	
MOBILIZATION	10%			\$4,535	
<b>CONSTRUCTION TOTAL ALTERNATIVE I-2-MOD</b>				<b>\$49,881</b>	
ENGINEERING	15%			\$7,482	
CONSTRUCTION MANAGEMENT	5%			\$2,494	
SALES TAX	8%			\$3,941	
<b>PROJECT TOTAL ALTERNATIVE I-2-MOD (ROUNDED)</b>				<b>\$64,000</b>	

NOTE: The above cost opinion is in April 1997 dollars and does not include escalation, financing or O&M costs. In addition, there are not costs included for the mitigation or



GRAYS HARBOR COUNTY  
SOUTH COASTAL FHRP  
ORDER OF MAGNITUDE COST ESTIMATE  
LOCATION "I-MOD"

DATE: 05/01/97  
PROJECT NO.: 106786.PP.ZZ  
ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
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remediation associated with the potential discovery of hazardous materials.  
The Order of Magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of the estimate. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope, final schedule and other variable factors. As a result, the final project costs will vary from the estimate presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "K"

DATE: 05/01/97  
 PROJECT NO.: 106788.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
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ALTERNATIVE K1-1 (Ponding on SE Corner of SR 105 & Chehalls)

Install 18" RCP	50	LF	\$20.10		\$1,005 Associated = \$15.50/lf mt'l+\$4.60/lf lbr(\$200/hr crew@350lf/day=)
Excavation	41	CY	3		\$122
Bed & Zone	13	CY	20		\$268
Backfill	24	CY	4		\$96
Waste	17	CY	3		\$50
Surface Restoration Road	24	TN	60		\$1,426 Paved Rural Road 25' w x 45' on diagonal; 139sy
Clear and Grub	2,444	SY	1		\$2,444 25' wide x long
Excavate/Upgrade Existing Channel	20	CY	8		\$163 2'x1'x550'l Triangle
Surface Restoration Channel	2,301	SY	0.5		\$1,150 Revegetate to Low Grasses; asm 25'w disturb area
Construct Trapezoidal Ditch	61	CY	8		\$489 330' L
Surface Restoration Ditch	1,380	SY	0.5		\$690 Vegetate to Low Grasses; restore surrounding area as needed; asm

<b>SUBTOTAL ALTERNATIVE K1-1</b>					<b>\$7,904</b>
ALLOWANCE	10%				\$790
<b>SUBTOTAL</b>					<b>\$8,695</b>
CONTINGENCY	30%				\$2,608
<b>SUBTOTAL</b>					<b>\$11,303</b>
MOBILIZATION	10%				\$1,130
<b>CONSTRUCTION TOTAL ALTERNATIVE K1-1</b>					<b>\$12,434</b>
ENGINEERING	15%				\$1,865
CONSTRUCTION MANAGEMENT	5%				\$622
SALES TAX	7.9%				\$982
<b>PROJECT TOTAL ALTERNATIVE K1-1 (ROUNDED)</b>					<b>\$16,000</b>

ALTERNATIVE K1-1 SUB OPTION (1) (Ponding on SE Corner of SR 105 & Chehalls)

Install 18" RCP	50	LF	\$20.10		\$1,005 Associated = \$15.50/lf mt'l+\$4.60/lf lbr(\$200/hr crew@350lf/day=)
Excavation	41	CY	3		\$122
Bed & Zone	13	CY	20		\$268
Backfill	24	CY	4		\$96
Waste	17	CY	3		\$50
Surface Restoration Road	24	TN	60		\$1,426 Paved Rural Road 25' w x 45' on diagonal; 139 sy
Clear and Grub	3,667	SY	1		\$3,667 25' wide x long
Excavate/Upgrade Existing Channel	20	CY	8		\$163 2'x1'x550'l Triangle
Surface Restoration Channel	2,036	SY	0.5		\$1,018 Revegetate to Low Grasses; asm 25'w disturb area

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "K"

DATE: 05/01/97  
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 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
Construct Trapezoidal Ditch	143	CY	8	\$1,141	770' L
Surface Restoration Ditch	3,221	SY	0.5	\$1,611	Vegetate to Low Grasses; restore surrounding area as needed; asn
<b>SUBTOTAL ALTERNATIVE K1-1 SUB OPTION (1)</b>				<b>\$10,567</b>	
ALLOWANCE	10%			\$1,057	
<b>SUBTOTAL</b>				<b>\$11,623</b>	
CONTINGENCY	30%			\$3,487	
<b>SUBTOTAL</b>				<b>\$15,110</b>	
MOBILIZATION	10%			\$1,511	
<b>CONSTRUCTION TOTAL ALTERNATIVE K1-1 SUB OPTION (1)</b>				<b>\$16,621</b>	
ENGINEERING	15%			\$1,865	
CONSTRUCTION MANAGEMENT	5%			\$622	
SALES TAX	7.9%			\$982	
<b>PROJECT TOTAL ALTERNATIVE K1-1 SUB OPTION (1) (ROUNDED)</b>				<b>\$20,000</b>	

**ALTERNATIVE K2-1 (Ponding at NW Corner of SR 105 & Chehalls)**

Install 15" RCP	40	LF	\$18	\$720	Associated = \$13.40/lf mt'l+\$4.60/lf lbr(\$200/hr crew @ 350lf/day)
Excavation	28	CY	3	\$84	
Bed & Zone	9	CY	20	\$188	
Backfill	17	CY	4	\$67	
Waste	11	CY	3	\$34	
Surface Restoration Road	19	TN	60	\$1,139	Paved Rural Road 25' w x 40'; 111 sy
Clear and Grub	1,111	SY	1	\$1,111	25' wide x long
Construct Trapezoidal Ditch	74	CY	8	\$593	400' L, 8' top w, 1' dp 3:1 sl
Surface Restoration Ditch	1,673	SY	0.5	\$837	Vegetate to Low Grasses; restore surrounding area as needed; asn

<b>SUBTOTAL ALTERNATIVE K2-1</b>				<b>\$4,771</b>	
ALLOWANCE	10%			\$477	
<b>SUBTOTAL</b>				<b>\$5,249</b>	
CONTINGENCY	30%			\$1,575	
<b>SUBTOTAL</b>				<b>\$6,823</b>	
MOBILIZATION	10%			\$682	

GRAYS HARBOR COUNTY  
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 LOCATION "K"

DATE: 05/01/97  
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 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>CONSTRUCTION TOTAL ALTERNATIVE K2-1</b>				<b>\$7,506</b>	
ENGINEERING	15%			\$1,865	
CONSTRUCTION MANAGEMENT	5%			\$622	
SALES TAX	7.9%			\$982	
<b>PROJECT TOTAL ALTERNATIVE K2-1 (ROUNDED)</b>				<b>\$11,000</b>	
<b>ALTERNATIVE K2-2/K1-2 (Ponding at SR 105 &amp; Chehalls)</b>					
Install 21" RCP	140	LF	\$23.45	\$3,283	Associated = \$18.10/ft mt'+\$5.35/ft lbr(\$200/hr crew@300ft/day=)
Excavation	132	CY	3	\$395	
Bed & Zone	42	CY	20	\$846	
Backfill	77	CY	4	\$307	
Waste	55	CY	3	\$164	
Surface Restoration Road	67	TN	60	\$3,991	Paved Rural Road 25' w x 80'; 389 sy
Clear and Grub	2,444	SY	1	\$2,444	25' wide x long
Construct Trapezoidal Ditch	61	CY	8	\$489	330', 8' top w, 1' dp 3:1 sl
Surface Restoration Ditch	1,380	SY	0.5	\$690	Vegetate to Low Grasses; restore surrounding area as needed; asn
Excavate Existing Channel	20	CY	3	\$60	550'Lx2'bot w, 6' top w 2:1 sl, 1' dp
Surface Restoration Existing Channel	2,036	SY	0.5	\$1,018	Seeding; asn 25'w disturb area
<b>SUBTOTAL ALTERNATIVE K2-2/K1-2</b>				<b>\$10,000</b>	
ALLOWANCE	10%			\$1,000	
<b>SUBTOTAL</b>				<b>\$11,000</b>	
CONTINGENCY	30%			\$3,300	
<b>SUBTOTAL</b>				<b>\$14,300</b>	
MOBILIZATION	10%			\$1,430	
<b>CONSTRUCTION TOTAL ALTERNATIVE K2-2/K1-2</b>				<b>\$20,000</b>	
ENGINEERING	15%			\$1,865	
CONSTRUCTION MANAGEMENT	5%			\$622	
SALES TAX	7.9%			\$982	
<b>PROJECT TOTAL ALTERNATIVE K2-2/K1-2 (ROUNDED)</b>				<b>\$23,000</b>	

ALTERNATIVE K2-2/K1-2 SUB OPTION (1) (Ponding at SR 105 & Chehalls)

IF ALT X NOT IMPLEMENTED USE THIS SUB OPTION

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "K"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
Install 21" RCP	140	LF	\$23.45	\$3,283	Associated = \$18.10/lf mt'+\$5.35/lf lbr(\$200/hr crew@300lf/day=)
Excavation	132	CY	3	\$395	
Bed & Zone	42	CY	20	\$846	
Backfill	77	CY	4	\$307	
Waste	55	CY	3	\$164	
Surface Restoration Road	67	TN	60	\$3,991	Paved Rural Road 25' w x 80' on diagonal; 389 sq
Clear and Grub	3,667	SY	1	\$3,667	25' wide x long
Construct Trapezoidal Ditch	129	CY	8	\$1,032	770' l; 8' top w, 1' dp 3:1 sl
Surface Restoration Ditch	1,380	SY	0.5	\$690	Vegetate to Low Grasses; restore surrounding area as needed; asn
Excavate Existing Channel	20	CY	3	\$60	550'Lx2'bot w, 8' top w 2:1 sl, 1' dp
Surface Restoration Existing Channel	2,038	SY	0.5	\$1,018	Seeding; asn 25'w disturb area
<b>SUBTOTAL ALTERNATIVE K2-2/K1-2 SUB OPTION (1)</b>				<b>\$15,453</b>	
ALLOWANCE	10%			\$1,545	
<b>SUBTOTAL</b>				<b>\$16,999</b>	
CONTINGENCY	30%			\$5,100	
<b>SUBTOTAL</b>				<b>\$22,098</b>	
MOBILIZATION	10%			\$2,210	
<b>CONSTRUCTION TOTAL ALTERNATIVE K2-2/K1-2 SUB OPTION (1)</b>				<b>\$24,308</b>	
ENGINEERING	15%			\$1,865	
CONSTRUCTION MANAGEMENT	5%			\$622	
SALES TAX	7.9%			\$982	
<b>PROJECT TOTAL ALTERNATIVE K2-2/K1-2 SUB OPTION (1) (ROUNDED)</b>				<b>\$28,000</b>	

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GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "L"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
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ALTERNATIVE L-1 SUB OPTION (a) (233 Chehalis Street)

Berm	110	CY	15	\$1,650	200' L 2'top w 11'bot w; Qty T. Platin; Imp. soil @ \$10+5 to place
Surface Restoration	977	SY	0.60	\$489	Vegetate Berm with low grasses; asm 25' disturbed area
Clear and Grub	556	SY	1	\$556	25' wide x long
Sump Pump	1	EA	6,400	\$6,400	Install small sump pump in property owners yard; 1200 for cb+20'
8" Drain Line - Including Earthwork	30	LF	24	\$720	Drain Line to ditch; include exc/bf/bz&waste in unit cost \$3/diam l

SUBTOTAL ALTERNATIVE L-1 SUB OPTION (a)				\$9,814
ALLOWANCE	10%			\$981
SUBTOTAL				\$10,796
CONTINGENCY	30%			\$3,239
SUBTOTAL				\$14,034
MOBILIZATION	10%			\$1,403
CONSTRUCTION TOTAL ALTERNATIVE L-1 SUB OPTION (a)				\$15,438
ENGINEERING	15%			\$2,316
CONSTRUCTION MANAGEMENT	5%			\$772
SALES TAX	7.9%			\$1,220
PROJECT TOTAL ALTERNATIVE L-1 SUB OPTION (a) (ROUNDED)				\$20,000

ALTERNATIVE L-1 SUB OPTION (b) (Channel Improvements)

Clean and Regrade Existing Channel	1,113	SY	0.50	\$556	280'L, 4'bot w 15'top w
Excavation	10	CY	8	\$83	Avg. of 3" from bottom 280' l
Surface Restoration	1,890	SY	0.50	\$945	Low grasses; asm 25' disturbed area

SUBTOTAL ALTERNATIVE L-1 SUB OPTION (b)				\$1,584
ALLOWANCE	10%			\$158
SUBTOTAL				\$1,743
CONTINGENCY	30%			\$523
SUBTOTAL				\$2,266
MOBILIZATION	10%			\$227
CONSTRUCTION TOTAL ALTERNATIVE L-1 SUB OPTION (b)				\$2,492
ENGINEERING	15%			\$374

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "L"

DATE: 05/01/97  
 PROJECT NO.: 106788.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
CONSTRUCTION MANAGEMENT	5%			\$125	
SALES TAX	7.9%			\$197	
<b>PROJECT TOTAL ALTERNATIVE L-1 SUB OPTION (b) (ROUNDED)</b>				<b>\$3,000</b>	
<b>ALTERNATIVE L-1 SUB OPTION (c) (Culvert Improvements)</b>					
Remove Existing 24" CMP	100	LF	5	\$500	2 @ 50'
Excavation	148	CY	3	\$443	
Bed & Zone	44	CY	20	\$874	
Backfill	83	CY	4	\$333	
Waste	139	CY	3	\$417	
Clear and Grub	167	SY	1	\$167	30' wide x long
Replace with New 32" RCP	100	LF	46	\$4,590	Associated = \$39.50/ft mt'l + \$6.40/ft lbr (\$200/hr crew @ 250ft/day=)
Surface Restoration Rural Road	38	TN	60	\$2,278	Restore 40' w rural pave road; 222 sy
<b>SUBTOTAL ALTERNATIVE L-1 SUB OPTION (c)</b>				<b>\$9,602</b>	
ALLOWANCE	10%			\$960	
<b>SUBTOTAL</b>				<b>\$10,562</b>	
CONTINGENCY	30%			\$3,169	
<b>SUBTOTAL</b>				<b>\$13,731</b>	
MOBILIZATION	10%			\$1,373	
<b>CONSTRUCTION TOTAL ALTERNATIVE L-1 SUB OPTION (c)</b>				<b>\$15,104</b>	
ENGINEERING	15%			\$2,266	
CONSTRUCTION MANAGEMENT	5%			\$755	
SALES TAX	7.9%			\$1,193	
<b>PROJECT TOTAL ALTERNATIVE L-1 SUB OPTION (c) (ROUNDED)</b>				<b>\$19,000</b>	
<b>ALTERNATIVE L-2 (233 Chehalis Street)</b>					
Cinder-Block Facing on Exposed Sides (or wood)	480	SF	\$2	\$15,360	POTENTIAL PERMITTING ISSUES \$15,360 or Wood Facing; 120' perm x 4' h; see detail
<b>SUBTOTAL ALTERNATIVE L-2</b>				<b>\$15,360</b>	

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "L"

DATE: 05/01/97  
 PROJECT NO.: 106788.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
ALLOWANCE	10%			\$1,536	
<b>SUBTOTAL</b>				<b>\$16,896</b>	
CONTINGENCY	10%			\$1,690	
<b>SUBTOTAL</b>				<b>\$18,586</b>	
MOBILIZATION	10%			\$1,859	
<b>CONSTRUCTION TOTAL ALTERNATIVE L-2</b>				<b>\$20,444</b>	
ENGINEERING	10%			\$2,044	
CONSTRUCTION MANAGEMENT	5%			\$1,022	
SALES TAX	7.9%			\$1,615	
<b>PROJECT TOTAL ALTERNATIVE L-2 (ROUNDED)</b>				<b>\$25,000</b>	

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GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "N"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>ALTERNATIVE N-1 (Main Ditch, South of Newell)</b>					
Excavation & Regrading Trapezoidal Ditch	385	CY	4	\$1,540	1' dp apx 18' w + 4'x3'x650'
Surface Restoration	3,743	SY	0.50	\$1,872	Complete Rest. of channel sides to low grasses; asm 25' disturbed
<b>SUBTOTAL ALTERNATIVE N-1</b>				<b>\$3,412</b>	
ALLOWANCE	10%			\$341	
<b>SUBTOTAL</b>				<b>\$3,753</b>	
CONTINGENCY	30%			\$1,126	
<b>SUBTOTAL</b>				<b>\$4,879</b>	
MOBILIZATION	10%			\$488	
<b>CONSTRUCTION TOTAL ALTERNATIVE N-1</b>				<b>\$5,367</b>	
ENGINEERING	15%			\$805	
CONSTRUCTION MANAGEMENT	5%			\$268	
SALES TAX	7.9%			\$424	
<b>PROJECT TOTAL ALTERNATIVE N-1 (ROUNDED)</b>				<b>\$7,000</b>	
<b>ALTERNATIVE N-2 (Main Ditch, South of Newell)</b>					
Berms	333	CY	15	\$5,000	3'top w 1.5' h 3:1 sl 400'; Imp. soil @\$10+5 to place
Surface Restoration	4,311	SY	0.5	\$2,156	Surface stabilization with low grasses; asm 25' disturbed area
<b>SUBTOTAL ALTERNATIVE N-2</b>				<b>\$7,156</b>	
ALLOWANCE	10%			\$716	
<b>SUBTOTAL</b>				<b>\$7,871</b>	
CONTINGENCY	30%			\$2,361	
<b>SUBTOTAL</b>				<b>\$10,232</b>	
MOBILIZATION	10%			\$1,023	
<b>CONSTRUCTION TOTAL ALTERNATIVE N-2</b>				<b>\$11,256</b>	
ENGINEERING	15%			\$1,688	
CONSTRUCTION MANAGEMENT	5%			\$563	
SALES TAX	7.9%			\$889	
<b>PROJECT TOTAL ALTERNATIVE N-2 (ROUNDED)</b>				<b>\$14,000</b>	

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GRAYS HARBOR COUNTY  
SOUTH COASTAL FHRP  
ORDER OF MAGNITUDE COST ESTIMATE  
LOCATION "N"

DATE: 05/01/97  
PROJECT NO.: 106786.PP.ZZ  
ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
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GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "O"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>ALTERNATIVE O-1 (Newell Ave. Culvert Replacement)</b>					
Remove Culvert (30"x41") & Fill)	1	LS	1,000		\$1,000 2*38"L (non-destructive methods)
Reinstall (30"x41") Same Culverts	1	LS	1,200		\$1,200 Labor only 4hrs @ \$300/hr
Bed & Zone	83	CY	20		\$1,657
Backfill	152	CY	4		\$607
Waste	52	CY	3		\$157
Regrade Channel Upstream & Downstream	104	CY	5		\$519 u/s and d/s of culverts
Surface Restoration Channel	3,407	SY	0.50		\$1,703 700'l, 8'bot w, 1.5:1 sl
Surface Restoration Road	15	TN	60		\$913 ACP 20' w x 40' L; 89
<b>SUBTOTAL ALTERNATIVE O-1</b>				<b>\$7,756</b>	
ALLOWANCE	10%			<u>\$776</u>	
<b>SUBTOTAL</b>				<b>\$8,532</b>	
CONTINGENCY	30%			<u>\$2,559</u>	
<b>SUBTOTAL</b>				<b>\$11,091</b>	
MOBILIZATION	10%			<u>\$1,109</u>	
<b>CONSTRUCTION TOTAL ALTERNATIVE O-1</b>				<b>\$12,200</b>	
ENGINEERING	15%			\$1,830	
CONSTRUCTION MANAGEMENT	5%			\$610	
SALES TAX	7.9%			<u>\$964</u>	
<b>PROJECT TOTAL ALTERNATIVE O-1 (ROUNDED)</b>				<b>\$16,000</b>	

<b>ALTERNATIVE O-2 (Newell Ave. Bridge)</b>					
Remove Culvert (30"x41") & Fill)	1	LS	1,000		\$1,000 38"L (non-destructive methods)
16' Bridge Deck	320	SF	100		\$32,000 20' w
Surface Restoration	1	LS	1,000		\$1,000 Complete restoration of construction area
<b>SUBTOTAL ALTERNATIVE O-2</b>				<b>\$34,000</b>	
ALLOWANCE	10%			<u>\$3,400</u>	
<b>SUBTOTAL</b>				<b>\$37,400</b>	
CONTINGENCY	30%			<u>\$11,220</u>	

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "O"

DATE: 05/01/97  
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 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
SUBTOTAL				\$48,620	
MOBILIZATION	10%			\$4,862	
CONSTRUCTION TOTAL ALTERNATIVE O-2				\$53,482	
ENGINEERING	15%			\$8,022	
CONSTRUCTION MANAGEMENT	5%			\$2,674	
SALES TAX	7.9%			\$4,225	
PROJECT TOTAL ALTERNATIVE O-2 (ROUNDED)				\$68,000	

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GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "Q"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>ALTERNATIVE Q-1 (SR 105 Between Chehalis &amp; Shafer Rd.)</b>					<b>ASMS IMPROVEMENTS TO K1/K2 DITCH SYSTEM</b>
Construct Ditch - Excavation & Waste	833	CY	8	\$6,667	4500' L, 1'dp 3:1 slope
Surface Restoration Ditch	18,825	SY	0.50	\$9,412	Vegetate to Low Grasses am 25'w disturb area
Install 18" RCP Culverts	255	LF	\$20.10	\$5,126	Asu 17' long; Assoc = \$15.50/lf mt'+\$4.60/lf lbr(\$200/hr crew @ 350l
Excavation	94	CY	3	\$283	
Bed & Zone	68	CY	20	\$1,368	
Backfill	9	CY	4	\$38	
Waste	85	CY	3	\$255	
Surface Restoration Gravel Driveways	14	CY	25.00	\$354	Restore Driveways
<b>SUBTOTAL ALTERNATIVE Q-1</b>				<b>\$23,501</b>	
ALLOWANCE	10%			\$2,350	
<b>SUBTOTAL</b>				<b>\$25,851</b>	
CONTINGENCY	30%			\$7,755	
<b>SUBTOTAL</b>				<b>\$33,606</b>	
MOBILIZATION	10%			\$3,361	
<b>CONSTRUCTION TOTAL ALTERNATIVE Q-1</b>				<b>\$36,967</b>	
ENGINEERING	15%			\$5,545	
CONSTRUCTION MANAGEMENT	5%			\$1,848	
SALES TAX	7.9%			\$2,920	
<b>PROJECT TOTAL ALTERNATIVE Q-1 (ROUNDED)</b>				<b>\$47,000</b>	

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GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "R"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>ALTERNATIVE R-1 SUB OPTION (a) (1814 S. Olympia)</b>					
Berm	80	CY	15		\$1,200 200' L 2'top w 8'bot w (Both sides); Qty per T. Platin; Imp. soil@ \$10+5 to place
Surface Restoration	1,673	SY	0.50		\$837 Vegetate Berm with low grasses; asm 25' disturbed area
Sump Pump	1	EA	6,400		\$6,400 Install small sump pump for property owners/share; 1200 for cb+2000 pumpx2 for misc.
8" Drain Line - Including Earthwork	30	LF	24		\$720 Drain Line to ditch; include exc/bf/bz&waste in unit cost; 3/4diam inch
<b>SUBTOTAL ALTERNATIVE R-1 SUB OPTION (a)</b>				<b>\$9,157</b>	
ALLOWANCE	10%			\$916	
<b>SUBTOTAL</b>				<b>\$10,072</b>	
CONTINGENCY	30%			\$3,022	
<b>SUBTOTAL</b>				<b>\$13,094</b>	
MOBILIZATION	10%			\$1,309	
<b>CONSTRUCTION TOTAL ALTERNATIVE R-1 SUB OPTION (a)</b>				<b>\$14,403</b>	
ENGINEERING	15%			\$2,161	
CONSTRUCTION MANAGEMENT	5%			\$720	
SALES TAX	8%			\$1,138	
<b>PROJECT TOTAL ALTERNATIVE R-1 SUB OPTION (a) (ROUNDED)</b>				<b>\$16,000</b>	
<b>ALTERNATIVE R-1 SUB OPTION (b) (Channel Improvements)</b>					
Clean Scrub-Shrub from Existing Ditch	1,653	SY	0.50		\$827 620'L 6' bot w. 22' top w 4'dp 1:2
Surface Restoration Ditch	3,376	SY	0.50		\$1,688 Restore with Low grasses; asm 25' disturbed area
Clean and Regrade Existing Channel	498	SY	0.50		\$249 280'L, 4'bot w 15'top w
Excavation	10	CY	8		\$83 Avg. of 3" from bottom 280' l
Surface Restoration	1,276	SY	0.50		\$638 Low grasses
<b>SUBTOTAL ALTERNATIVE R-1 SUB OPTION (b)</b>				<b>\$3,484</b>	
ALLOWANCE	10%			\$348	
<b>SUBTOTAL</b>				<b>\$3,832</b>	
CONTINGENCY	30%			\$1,150	
<b>SUBTOTAL</b>				<b>\$4,982</b>	
MOBILIZATION	10%			\$498	
<b>CONSTRUCTION TOTAL ALTERNATIVE R-1 SUB OPTION (b)</b>				<b>\$5,480</b>	
ENGINEERING	15%			\$822	
CONSTRUCTION MANAGEMENT	5%			\$274	
SALES TAX	8%			\$433	
<b>PROJECT TOTAL ALTERNATIVE R-1 SUB OPTION (b) (ROUNDED)</b>				<b>\$7,000</b>	
<b>ALTERNATIVE R-1 SUB OPTION (c) (Culvert Improvements)</b>					
Remove Existing 24" CMP	100	LF	5		Use Same as Alt L-1 (c) \$500 2 @ 50'

GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "R"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP\_ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
Excavation	148	CY	3	\$443	
Bed & Zone	44	CY	20	\$874	
Backfill	83	CY	4	\$333	
Waste	64	CY	3	\$193	
Replace with New 30" RCP	100	LF	46	\$4,500	Associated = \$39.50/ft mt <sup>1</sup> +\$6.40/ft lbr(\$200/1r crew @ 250ft/days)
Surface Restoration Rural Road	38	TN	60	\$2,278	Restore 40' w rural pave road; 222 sq
<b>SUBTOTAL ALTERNATIVE R-1 SUB OPTION (c)</b>				<b>\$9,212</b>	
ALLOWANCE	10%			\$921	
<b>SUBTOTAL</b>				<b>\$10,133</b>	
CONTINGENCY	30%			\$3,040	
<b>SUBTOTAL</b>				<b>\$13,173</b>	
MOBILIZATION	10%			\$1,317	
<b>CONSTRUCTION TOTAL ALTERNATIVE R-1 SUB OPTION (c)</b>				<b>\$14,490</b>	
ENGINEERING	15%			\$2,174	
CONSTRUCTION MANAGEMENT	5%			\$725	
SALES TAX	8%			\$1,145	
<b>PROJECT TOTAL ALTERNATIVE R-1 SUB OPTION (c) (ROUNDED)</b>				<b>\$19,000</b>	
<b>ALTERNATIVE R-2 (1814 S. Olympia)</b>					
Cinder-Block Facing on Exposed Sides	600	SF	32	\$19,200	or Wood Facing; 120' perm x 4' h; see detail
<b>SUBTOTAL ALTERNATIVE R-2</b>				<b>\$19,200</b>	
ALLOWANCE	10%			\$1,920	
<b>SUBTOTAL</b>				<b>\$21,120</b>	
CONTINGENCY	10%			\$2,112	
<b>SUBTOTAL</b>				<b>\$23,232</b>	
MOBILIZATION	10%			\$2,323	
<b>CONSTRUCTION TOTAL ALTERNATIVE R-2</b>				<b>\$25,555</b>	
ENGINEERING	10%			\$2,556	
CONSTRUCTION MANAGEMENT	5%			\$1,278	
SALES TAX	8%			\$2,019	
<b>PROJECT TOTAL ALTERNATIVE R-2 (ROUNDED)</b>				<b>\$31,000</b>	

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GRAYS HARBOR COUNTY  
SOUTH COASTAL FHRP  
ORDER OF MAGNITUDE COST ESTIMATE  
LOCATION "R"

DATE: 05/01/97  
PROJECT NO.: 106786.PP.ZZ  
ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
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schedule and other variable factors. As a result, the final project costs will vary from the estimate presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.



GRAYS HARBOR COUNTY  
 SOUTH COASTAL FHRP  
 ORDER OF MAGNITUDE COST ESTIMATE  
 LOCATION "X"

DATE: 05/01/97  
 PROJECT NO.: 106786.PP.ZZ  
 ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>ALTERNATIVE X-1 (Apple Maggot Ditch)</b>					
Clean Ditch	993	SY	2.50	\$2,483	1000'Lx1'h, 2'bot w, 6' top width; Dense Weedy Brush; 2 days @ \$1'
Surface Restoration	3,771	SY	0.50	\$1,886	Restore Ditch surface to low grasses; asm 25' disturbed area
<b>SUBTOTAL ALTERNATIVE X-1</b>				<b>\$4,369</b>	
ALLOWANCE	10%			\$437	
<b>SUBTOTAL</b>				<b>\$4,806</b>	
CONTINGENCY	30%			\$1,442	
<b>SUBTOTAL</b>				<b>\$6,248</b>	
MOBILIZATION	10%			\$625	
<b>CONSTRUCTION TOTAL ALTERNATIVE X-1</b>				<b>\$6,872</b>	
ENGINEERING	15%			\$1,031	
CONSTRUCTION MANAGEMENT	5%			\$344	
SALES TAX	8%			\$543	
<b>PROJECT TOTAL ALTERNATIVE X-1 (ROUNDED)</b>				<b>\$9,000</b>	
<b>ALTERNATIVE X-2 (Apple Maggot Ditch)</b>					
Excavate Channel	74	CY	8	\$592	Revise 2'bot w to 3', 6'top w to 9"; 1000'L
Surface Restoration	4,534	SY	0.50	\$2,267	Revegetate to low grasses; asm 25' disturbed area
<b>SUBTOTAL ALTERNATIVE X-2</b>				<b>\$2,859</b>	
ALLOWANCE	10%			\$286	
<b>SUBTOTAL</b>				<b>\$3,145</b>	
CONTINGENCY	30%			\$944	
<b>SUBTOTAL</b>				<b>\$4,089</b>	
MOBILIZATION	10%			\$409	
<b>CONSTRUCTION TOTAL ALTERNATIVE X-2</b>				<b>\$4,498</b>	
ENGINEERING	15%			\$675	
CONSTRUCTION MANAGEMENT	5%			\$225	
SALES TAX	8%			\$355	
<b>PROJECT TOTAL ALTERNATIVE X-2 (ROUNDED)</b>				<b>\$6,000</b>	

NOTE: The above cost opinion is in March 1997 dollars and does not include escalation, financing or O&M costs. In addition, there are not costs included for the mitigation or remediation associated with the potential discovery of hazardous materials.

GRAYS HARBOR COUNTY  
SOUTH COASTAL FHRP  
ORDER OF MAGNITUDE COST ESTIMATE  
LOCATION "X"

DATE: 05/01/97  
PROJECT NO.: 106786.PP.ZZ  
ESTIMATE BY: S. Chapple

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL	COMMENTS
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The Order of Magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of the estimate. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope, final schedule and other variable factors. As a result, the final project costs will vary from the estimate presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.