

ATTACHMENT K
Cost Estimate - Summary

Reclamation District 1001
 Nicolaus Feasibility Study
 Summary of 100-YR Remedial Alternative Costs



Alternative	Estimated Cost					Planning, Engineering, & Design (8%)	Construction Management (6%)	Total
	Land and Damages	Environmental Mitigation	Relocations	Levees	Sub-Total			
Feather River Reach D - STA 0+00 - 531+55 (53,155 ft)								
(Waterside) Rock Slope Protection & (Landside) 80' wide Combination Berm	\$31,522,400	\$11,225,600	\$30,704,500	\$129,660,500	\$203,113,000	\$12,499,300	\$9,374,500	\$224,986,800
(Waterside) Rock Slope Protection & 80' deep Cutoff Wal	\$13,063,100	\$9,294,100	\$20,849,200	\$111,923,200	\$155,129,600	\$9,546,500	\$7,159,900	\$171,836,000
Feather River Reach C - STA 531+55 - 580+40 (4,885 ft)								
(Waterside) 30' wide Toe Berm & (Landside) 15' wide Drained Stability Berm	\$4,909,500	\$1,675,500	\$379,100	\$23,556,400	\$30,520,500	\$1,878,200	\$1,408,700	\$33,807,400
(Waterside) 30' wide Toe Berm & 22' deep Cutoff Wall	\$3,670,600	\$1,583,100	\$297,200	\$22,318,100	\$27,869,000	\$1,715,100	\$1,286,300	\$30,870,400
Feather River Reach B - STA 580+40 - 640+20 (5,980 ft)								
15' wide Drained Stability Berm	\$1,072,500	\$705,800	\$204,300	\$9,877,500	\$11,860,100	\$729,900	\$547,400	\$13,137,400
60' deep Cutoff Wall	\$874,300	\$786,500	\$204,300	\$11,030,700	\$12,895,800	\$793,600	\$595,200	\$14,284,600
Feather River Reach A - STA 640+20 - 700+89 (6,069 ft)								
65' deep Cutoff Wall	\$675,400	\$625,100	\$247,600	\$8,682,000	\$10,230,100	\$629,600	\$472,200	\$11,331,900
300' wide Combination Berm	\$4,764,500	\$2,047,500	\$247,600	\$29,002,300	\$36,061,900	\$2,219,200	\$1,664,400	\$39,945,500
Cross Canal Reach A - STA 0+00 - 284+80 (28,480 ft)								
76' deep Cutoff Wall	\$3,775,200	\$9,895,700	\$94,932,500	\$46,433,900	\$155,037,300	\$9,540,800	\$7,155,600	\$171,733,700
20' wide Drained Stability Berm	\$4,937,400	\$8,770,600	\$90,283,300	\$35,011,000	\$139,002,300	\$8,554,000	\$6,415,500	\$153,971,800
Total of Preferred Alternatives								\$382,294,700

 Recommended Alternative

**NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
FLOOD RISK REDUCTION FEASIBILITY STUDY
PROJECT UNIT COSTS (PRELIMINARY)**

**RIO OSO SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
FLOOD RISK REDUCTION FEASIBILITY STUDY
PROJECT UNIT COSTS (PRELIMINARY)**

Item #	Description	Unit	Unit Price	Comments
General				
	Alternatives (100-YR or 200-YR)		100-YEAR (20' CROWN)	
	Escalation @ 3.3% for 3-years	%	9.9%	
	Land Acquisition Contingency	%	30%	
	Environmental Mitigation Contingency	%	30%	
	Relocations Contingency	%	30%	
	Roads Contingency	%	30%	
	Levee Contingency	%	30%	
	Planning, Engineering, & Design Contingency	%	8%	
	Construction Management Contingency	%	6%	
	Mobilization and Demobilization	LS	5%	
	Traffic Control (Rural)	LS	1%	
	Traffic Control (Urban)	LS	3%	
	Storm Water Pollution Control	LS	3%	
	Wheatland Outfall Contingency	%	50%	
1 Lands				
1.1	Land Acquisition (Flood Control Feature)	AC	\$45,000.00	From OPC
	Land Acquisition (O&M Easement)	AC	\$45,000.00	Added by CH
	Borrow Site Royalties	AC	\$20,000.00	
	Residential Building	EA	\$400,000.00	From Sutter County Assessor/Zillow Estimates
2 Mitigation - Environmental				
2.1	Environmental Mitigation	LS		7%
3 Relocations				
3.1	Utility Pole Relocation	EA	\$30,000.00	FRWL Project C/B/D, 2014, From Pete B
3.2	Private Irrigation Allowance	LF	\$20.00	
3.3	Canal Relocation	LF	\$110.00	from M&H, NLIIP
3.4	Irrigation Pump Relocation	EA	\$20,000.00	From SCWA Rio Vista (8246.007)
3.5	Utility Pole w/ meter Relocation	EA	\$17,500.00	From SCWA Rio Vista (8246.007)
3.6	Remove & Replace Fiber Optic Cable	LF	\$300.00	Based on Caltrans Contract Cost Data
3.7	Remove & Replace RD 1001 Main Pump Station (650 CFS Capacity)	EA	\$60,000,000.00	Pricing of pumps and structures. Comparison with similar, but smaller, projects
3.8	PG&E Substation Relocation	EA	\$2,000,000.00	Based on Caltrans Contract Cost Data
3.9	Remove & Replace Distribution Tower	EA	\$3,000,000.00	
4 Roads				
4.1	Road Relocation	LF	\$0.00	
4.2	Remove Ex. Agg. Surfacing	LF	\$10.00	FRWL Project 1 B/D, 2014
4.3	Remove Existing Roadway	SY	\$6.00	Removal of AC and AB
4.4	Class 2 Aggregate Base	TON	\$35.00	FRWL Project 1 B/D, 2014
4.5	Asphalt Concrete (3.5")	TON	\$120.00	FRWL Project 1 B/D, 2014
4.6	Class 2 Aggregate Surfacing	TON	\$35.00	FRWL Project 1 B/D, 2014
5 Levees				
5.1	Project Fencing	LF	\$3.50	FRWL Project C/B/D, 2014
5.2	Clearing and Grubbing	AC	\$3,000.00	FRWL Project C/B/D, 2014
5.3	Levee Stripping	AC	\$4,000.00	FRWL Project C/B/D, 2014
5.4	Levee Degrading/ Excavation	CY	\$5.00	FRWL Project C/B/D, 2014
5.5	Levee Fill (Embankment)	CY	\$4.00	FRWL Project C/B/D, 2014
5.6	Levee Fill (Clay Cap)	CY	\$4.50	FRWL Project C/B/D, 2014
5.7	Levee Erosion Control Seeding	AC	\$3,500.00	FRWL Project C/B/D, 2014
5.8	Cutoff Wall - Soil Bentonite	SF	\$6.50	Wall depth < 75-ft, FRWL Project C/B/D, 2014
5.9	Drain Rock	TON	\$45.00	HDR input
5.10	Sand Filter Layer	TON	\$45.00	HDR input
5.11	Filter Fabric	SY	\$5.00	FRWL Project C/B/D, 2014
5.12	Rock Slope Protection	TON	\$80.00	MHC Cost Estimate
5.13	Borrow Site Clearing and Grubbing	AC	\$3,000.00	FRWL Project C/B/D, 2014
5.14	Borrow Site Stripping	AC	\$3,500.00	FRWL Project C/B/D, 2014
5.15	Borrow Site Excavation and Hauling	CY	\$15.00	FRWL Project C/B/D, 2014
5.16	Borrow Site Erosion Control Seeding	AC	\$3,500.00	FRWL Project C/B/D, 2014
5.17	Haul and Dispose of Unsuitable Material	CY	\$10.00	FRWL Project C/B/D, 2014
5.18	Haul and Dispose of Unsuitable Debris	CY	\$7.50	FRWL Project C/B/D, 2014

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 WATERSIDE ROCK SLOPE PROTECTION & LANDSIDE SEEPAGE/STABILITY BERM (80-FOOT WIDE)
 FEATHER RIVER REACH D - STA 0+00 TO 531+55



Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1	Lands							
1.1	Land Acquisition (Flood Control Feature)	164.1	AC	\$45,000	\$7,384,500	30%	\$2,215,350	\$9,599,850
1.2	Land Acquisition (O&M Easement)	12.3	AC	\$45,000	\$553,500	30%	\$166,050	\$719,550
1.3	Borrow Site Royalties	295.5	AC	\$20,000	\$5,910,000	30%	\$1,773,000	\$7,683,000
1.4	Residential Building	26.0	EA	\$400,000	\$10,400,000	30%	\$3,120,000	\$13,520,000
	Subtotal - Land and Damages				\$24,248,000		\$7,274,400	\$31,522,400
2	Mitigation - Environmental							
2.1	Environmental Mitigation	1	LS	7%	\$8,635,046	30%	\$2,590,514	\$11,225,560
	Subtotal - Mitigation				\$8,635,100		\$2,590,600	\$11,225,600
3	Relocations							
3.1	Mobilization and Demobilization	1	LS	5%	\$1,124,705.00	30%	\$337,412	\$1,462,117
3.2	Utility Pole Relocation	122	EA	\$30,000	\$3,660,000	30%	\$1,098,000	\$4,758,000
3.3	Canal Relocation	3,900	LF	\$110	\$429,000	30%	\$128,700	\$557,700
3.4	Irrigation Pump Relocation	22	EA	\$20,000	\$440,000	30%	\$132,000	\$572,000
3.5	Remove & Replace Fiber Optic Cable	19,200	LF	\$300	\$5,760,000	30%	\$1,728,000	\$7,488,000
3.6	Remove & Replace Distribution Tower	4	EA	\$3,000,000	\$12,000,000	30%	\$3,600,000	\$15,600,000
3.7	Private Irrigation Allowance	10,255	LF	\$20	\$205,100	30%	\$61,530	\$266,630
	Subtotal - Relocations				\$23,618,900		\$7,085,700	\$30,704,500
4	Levees							
4.1	Mobilization and Demobilization	1	LS	5%	\$4,749,467	30%	\$1,424,840	\$6,174,307
4.2	Traffic Control (Rural)	1	LS	1%	\$940,488	30%	\$282,147	\$1,222,635
4.3	Storm Water Pollution Control	1	LS	3%	\$2,739,287	30%	\$821,786	\$3,561,073
4.4	Project Fencing	20,510	LF	\$4	\$71,785	30%	\$21,536	\$93,321
4.5	Clearing and Grubbing	270	AC	\$3,000	\$810,000	30%	\$243,000	\$1,053,000
4.6	Remove Ex. Agg. Surfacing	10,255	LF	\$10	\$102,550	30%	\$30,765	\$133,315
4.7	Remove Existing Roadway	128,147	SY	\$6	\$768,882	30%	\$230,665	\$999,547
4.8	Asphalt Concrete (3.5")	39,946	TON	\$120	\$4,793,520	30%	\$1,438,056	\$6,231,576
4.9	Levee Stripping	234	AC	\$4,000	\$936,000	30%	\$280,800	\$1,216,800
4.10	Levee Degrading/ Excavation	13,864	CY	\$5	\$69,320	30%	\$20,796	\$90,116
4.11	Levee Fill (Embankment)	1,986,252	CY	\$4	\$7,945,008	30%	\$2,383,502	\$10,328,510
4.12	Cutoff Wall - Soil Bentonite	0	SF	\$7	\$0	30%	\$0	\$0
4.13	Drain Rock	487,279	TON	\$45	\$21,927,555	30%	\$6,578,267	\$28,505,822
4.14	Sand Filter Layer	253,606	TON	\$45	\$11,412,270	30%	\$3,423,681	\$14,835,951
4.15	Rock Slope Protection	0	TON	\$80	\$0	30%	\$0	\$0
4.16	Class 2 Aggregate Surfacing	7,692	TON	\$35	\$269,220	30%	\$80,766	\$349,986
4.17	Class 2 Aggregate Base	68,479	TON	\$35	\$2,396,765	30%	\$719,030	\$3,115,795
4.18	Levee Erosion Control Seeding	273	AC	\$3,500	\$955,500	30%	\$286,650	\$1,242,150
4.19	Haul and Dispose of Unsuitable Material	13,864	CY	\$10	\$138,640	30%	\$41,592	\$180,232
4.20	Borrow Site Clearing and Grubbing	296	AC	\$3,000	\$888,000	30%	\$266,400	\$1,154,400
4.21	Borrow Site Stripping	296	AC	\$3,500	\$1,036,000	30%	\$310,800	\$1,346,800
4.22	Borrow Site Excavation and Hauling	2,383,503	CY	\$15	\$35,752,545	30%	\$10,725,764	\$46,478,309
4.23	Borrow Site Erosion Control Seeding	296	AC	\$3,500	\$1,036,000	30%	\$310,800	\$1,346,800
	Subtotal - Levees				\$99,738,900		\$29,921,700	\$129,660,500
	ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))				\$156,240,900		\$46,872,400	\$203,113,000
5	Planning, Engineering and Design							
5.1	Planning, Engineering and Design (8%)				\$12,499,272	0%	\$0	\$12,499,300
6	Construction Management							
6.1	Construction Management (6%)				\$9,374,454	0%	\$0	\$9,374,500
	ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))				\$178,114,626		\$46,872,400	\$224,986,800
	ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)				\$195,747,973.97		\$51,512,767.60	\$247,260,500

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 WATERSIDE ROCK SLOPE PROTECTION & CUTOFF WALL (80-FOOT DEEP)
 FEATHER RIVER REACH D - STA 0+00 TO 531+55



Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1	Lands							
1.1	Land Acquisition (Flood Control Feature)	62.6	AC	\$45,000	\$2,817,000	30%	\$845,100	\$3,662,100
1.2	Land Acquisition (O&M Easement)	12.3	AC	\$45,000	\$553,500	30%	\$166,050	\$719,550
1.3	Borrow Site Royalties	213.9	AC	\$20,000	\$4,278,000	30%	\$1,283,400	\$5,561,400
1.4	Residential Building	6.0	EA	\$400,000	\$2,400,000	30%	\$720,000	\$3,120,000
	Subtotal - Land and Damages				\$10,048,500		\$3,014,600	\$13,063,100
2	Mitigation - Environmental							
2.1	Environmental Mitigation	1	LS	7%	\$7,149,289	30%	\$2,144,787	\$9,294,076
	Subtotal - Mitigation				\$7,149,300		\$2,144,800	\$9,294,100
3	Relocations							
3.1	Mobilization and Demobilization	1	LS	5%	\$763,705.00	30%	\$229,112	\$992,817
3.2	Utility Pole Relocation	82	EA	\$30,000	\$2,460,000	30%	\$738,000	\$3,198,000
3.3	Canal Relocation	3,900	LF	\$110	\$429,000	30%	\$128,700	\$557,700
3.4	Irrigation Pump Relocation	21	EA	\$20,000	\$420,000	30%	\$126,000	\$546,000
3.5	Remove & Replace Fiber Optic Cable	19,200	LF	\$300	\$5,760,000	30%	\$1,728,000	\$7,488,000
3.6	Remove & Replace Distribution Tower	2	EA	\$3,000,000	\$6,000,000	30%	\$1,800,000	\$7,800,000
3.7	Private Irrigation Allowance	10,255	LF	\$20	\$205,100	30%	\$61,530	\$266,630
	Subtotal - Relocations				\$16,037,900		\$4,811,400	\$20,849,200
4	Levees							
4.1	Mobilization and Demobilization	1	LS	5%	\$4,099,749	30%	\$1,229,925	\$5,329,674
4.2	Traffic Control (Rural)	1	LS	1%	\$811,832	30%	\$243,549	\$1,055,381
4.3	Storm Water Pollution Control	1	LS	3%	\$2,364,558	30%	\$709,367	\$3,073,925
4.4	Project Fencing	20,510	LF	\$4	\$71,785	30%	\$21,536	\$93,321
4.5	Clearing and Grubbing	169	AC	\$3,000	\$507,000	30%	\$152,100	\$659,100
4.6	Remove Ex. Agg. Surfacing	10,255	LF	\$10	\$102,550	30%	\$30,765	\$133,315
4.7	Remove Existing Roadway	114,400	SY	\$6	\$686,400	30%	\$205,920	\$892,320
4.8	Asphalt Concrete (3.5")	35,661	TON	\$120	\$4,279,320	30%	\$1,283,796	\$5,563,116
4.9	Levee Stripping	65	AC	\$4,000	\$260,000	30%	\$78,000	\$338,000
4.10	Levee Degrading/ Excavation	551,285	CY	\$5	\$2,756,425	30%	\$826,928	\$3,583,353
4.11	Levee Fill (Embankment)	1,437,502	CY	\$4	\$5,750,008	30%	\$1,725,002	\$7,475,010
4.12	Cutoff Wall - Soil Bentonite	4,252,400	SF	\$7	\$27,640,600	30%	\$8,292,180	\$35,932,780
4.13	Drain Rock	0	TON	\$45	\$0	30%	\$0	\$0
4.14	Sand Filter Layer	0	TON	\$45	\$0	30%	\$0	\$0
4.15	Rock Slope Protection	0	TON	\$80	\$0	30%	\$0	\$0
4.16	Class 2 Aggregate Surfacing	7,692	TON	\$35	\$269,220	30%	\$80,766	\$349,986
4.17	Class 2 Aggregate Base	61,133	TON	\$35	\$2,139,655	30%	\$641,897	\$2,781,552
4.18	Levee Erosion Control Seeding	169	AC	\$3,500	\$591,500	30%	\$177,450	\$768,950
4.19	Haul and Dispose of Unsuitable Material	574,909	CY	\$10	\$5,749,090	30%	\$1,724,727	\$7,473,817
4.20	Borrow Site Clearing and Grubbing	214	AC	\$3,000	\$642,000	30%	\$192,600	\$834,600
4.21	Borrow Site Stripping	214	AC	\$3,500	\$749,000	30%	\$224,700	\$973,700
4.22	Borrow Site Excavation and Hauling	1,725,003	CY	\$15	\$25,875,045	30%	\$7,762,514	\$33,637,559
4.23	Borrow Site Erosion Control Seeding	214	AC	\$3,500	\$749,000	30%	\$224,700	\$973,700
	Subtotal - Levees				\$86,094,800		\$25,828,500	\$111,923,200
	ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))				\$119,330,500		\$35,799,300	\$155,129,600
5	Planning, Engineering and Design							
5.1	Planning, Engineering and Design (8%)				\$9,546,440	0%	\$0	\$9,546,500
6	Construction Management							
6.1	Construction Management (6%)				\$7,159,830	0%	\$0	\$7,159,900
	ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))				\$136,036,770		\$35,799,300	\$171,836,000
	ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)				\$149,504,410.23		\$39,343,430.70	\$188,847,800

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 WATERSIDE TOE BERM (30-FOOT WIDE) & LANDSIDE DRAINED STABILITY BERM (15-FOOT WIDE)
 FEATHER RIVER REACH C - STA 531+55 TO 580+40



Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1	Lands							
1.1	Land Acquisition (Flood Control Feature)	4.9	AC	\$45,000	\$220,500	30%	\$66,150	\$286,650
1.2	Land Acquisition (O&M Easement)	1.2	AC	\$45,000	\$54,000	30%	\$16,200	\$70,200
1.3	Borrow Site Royalties	15.1	AC	\$20,000	\$302,000	30%	\$90,600	\$392,600
1.4	Residential Building	8.0	EA	\$400,000	\$3,200,000	30%	\$960,000	\$4,160,000
	Subtotal - Land and Damages				\$3,776,500		\$1,133,000	\$4,909,500
2	Mitigation - Environmental							
2.1	Environmental Mitigation	1	LS	7%	\$1,288,833	30%	\$386,650	\$1,675,483
	Subtotal - Mitigation				\$1,288,900		\$386,700	\$1,675,500
3	Relocations							
3.1	Mobilization and Demobilization	1	LS	5%	\$13,885.00	30%	\$4,166	\$18,051
3.2	Utility Pole Relocation	6	EA	\$30,000	\$180,000	30%	\$54,000	\$234,000
3.3	Private Irrigation Allowance	4,885	LF	\$20	\$97,700	30%	\$29,310	\$127,010
	Subtotal - Relocations				\$291,600		\$87,500	\$379,100
4	Levees							
4.1	Mobilization and Demobilization	1	LS	5%	\$862,871	30%	\$258,861	\$1,121,732
4.2	Traffic Control (Rural)	1	LS	1%	\$170,865	30%	\$51,260	\$222,125
4.3	Storm Water Pollution Control	1	LS	3%	\$497,666	30%	\$149,300	\$646,966
4.4	Project Fencing	9,770	LF	\$4	\$34,195	30%	\$10,259	\$44,454
4.5	Clearing and Grubbing	21	AC	\$3,000	\$63,000	30%	\$18,900	\$81,900
4.6	Remove Ex. Agg. Surfacing	4,885	LF	\$10	\$48,850	30%	\$14,655	\$63,505
4.7	Remove Existing Roadway	4,654	SY	\$6	\$27,924	30%	\$8,377	\$36,301
4.8	Asphalt Concrete (3.5")	1,451	TON	\$120	\$174,120	30%	\$52,236	\$226,356
4.7	Levee Stripping	17	AC	\$4,000	\$68,000	30%	\$20,400	\$88,400
4.8	Levee Degrading/ Excavation	22,978	CY	\$5	\$114,890	30%	\$34,467	\$149,357
4.9	Levee Fill (Embankment)	100,957	CY	\$4	\$403,828	30%	\$121,148	\$524,976
4.10	Cutoff Wall - Soil Bentonite	0	SF	\$7	\$0	30%	\$0	\$0
4.11	Drain Rock	21,617	TON	\$45	\$972,765	30%	\$291,830	\$1,264,595
4.12	Sand Filter Layer	21,250	TON	\$45	\$956,250	30%	\$286,875	\$1,243,125
4.13	Rock Slope Protection	140,322	TON	\$80	\$11,225,760	30%	\$3,367,728	\$14,593,488
4.14	Class 2 Aggregate Surfacing	3,664	TON	\$35	\$128,240	30%	\$38,472	\$166,712
4.15	Class 2 Aggregate Base	2,487	TON	\$35	\$87,045	30%	\$26,114	\$113,159
4.16	Levee Erosion Control Seeding	22	AC	\$3,500	\$77,000	30%	\$23,100	\$100,100
4.17	Haul and Dispose of Unsuitable Material	22,978	CY	\$10	\$229,780	30%	\$68,934	\$298,714
4.18	Borrow Site Clearing and Grubbing	16	AC	\$3,000	\$48,000	30%	\$14,400	\$62,400
4.19	Borrow Site Stripping	16	AC	\$3,500	\$56,000	30%	\$16,800	\$72,800
4.20	Borrow Site Excavation and Hauling	121,149	CY	\$15	\$1,817,235	30%	\$545,171	\$2,362,406
4.21	Borrow Site Erosion Control Seeding	16	AC	\$3,500	\$56,000	30%	\$16,800	\$72,800
	Subtotal - Levees				\$18,120,300		\$5,436,100	\$23,556,400
ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))					\$23,477,300		\$7,043,300	\$30,520,500
5	Planning, Engineering and Design							
5.1	Planning, Engineering and Design (8%)				\$1,878,184	0%	\$0	\$1,878,200
6	Construction Management							
6.1	Construction Management (6%)				\$1,408,638	0%	\$0	\$1,408,700
ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))					\$26,764,122		\$7,043,300	\$33,807,400
ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)					\$29,413,770.08		\$7,740,586.70	\$37,154,400

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 WATERSIDE TOE BERM (30-FOOT WIDE) & CUTOFF WALL (22-FOOT DEEP)
 FEATHER RIVER REACH C - STA 531+55 TO 580+40



Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1	Lands							
1.1	Land Acquisition (Flood Control Feature)	2.3	AC	\$45,000	\$103,500	30%	\$31,050	\$134,550
1.2	Land Acquisition (O&M Easement)	1.2	AC	\$45,000	\$54,000	30%	\$16,200	\$70,200
1.3	Borrow Site Royalties	13.3	AC	\$20,000	\$266,000	30%	\$79,800	\$345,800
1.4	Residential Building	6.0	EA	\$400,000	\$2,400,000	30%	\$720,000	\$3,120,000
	Subtotal - Land and Damages				\$2,823,500		\$847,100	\$3,670,600
2	Mitigation - Environmental							
2.1	Environmental Mitigation	1	LS	7%	\$1,217,748	30%	\$365,324	\$1,583,072
	Subtotal - Mitigation				\$1,217,800		\$365,400	\$1,583,100
3	Relocations							
3.1	Mobilization and Demobilization	1	LS	5%	\$10,885.00	30%	\$3,266	\$14,151
3.2	Utility Pole Relocation	4	EA	\$30,000	\$120,000	30%	\$36,000	\$156,000
3.3	Private Irrigation Allowance	4,885	LF	\$20	\$97,700	30%	\$29,310	\$127,010
	Subtotal - Relocations				\$228,600		\$68,600	\$297,200
4	Levees							
4.1	Mobilization and Demobilization	1	LS	5%	\$817,510	30%	\$245,253	\$1,062,762
4.2	Traffic Control (Rural)	1	LS	1%	\$161,883	30%	\$48,565	\$210,448
4.3	Storm Water Pollution Control	1	LS	3%	\$471,504	30%	\$141,451	\$612,955
4.4	Project Fencing	9,770	LF	\$4	\$34,195	30%	\$10,259	\$44,454
4.5	Clearing and Grubbing	19	AC	\$3,000	\$57,000	30%	\$17,100	\$74,100
4.6	Remove Ex. Agg. Surfacing	4,885	LF	\$10	\$48,850	30%	\$14,655	\$63,505
4.7	Remove Existing Roadway	0	SY	\$6	\$0	30%	\$0	\$0
4.8	Asphalt Concrete (3.5")	0	TON	\$120	\$0	30%	\$0	\$0
4.7	Levee Stripping	8	AC	\$4,000	\$32,000	30%	\$9,600	\$41,600
4.8	Levee Degrading/ Excavation	59,435	CY	\$5	\$297,175	30%	\$89,153	\$386,328
4.9	Levee Fill (Embankment)	89,070	CY	\$4	\$356,280	30%	\$106,884	\$463,164
4.10	Cutoff Wall - Soil Bentonite	107,470	SF	\$7	\$698,555	30%	\$209,567	\$908,122
4.11	Drain Rock	0	TON	\$45	\$0	30%	\$0	\$0
4.12	Sand Filter Layer	9,526	TON	\$45	\$428,670	30%	\$128,601	\$557,271
4.13	Rock Slope Protection	140,322	TON	\$80	\$11,225,760	30%	\$3,367,728	\$14,593,488
4.14	Class 2 Aggregate Surfacing	3,664	TON	\$35	\$128,240	30%	\$38,472	\$166,712
4.15	Class 2 Aggregate Base	0	TON	\$35	\$0	30%	\$0	\$0
4.16	Levee Erosion Control Seeding	19	AC	\$3,500	\$66,500	30%	\$19,950	\$86,450
4.17	Haul and Dispose of Unsuitable Material	60,032	CY	\$10	\$600,320	30%	\$180,096	\$780,416
4.18	Borrow Site Clearing and Grubbing	14	AC	\$3,000	\$42,000	30%	\$12,600	\$54,600
4.19	Borrow Site Stripping	14	AC	\$3,500	\$49,000	30%	\$14,700	\$63,700
4.20	Borrow Site Excavation and Hauling	106,884	CY	\$15	\$1,603,260	30%	\$480,978	\$2,084,238
4.21	Borrow Site Erosion Control Seeding	14	AC	\$3,500	\$49,000	30%	\$14,700	\$63,700
	Subtotal - Levees				\$17,167,800		\$5,150,400	\$22,318,100
ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))					\$21,437,700		\$6,431,500	\$27,869,000
5	Planning, Engineering and Design							
5.1	Planning, Engineering and Design (8%)				\$1,715,016	0%	\$0	\$1,715,100
6	Construction Management							
6.1	Construction Management (6%)				\$1,286,262	0%	\$0	\$1,286,300
ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))					\$24,438,978		\$6,431,500	\$30,870,400
ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)					\$26,858,436.82		\$7,068,218.50	\$33,926,600

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 DRAINED STABILITY BERM (15-FOOT WIDE)
 FEATHER RIVER REACH B - STA 580+40 TO 640+20



Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1	Lands							
1.1	Land Acquisition (Flood Control Feature)	6.4	AC	\$45,000	\$288,000	30%	\$86,400	\$374,400
1.2	Land Acquisition (O&M Easement)	1.4	AC	\$45,000	\$63,000	30%	\$18,900	\$81,900
1.3	Borrow Site Royalties	23.7	AC	\$20,000	\$474,000	30%	\$142,200	\$616,200
	Subtotal - Lands				\$825,000		\$247,500	\$1,072,500
2	Mitigation - Environmental							
2.1	Environmental Mitigation	1	LS	7%	\$542,864	30%	\$162,859	\$705,723
	Subtotal - Mitigation				\$542,900		\$162,900	\$705,800
3	Relocations							
3.1	Mobilization and Demobilization	1	LS	5%	\$7,480.00	30%	\$2,244	\$9,724
3.2	Utility Pole Relocation	1	EA	\$30,000	\$30,000	30%	\$9,000	\$39,000
3.3	Private Irrigation Allowance	5,980	LF	\$20	\$119,600	30%	\$35,880	\$155,480
	Subtotal - Relocations				\$157,100		\$47,200	\$204,300
4	Levees							
4.1	Mobilization and Demobilization	1	LS	5%	\$361,813	30%	\$108,544	\$470,357
4.2	Traffic Control (Rural)	1	LS	1%	\$71,646	30%	\$21,494	\$93,140
4.3	Storm Water Pollution Control	1	LS	3%	\$208,678	30%	\$62,603	\$271,282
4.4	Project Fencing	11,960	LF	\$4	\$41,860	30%	\$12,558	\$54,418
4.5	Clearing and Grubbing	25	AC	\$3,000	\$75,000	30%	\$22,500	\$97,500
4.6	Remove Ex. Agg. Surfacing	5,980	LF	\$10	\$59,800	30%	\$17,940	\$77,740
4.7	Levee Stripping	21	AC	\$4,000	\$84,000	30%	\$25,200	\$109,200
4.8	Levee Degrading/ Excavation	22,370	CY	\$5	\$111,850	30%	\$33,555	\$145,405
4.9	Levee Fill (Embankment)	158,803	CY	\$4	\$635,212	30%	\$190,564	\$825,776
4.10	Cutoff Wall - Soil Bentonite	0	SF	\$7	\$0	30%	\$0	\$0
4.11	Drain Rock	34,535	TON	\$45	\$1,554,075	30%	\$466,223	\$2,020,298
4.12	Sand Filter Layer	18,389	TON	\$45	\$827,505	30%	\$248,252	\$1,075,757
4.13	Rock Slope Protection	0	TON	\$80	\$0	30%	\$0	\$0
4.14	Class 2 Aggregate Surfacing	4,485	TON	\$35	\$156,975	30%	\$47,093	\$204,068
4.15	Levee Erosion Control Seeding	25	AC	\$3,500	\$87,500	30%	\$26,250	\$113,750
4.16	Haul and Dispose of Unsuitable Material	22,370	CY	\$10	\$223,700	30%	\$67,110	\$290,810
4.17	Borrow Site Clearing and Grubbing	24	AC	\$3,000	\$72,000	30%	\$21,600	\$93,600
4.18	Borrow Site Stripping	24	AC	\$3,500	\$84,000	30%	\$25,200	\$109,200
4.19	Borrow Site Excavation and Hauling	190,564	CY	\$15	\$2,858,460	30%	\$857,538	\$3,715,998
4.20	Borrow Site Erosion Control Seeding	24	AC	\$3,500	\$84,000	30%	\$25,200	\$109,200
	Subtotal - Levees				\$7,598,100		\$2,279,500	\$9,877,500
	ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))				\$9,123,100		\$2,737,100	\$11,860,100
5	Planning, Engineering and Design							
5.1	Planning, Engineering and Design (8%)				\$729,848	0%	\$0	\$729,900
6	Construction Management							
6.1	Construction Management (6%)				\$547,386	0%	\$0	\$547,400
	ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))				\$10,400,334		\$2,737,100	\$13,137,400
	ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)				\$11,429,967.07		\$3,008,072.90	\$14,438,100

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 CUTOFF WALL (60-FOOT DEEP)



FEATHER RIVER REACH B - STA 580+40 TO 640+20

Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1	Lands							
1.1	Land Acquisition (Flood Control Feature)	3.9	AC	\$45,000	\$175,500	30%	\$52,650	\$228,150
1.2	Land Acquisition (O&M Easement)	1.4	AC	\$45,000	\$63,000	30%	\$18,900	\$81,900
1.3	Borrow Site Royalties	21.7	AC	\$20,000	\$434,000	30%	\$130,200	\$564,200
	Subtotal - Lands				\$672,500		\$201,800	\$874,300
2	Mitigation - Environmental							
2.1	Environmental Mitigation	1	LS	7%	\$604,961	30%	\$181,488	\$786,449
	Subtotal - Mitigation				\$605,000		\$181,500	\$786,500
3	Relocations							
3.1	Mobilization and Demobilization	1	LS	5%	\$7,480.00	30%	\$2,244	\$9,724
3.2	Utility Pole Relocation	1	EA	\$30,000	\$30,000	30%	\$9,000	\$39,000
3.3	Private Irrigation Allowance	5,980	LF	\$20	\$119,600	30%	\$35,880	\$155,480
	Subtotal - Relocations				\$157,100		\$47,200	\$204,300
4	Levees							
4.1	Mobilization and Demobilization	1	LS	5%	\$404,054	30%	\$121,216	\$525,270
4.2	Traffic Control (Rural)	1	LS	1%	\$80,011	30%	\$24,003	\$104,014
4.3	Storm Water Pollution Control	1	LS	3%	\$233,041	30%	\$69,912	\$302,953
4.4	Project Fencing	11,960	LF	\$4	\$41,860	30%	\$12,558	\$54,418
4.5	Clearing and Grubbing	22	AC	\$3,000	\$66,000	30%	\$19,800	\$85,800
4.6	Remove Ex. Agg. Surfacing	5,980	LF	\$10	\$59,800	30%	\$17,940	\$77,740
4.7	Levee Stripping	12	AC	\$4,000	\$48,000	30%	\$14,400	\$62,400
4.8	Levee Degrading/ Excavation	103,322	CY	\$5	\$516,610	30%	\$154,983	\$671,593
4.9	Levee Fill (Embankment)	145,292	CY	\$4	\$581,168	30%	\$174,350	\$755,518
4.10	Cutoff Wall - Soil Bentonite	358,800	SF	\$7	\$2,332,200	30%	\$699,660	\$3,031,860
4.11	Drain Rock	0	TON	\$45	\$0	30%	\$0	\$0
4.12	Sand Filter Layer	0	TON	\$45	\$0	30%	\$0	\$0
4.13	Rock Slope Protection	0	TON	\$80	\$0	30%	\$0	\$0
4.14	Class 2 Aggregate Surfacing	4,485	TON	\$35	\$156,975	30%	\$47,093	\$204,068
4.15	Levee Erosion Control Seeding	22	AC	\$3,500	\$77,000	30%	\$23,100	\$100,100
4.16	Haul and Dispose of Unsuitable Material	105,315	CY	\$10	\$1,053,150	30%	\$315,945	\$1,369,095
4.17	Borrow Site Clearing and Grubbing	22	AC	\$3,000	\$66,000	30%	\$19,800	\$85,800
4.18	Borrow Site Stripping	22	AC	\$3,500	\$77,000	30%	\$23,100	\$100,100
4.19	Borrow Site Excavation and Hauling	174,351	CY	\$15	\$2,615,265	30%	\$784,580	\$3,399,845
4.20	Borrow Site Erosion Control Seeding	22	AC	\$3,500	\$77,000	30%	\$23,100	\$100,100
	Subtotal - Levees				\$8,485,200		\$2,545,600	\$11,030,700
	ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))				\$9,919,800		\$2,976,100	\$12,895,800
5	Planning, Engineering and Design							
5.1	Planning, Engineering and Design (8%)				\$793,584	0%	\$0	\$793,600
6	Construction Management							
6.1	Construction Management (6%)				\$595,188	0%	\$0	\$595,200
	ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))				\$11,308,572		\$2,976,100	\$14,284,600
	ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)				\$12,428,120.63		\$3,270,733.90	\$15,698,800

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 SEEPAGE/STABILITY BERM (300-FOOT WIDE)
 FEATHER RIVER REACH A - STA 640+20 TO 700+89



Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1	Lands							
1.1	Land Acquisition (Flood Control Feature)	45.6	AC	\$45,000	\$2,052,000	30%	\$615,600	\$2,667,600
1.2	Land Acquisition (O&M Easement)	1.4	AC	\$45,000	\$63,000	30%	\$18,900	\$81,900
1.3	Borrow Site Royalties	57.5	AC	\$20,000	\$1,150,000	30%	\$345,000	\$1,495,000
1.4	Residential Building	1.0	EA	\$400,000	\$400,000	30%	\$120,000	\$520,000
	Subtotal - Land and Damages				\$3,665,000		\$1,099,500	\$4,764,500
2	Mitigation - Environmental							
2.1	Environmental Mitigation	1	LS	7%	\$1,575,000	30%	\$472,500	\$2,047,500
	Subtotal - Mitigation				\$1,575,000		\$472,500	\$2,047,500
3	Relocations							
3.1	Mobilization and Demobilization	1	LS	5%	\$9,069.00	30%	\$2,721	\$11,790
3.2	Utility Pole Relocation	2	EA	\$30,000	\$60,000	30%	\$18,000	\$78,000
3.3	Private Irrigation Allowance	6,069	LF	\$20	\$121,380	30%	\$36,414	\$157,794
	Subtotal - Relocations				\$190,500		\$57,200	\$247,600
4	Levees							
4.1	Mobilization and Demobilization	1	LS	5%	\$1,062,353	30%	\$318,706	\$1,381,058
4.2	Traffic Control (Rural)	1	LS	1%	\$210,367	30%	\$63,110	\$273,477
4.3	Storm Water Pollution Control	1	LS	3%	\$612,719	30%	\$183,816	\$796,535
4.4	Project Fencing	12,138	LF	\$4	\$42,483	30%	\$12,745	\$55,228
4.5	Clearing and Grubbing	60	AC	\$3,000	\$180,000	30%	\$54,000	\$234,000
4.6	Remove Ex. Agg. Surfacing	6,069	LF	\$10	\$60,690	30%	\$18,207	\$78,897
4.7	Levee Stripping	56	AC	\$4,000	\$224,000	30%	\$67,200	\$291,200
4.8	Levee Degrading/ Excavation	0	CY	\$5	\$0	30%	\$0	\$0
4.9	Levee Fill (Embankment)	386,393	CY	\$4	\$1,545,572	30%	\$463,672	\$2,009,244
4.10	Cutoff Wall - Soil Bentonite	0	SF	\$7	\$0	30%	\$0	\$0
4.11	Drain Rock	154,305	TON	\$45	\$6,943,725	30%	\$2,083,118	\$9,026,843
4.12	Sand Filter Layer	78,291	TON	\$45	\$3,523,095	30%	\$1,056,929	\$4,580,024
4.13	Rock Slope Protection	0	TON	\$80	\$0	30%	\$0	\$0
4.14	Class 2 Aggregate Surfacing	4,552	TON	\$35	\$159,320	30%	\$47,796	\$207,116
4.15	Levee Erosion Control Seeding	60	AC	\$3,500	\$210,000	30%	\$63,000	\$273,000
4.16	Haul and Dispose of Unsuitable Material	0	CY	\$10	\$0	30%	\$0	\$0
4.17	Borrow Site Clearing and Grubbing	58	AC	\$3,000	\$174,000	30%	\$52,200	\$226,200
4.18	Borrow Site Stripping	58	AC	\$3,500	\$203,000	30%	\$60,900	\$263,900
4.19	Borrow Site Excavation and Hauling	463,672	CY	\$15	\$6,955,080	30%	\$2,086,524	\$9,041,604
4.20	Borrow Site Erosion Control Seeding	58	AC	\$3,500	\$203,000	30%	\$60,900	\$263,900
	Subtotal - Levees				\$22,309,500		\$6,692,900	\$29,002,300
	ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))				\$27,740,000		\$8,322,100	\$36,061,900
5	Planning, Engineering and Design							
5.1	Planning, Engineering and Design (8%)				\$2,219,200	0%	\$0	\$2,219,200
6	Construction Management							
6.1	Construction Management (6%)				\$1,664,400	0%	\$0	\$1,664,400
	ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))				\$31,623,600		\$8,322,100	\$39,945,500
	ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)				\$34,754,336.40		\$9,145,987.90	\$43,900,200

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 CUTOFF WALL (65-FOOT DEEP)



FEATHER RIVER REACH A - STA 640+20 TO 700+89

Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1	Lands							
1.1	Land Acquisition (Flood Control Feature)	4.1	AC	\$45,000	\$184,500	30%	\$55,350	\$239,850
1.2	Land Acquisition (O&M Easement)	1.4	AC	\$45,000	\$63,000	30%	\$18,900	\$81,900
1.3	Borrow Site Royalties	13.6	AC	\$20,000	\$272,000	30%	\$81,600	\$353,600
1.4	Residential Building	0.0	EA	\$400,000	\$0	30%	\$0	\$0
	Subtotal - Land and Damages				\$519,500		\$155,900	\$675,400
2	Mitigation - Environmental							
2.1	Environmental Mitigation	1	LS	7%	\$480,830	30%	\$144,249	\$625,079
	Subtotal - Mitigation				\$480,900		\$144,300	\$625,100
3	Relocations							
3.1	Mobilization and Demobilization	1	LS	5%	\$9,069.00	30%	\$2,721	\$11,790
3.2	Utility Pole Relocation	2	EA	\$30,000	\$60,000	30%	\$18,000	\$78,000
3.3	Private Irrigation Allowance	6,069	LF	\$20	\$121,380	30%	\$36,414	\$157,794
	Subtotal - Relocations				\$190,500		\$57,200	\$247,600
4	Levees							
4.1	Mobilization and Demobilization	1	LS	5%	\$318,022	30%	\$95,407	\$413,428
4.2	Traffic Control (Rural)	1	LS	1%	\$62,975	30%	\$18,892	\$81,867
4.3	Storm Water Pollution Control	1	LS	3%	\$183,421	30%	\$55,026	\$238,448
4.4	Project Fencing	12,138	LF	\$4	\$42,483	30%	\$12,745	\$55,228
4.5	Clearing and Grubbing	18	AC	\$3,000	\$54,000	30%	\$16,200	\$70,200
4.6	Remove Ex. Agg. Surfacing	6,069	LF	\$10	\$60,690	30%	\$18,207	\$78,897
4.7	Levee Stripping	9	AC	\$4,000	\$36,000	30%	\$10,800	\$46,800
4.8	Levee Degrading/ Excavation	64,399	CY	\$5	\$321,995	30%	\$96,599	\$418,594
4.9	Levee Fill (Embankment)	91,204	CY	\$4	\$364,816	30%	\$109,445	\$474,261
4.10	Cutoff Wall - Soil Bentonite	394,485	SF	\$7	\$2,564,153	30%	\$769,246	\$3,333,398
4.11	Drain Rock	0	TON	\$45	\$0	30%	\$0	\$0
4.12	Sand Filter Layer	0	TON	\$45	\$0	30%	\$0	\$0
4.13	Rock Slope Protection	0	TON	\$80	\$0	30%	\$0	\$0
4.14	Class 2 Aggregate Surfacing	4,552	TON	\$35	\$159,320	30%	\$47,796	\$207,116
4.15	Levee Erosion Control Seeding	18	AC	\$3,500	\$63,000	30%	\$18,900	\$81,900
4.16	Haul and Dispose of Unsuitable Material	66,591	CY	\$10	\$665,910	30%	\$199,773	\$865,683
4.17	Borrow Site Clearing and Grubbing	14	AC	\$3,000	\$42,000	30%	\$12,600	\$54,600
4.18	Borrow Site Stripping	14	AC	\$3,500	\$49,000	30%	\$14,700	\$63,700
4.19	Borrow Site Excavation and Hauling	109,445	CY	\$15	\$1,641,675	30%	\$492,503	\$2,134,178
4.20	Borrow Site Erosion Control Seeding	14	AC	\$3,500	\$49,000	30%	\$14,700	\$63,700
	Subtotal - Levees				\$6,678,500		\$2,003,600	\$8,682,000
	ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))				\$7,869,400		\$2,361,000	\$10,230,100
5	Planning, Engineering and Design							
5.1	Planning, Engineering and Design (8%)				\$629,552	0%	\$0	\$629,600
6	Construction Management							
6.1	Construction Management (6%)				\$472,164	0%	\$0	\$472,200
	ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))				\$8,971,116		\$2,361,000	\$11,331,900
	ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)				\$9,859,256.48		\$2,594,739.00	\$12,453,800

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 DRAINED STABILITY BERM (20-FOOT WIDE)
 CROSS CANAL REACH A - STA 0+00 TO 284+80



Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1	Lands							
1.1	Land Acquisition (Flood Control Feature)	40.6	AC	\$45,000	\$1,827,000	30%	\$548,100	\$2,375,100
1.2	Land Acquisition (O&M Easement)	6.6	AC	\$45,000	\$297,000	30%	\$89,100	\$386,100
1.3	Borrow Site Royalties	83.7	AC	\$20,000	\$1,674,000	30%	\$502,200	\$2,176,200
	Subtotal - Land and Damages				\$3,798,000		\$1,139,400	\$4,937,400
2	Mitigation - Environmental							
2.1	Environmental Mitigation	1	LS	7%	\$6,746,614	30%	\$2,023,984	\$8,770,598
	Subtotal - Mitigation				\$6,746,614		\$2,024,000	\$8,770,600
3	Relocations							
3.1	Mobilization and Demobilization	1	LS	5%	\$3,307,080.00	30%	\$992,124	\$4,299,204
3.2	Utility Pole Relocation	54	EA	\$30,000	\$1,620,000	30%	\$486,000	\$2,106,000
3.3	Canal Relocation	17,200	LF	\$110	\$1,892,000	30%	\$567,600	\$2,459,600
3.4	Irrigation Pump Relocation	3	EA	\$20,000	\$60,000	30%	\$18,000	\$78,000
3.5	Remove & Replace RD 1001 Main Pump Station (650 CFS Capacity)	1	EA	\$60,000,000	\$60,000,000	30%	\$18,000,000	\$78,000,000
3.6	PG&E Substation Relocation	1	EA	\$2,000,000	\$2,000,000	30%	\$600,000	\$2,600,000
3.7	Remove & Replace Distribution Tower	0	EA	\$3,000,000	\$0	30%	\$0	\$0
3.8	Private Irrigation Allowance	28,480	LF	\$20	\$569,600	30%	\$170,880	\$740,480
	Subtotal - Relocations				\$69,448,700		\$20,834,700	\$90,283,300
4	Levees							
4.1	Mobilization and Demobilization	1	LS	5%	\$1,282,452	30%	\$384,736	\$1,667,188
4.2	Traffic Control (Rural)	1	LS	1%	\$253,951	30%	\$76,185	\$330,136
4.3	Storm Water Pollution Control	1	LS	3%	\$739,663	30%	\$221,899	\$961,562
4.4	Project Fencing	56,960	LF	\$4	\$199,360	30%	\$59,808	\$259,168
4.5	Clearing and Grubbing	112	AC	\$3,000	\$336,000	30%	\$100,800	\$436,800
4.6	Remove Ex. Agg. Surfacing	28,480	LF	\$10	\$284,800	30%	\$85,440	\$370,240
4.7	Levee Stripping	95	AC	\$4,000	\$380,000	30%	\$114,000	\$494,000
4.8	Levee Degrading/ Excavation	88,078	CY	\$5	\$440,390	30%	\$132,117	\$572,507
4.9	Levee Fill (Embankment)	562,217	CY	\$4	\$2,248,868	30%	\$674,660	\$2,923,528
4.10	Cutoff Wall - Soil Bentonite	0	SF	\$7	\$0	30%	\$0	\$0
4.11	Drain Rock	111,072	TON	\$45	\$4,998,240	30%	\$1,499,472	\$6,497,712
4.12	Sand Filter Layer	61,944	TON	\$45	\$2,787,480	30%	\$836,244	\$3,623,724
4.13	Rock Slope Protection	0	TON	\$80	\$0	30%	\$0	\$0
4.14	Class 2 Aggregate Surfacing	21,360	TON	\$35	\$747,600	30%	\$224,280	\$971,880
4.15	Levee Erosion Control Seeding	112	AC	\$3,500	\$392,000	30%	\$117,600	\$509,600
4.16	Haul and Dispose of Unsuitable Material	88,078	CY	\$10	\$880,780	30%	\$264,234	\$1,145,014
4.17	Borrow Site Clearing and Grubbing	84	AC	\$3,000	\$252,000	30%	\$75,600	\$327,600
4.18	Borrow Site Stripping	84	AC	\$3,500	\$294,000	30%	\$88,200	\$382,200
4.19	Borrow Site Excavation and Hauling	674,661	CY	\$15	\$10,119,915	30%	\$3,035,975	\$13,155,890
4.20	Borrow Site Erosion Control Seeding	84	AC	\$3,500	\$294,000	30%	\$88,200	\$382,200
	Subtotal - Levees				\$26,931,500		\$8,079,500	\$35,011,000
	ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))				\$106,924,900		\$32,077,600	\$139,002,300
5	Planning, Engineering and Design							
5.1	Planning, Engineering and Design (8%)				\$8,553,992	0%	\$0	\$8,554,000
6	Construction Management							
6.1	Construction Management (6%)				\$6,415,494	0%	\$0	\$6,415,500
	ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))				\$121,894,386		\$32,077,600	\$153,971,800
	ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)				\$133,961,930.21		\$35,253,282.40	\$169,215,100

NICOLAUS SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM
 FLOOD RISK REDUCTION FEASIBILITY STUDY
 OPINION OF PROBABLE PROJECT COSTS - 100-YEAR (20' CROWN)
 CUTOFF WALL (76-FOOT DEEP)



Item No.	Item	Quantity	Unit	Unit Price	Cost	Contingency (%)	Contingency (\$)	Cost w/Contingency
1								
Lands								
1.1	Land Acquisition (Flood Control Feature)	24.2	AC	\$45,000	\$1,089,000	30%	\$326,700	\$1,415,700
1.2	Land Acquisition (O&M Easement)	6.6	AC	\$45,000	\$297,000	30%	\$89,100	\$386,100
1.3	Borrow Site Royalties	75.9	AC	\$20,000	\$1,518,000	30%	\$455,400	\$1,973,400
	Subtotal - Land and Damages				\$2,904,000		\$871,200	\$3,775,200
2								
Mitigation - Environmental								
2.1	Environmental Mitigation	1	LS	7%	\$7,612,038	30%	\$2,283,611	\$9,895,649
	Subtotal - Mitigation				\$7,612,100		\$2,283,700	\$9,895,700
3								
Relocations								
3.1	Mobilization and Demobilization	1	LS	5%	\$3,477,380.00	30%	\$1,043,214	\$4,520,594
3.2	Utility Pole Relocation	58	EA	\$30,000	\$1,740,000	30%	\$522,000	\$2,262,000
3.3	Canal Relocation	19,800	LF	\$110	\$2,178,000	30%	\$653,400	\$2,831,400
3.4	Irrigation Pump Relocation	3	EA	\$20,000	\$60,000	30%	\$18,000	\$78,000
3.5	Remove & Replace RD 1001 Main Pump Station (650 CFS Capacity)	1	EA	\$60,000,000	\$60,000,000	30%	\$18,000,000	\$78,000,000
3.6	PG&E Substation Relocation	1	EA	\$2,000,000	\$2,000,000	30%	\$600,000	\$2,600,000
3.7	Remove & Replace Distribution Tower	1	EA	\$3,000,000	\$3,000,000	30%	\$900,000	\$3,900,000
3.8	Private Irrigation Allowance	28,480	LF	\$20	\$569,600	30%	\$170,880	\$740,480
	Subtotal - Relocations				\$73,025,000		\$21,907,500	\$94,932,500
4								
Levees								
4.1	Mobilization and Demobilization	1	LS	5%	\$1,700,872	30%	\$510,262	\$2,211,133
4.2	Traffic Control (Rural)	1	LS	1%	\$336,806	30%	\$101,042	\$437,848
4.3	Storm Water Pollution Control	1	LS	3%	\$980,989	30%	\$294,297	\$1,275,286
4.4	Project Fencing	56,960	LF	\$4	\$199,360	30%	\$59,808	\$259,168
4.5	Clearing and Grubbing	91	AC	\$3,000	\$273,000	30%	\$81,900	\$354,900
4.6	Remove Ex. Agg. Surfacing	28,480	LF	\$10	\$284,800	30%	\$85,440	\$370,240
4.7	Levee Stripping	48	AC	\$4,000	\$192,000	30%	\$57,600	\$249,600
4.8	Levee Degrading/ Excavation	301,150	CY	\$5	\$1,505,750	30%	\$451,725	\$1,957,475
4.9	Levee Fill (Embankment)	509,898	CY	\$4	\$2,039,592	30%	\$611,878	\$2,651,470
4.10	Cutoff Wall - Soil Bentonite	2,164,480	SF	\$7	\$14,069,120	30%	\$4,220,736	\$18,289,856
4.11	Drain Rock	0	TON	\$45	\$0	30%	\$0	\$0
4.12	Sand Filter Layer	0	TON	\$45	\$0	30%	\$0	\$0
4.13	Rock Slope Protection	0	TON	\$80	\$0	30%	\$0	\$0
4.14	Class 2 Aggregate Surfacing	21,360	TON	\$35	\$747,600	30%	\$224,280	\$971,880
4.15	Levee Erosion Control Seeding	91	AC	\$3,500	\$318,500	30%	\$95,550	\$414,050
4.16	Haul and Dispose of Unsuitable Material	313,175	CY	\$10	\$3,131,750	30%	\$939,525	\$4,071,275
4.17	Borrow Site Clearing and Grubbing	76	AC	\$3,000	\$228,000	30%	\$68,400	\$296,400
4.18	Borrow Site Stripping	76	AC	\$3,500	\$266,000	30%	\$79,800	\$345,800
4.19	Borrow Site Excavation and Hauling	611,878	CY	\$15	\$9,178,170	30%	\$2,753,451	\$11,931,621
4.20	Borrow Site Erosion Control Seeding	76	AC	\$3,500	\$266,000	30%	\$79,800	\$345,800
	Subtotal - Levees				\$35,718,400		\$10,715,500	\$46,433,900
ESTIMATED REACH SUB-TOTAL (100-YEAR (20' CROWN))					\$119,259,500		\$35,777,900	\$155,037,300
5								
Planning, Engineering and Design								
5.1	Planning, Engineering and Design (8%)				\$9,540,760	0%	\$0	\$9,540,800
6								
Construction Management								
6.1	Construction Management (6%)				\$7,155,570	0%	\$0	\$7,155,600
ESTIMATED REACH TOTAL (100-YEAR (20' CROWN))					\$135,955,830		\$35,777,900	\$171,733,700
ESTIMATED REACH TOTAL (w/Escalation @ 3.3% for 3-years)					\$149,415,457.17		\$39,319,912.10	\$188,735,400