

**CITY OF RANCHO PALOS VERDES MASTER PLAN OF DRAINAGE**

**Michael Baker**  
INTERNATIONAL

**TECHNICAL APPENDIX B-1**

**COST ESTIMATES  
OCEAN SOUTH SOUTH**



**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South South

CB0973 to MC0971

Street: Amber Sky Dr

Atlas Map 13C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	189	\$190	\$35,862.75
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$7,200	\$7,200.00
6	Remove 18" CMP	FT	189	\$24	\$4,564.35
7	Traffic Control	LS	1	\$1,300	\$1,300.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$5,400	\$5,400.00
10	Miscellaneous Items (10%)	LS	1	\$6,000	\$6,000.00
SUBTOTAL (CONSTRUCTION)					\$65,327
11	Engineering and Design (8%)	LS	1	\$5,300	\$5,300
12	Surveying (1%)	LS	1	\$700	\$700
13	Construction Management (6%)	LS	1	\$4,000	\$4,000
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$10,000
SUBTOTAL COST					\$75,327
CONTINGENCY					20%
TOTAL PROJECT					\$90,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South South

CB0977 to OS0316

Street: Oceanaire Dr

Atlas Map 13D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	136	\$190	\$25,806.00
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$5,200	\$5,200.00
6	Remove 18" CMP	FT	136	\$24	\$3,284.40
7	Traffic Control	LS	1	\$900	\$900.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$4,100	\$4,100.00
10	Miscellaneous Items (10%)	LS	1	\$4,500	\$4,500.00
SUBTOTAL (CONSTRUCTION)					\$48,790
11	Engineering and Design (8%)	LS	1	\$4,000	\$4,000
12	Surveying (1%)	LS	1	\$500	\$500
13	Construction Management (6%)	LS	1	\$3,000	\$3,000
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$7,500
SUBTOTAL COST					\$56,290
CONTINGENCY				20%	\$11,258
TOTAL PROJECT					\$68,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South South

CB3456 to OS19712

Street: Palos Verdes Dr South

Atlas Map 24C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" CMP	FT	138	\$207	\$28,566.00
2	Install 36" CMP	FT	1057	\$288	\$303,887.50
3	Manhole	EA	3	\$4,700	\$14,100.00
4	Catch Basin	EA	2	\$5,000	\$10,000.00
5	Junction Structure	EA	2	\$2,000	\$4,000.00
6	Utility Relocation Allowance	LS	1	\$72,200	\$72,200.00
7	Remove 24" CMP	FT	547	\$28	\$15,568.99
8	Remove 30" CMP	FT	648	\$31	\$20,120.40
9	Traffic Control	LS	1	\$11,900	\$11,900.00
10	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
11	Mobilization (10%)	LS	1	\$48,600	\$48,600.00
12	Miscellaneous Items (10%)	LS	1	\$53,400	\$53,400.00
SUBTOTAL (CONSTRUCTION)					\$587,343
13	Engineering and Design (8%)	LS	1	\$47,000	\$47,000
14	Surveying (1%)	LS	1	\$5,900	\$5,900
15	Construction Management (6%)	LS	1	\$35,300	\$35,300
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$88,200
SUBTOTAL COST					\$675,543
CONTINGENCY					20%
<b>TOTAL PROJECT</b>					<b>\$811,000</b>

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South South

IS54000 to OS54002

Street: Palos Verdes Dr South

Atlas Map 24C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" CMP*	FT	774	\$190	\$146,866.50
2	Manhole	EA	2	\$4,700	\$9,400.00
3	Catch Basin	EA	1	\$5,000	\$5,000.00
4	Junction Structure	EA	1	\$2,000	\$2,000.00
5	Utility Relocation Allowance	LS	1	\$32,700	\$32,700.00
6	Traffic Control	LS	1	\$4,900	\$4,900.00
7	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
8	Mobilization (10%)	LS	1	\$20,600	\$20,600.00
9	Miscellaneous Items (10%)	LS	1	\$22,700	\$22,700.00
SUBTOTAL (CONSTRUCTION)					\$249,167
10	Engineering and Design (8%)	LS	1	\$20,000	\$20,000
11	Surveying (1%)	LS	1	\$2,500	\$2,500
12	Construction Management (6%)	LS	1	\$15,000	\$15,000
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$37,500
SUBTOTAL COST					\$286,667
CONTINGENCY					20%
TOTAL PROJECT					\$344,000

\*New Storm Drain

**CITY OF RANCHO PALOS VERDES MASTER PLAN OF DRAINAGE**

**Michael Baker**  
**INTERNATIONAL**

**TECHNICAL APPENDIX B-2**

**COST ESTIMATES  
OCEAN SOUTH EAST**



**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

GB4914 to OS4031

Street: Seawall Road

Atlas Map 24D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 60" RCP	FT	244	\$397	\$96,807
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$21,800	\$21,800
6	Remove 48" RCP	FT	244	\$50	\$12,206
7	Traffic Control	LS	1	\$3,700	\$3,700
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$15,200	\$15,200
10	Miscellaneous Items (10%)	LS	1	\$16,700	\$16,700
SUBTOTAL (CONSTRUCTION)					\$183,113
11	Engineering and Design (8%)	LS	1	\$14,700	\$14,700
12	Surveying (1%)	LS	1	\$1,900	\$1,900
13	Construction Management (6%)	LS	1	\$11,000	\$11,000
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$27,600
SUBTOTAL COST					\$210,713
CONTINGENCY					20%
TOTAL PROJECT					\$253,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

GB1919 to MH0516

Street: Dauntless Dr and Schooner dr

Atlas Map 25C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 36" RCP	FT	454	\$288	\$130,525
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$27,100	\$27,100
6	Remove 30" RCP	FT	454	\$31.05	\$14,097
7	Traffic Control	LS	1	\$4,500	\$4,500
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$18,600	\$18,600
10	Miscellaneous Items (10%)	LS	1	\$20,500	\$20,500
<b>SUBTOTAL (CONSTRUCTION)</b>					<b>\$225,022</b>
11	Engineering and Design (8%)	LS	1	\$18,100	\$18,100
12	Surveying (1%)	LS	1	\$2,300	\$2,300
13	Construction Management (6%)	LS	1	\$13,600	\$13,600
<b>SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)</b>					<b>\$34,000</b>
<b>SUBTOTAL COST</b>					<b>\$259,022</b>
<b>CONTINGENCY</b>					<b>20%</b>
<b>TOTAL PROJECT</b>					<b>\$311,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

TS7317 to MH0516

Street: Dauntless Dr

Atlas Map 25C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 48" RCP	FT	909	\$334	\$303,151.50
2	Manhole	EA	3	\$4,700	\$14,100
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$64,900	\$64,900
6	Remove 36" RCP	FT	749	\$43.13	\$32,301
7	Remove 42" RCP	FT	160	\$47.44	\$7,590
8	Traffic Control	LS	1	\$11,000	\$11,000
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
10	Mobilization (10%)	LS	1	\$44,600	\$44,600
11	Miscellaneous Items (10%)	LS	1	\$49,000	\$49,000
SUBTOTAL (CONSTRUCTION)					\$538,642
12	Engineering and Design (8%)	LS	1	\$43,100	\$43,100
13	Surveying (1%)	LS	1	\$5,400	\$5,400
14	Construction Management (6%)	LS	1	\$32,400	\$32,400
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$80,900
SUBTOTAL COST					\$619,542
CONTINGENCY					20%
TOTAL PROJECT					\$123,908.43
					\$743,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

GB2648 to OS0417

Street: Ganado Dr

Atlas Map 25D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	228	\$190	\$43,263
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$8,700	\$8,700
6	Remove 18" RCP	FT	228	\$24.15	\$5,506
7	Traffic Control	LS	1	\$1,500	\$1,500
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$6,400	\$6,400
10	Miscellaneous Items (10%)	LS	1	\$7,100	\$7,100
SUBTOTAL (CONSTRUCTION)					\$77,469
11	Engineering and Design (8%)	LS	1	\$6,200	\$6,200
12	Surveying (1%)	LS	1	\$800	\$800
13	Construction Management (6%)	LS	1	\$4,700	\$4,700
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$11,700
SUBTOTAL COST					\$89,169
CONTINGENCY					20%
TOTAL PROJECT					\$107,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

CB0389 to MH2371

Street: Casilina Dr and Hawksmoor Dr

Atlas Map 25D & 26C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	551	\$207	\$114,057
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$25,200	\$25,200
6	Remove 18" RCP	FT	196	\$24.15	\$4,733
7	Remove 21" CMP	FT	236	\$28	\$6,717
8	Remove 27" RCP	FT	119	\$28	\$3,387.04
9	Traffic Control	LS	1	\$4,300	\$4,300
10	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
11	Mobilization (10%)	LS	1	\$17,600	\$17,600
12	Miscellaneous Items (10%)	LS	1	\$19,300	\$19,300
SUBTOTAL (CONSTRUCTION)					\$211,995
13	Engineering and Design (8%)	LS	1	\$17,000	\$17,000
14	Surveying (1%)	LS	1	\$2,200	\$2,200
15	Construction Management (6%)	LS	1	\$12,800	\$12,800
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$32,000
SUBTOTAL COST					\$243,995
CONTINGENCY					20%
TOTAL PROJECT					\$48,798.92
					\$293,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

IS0095 to OS3564

Street: Parkhurst Dr and Crest Rd

Atlas Map 26A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	267	\$190	\$50,663
2	Install 4'X2' RCB	FT	12	\$1,500	\$18,000
3	Manhole	EA	1	\$4,700	\$4,700
4	Catch Basin	EA	1	\$5,000	\$5,000
5	Junction Structure	EA	1	\$2,000	\$2,000
6	Utility Relocation Allowance	LS	1	\$16,100	\$16,100
7	Remove 18" RCP	FT	267	\$24	\$6,448
8	Remove 2'x1.2' RCB	FT	12	\$47	\$569
9	Traffic Control	LS	1	\$2,700	\$2,700
10	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
11	Mobilization (10%)	LS	1	\$11,200	\$11,200
12	Miscellaneous Items (10%)	LS	1	\$12,300	\$12,300
SUBTOTAL (CONSTRUCTION)					\$134,681
13	Engineering and Design (8%)	LS	1	\$10,800	\$10,800
14	Surveying (1%)	LS	1	\$1,400	\$1,400
15	Construction Management (6%)	LS	1	\$8,100	\$8,100
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$20,300
SUBTOTAL COST					\$154,981
CONTINGENCY					20%
TOTAL PROJECT					\$186,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

GB34124 to OS0072

Street: Dianora Dr A and Crest Rd

Atlas Map 26C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	343	\$207	\$71,001
2	Install 36" RCP	FT	145	\$288	\$41,687.50
3	Manhole	EA	1	\$4,700	\$4,700
4	Catch Basin	EA	0	\$5,000	\$0
5	Junction Structure	EA	0	\$2,000	\$0
6	Utility Relocation Allowance	LS	1	\$23,500	\$23,500
7	Remove 21" RCP	FT	250	\$28	\$7,115.63
8	Remove 24" RCP	FT	238	\$28	\$6,774
9	Traffic Control	LS	1	\$4,000	\$4,000
10	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
11	Mobilization (10%)	LS	1	\$16,400	\$16,400
12	Miscellaneous Items (10%)	LS	1	\$18,100	\$18,100
SUBTOTAL (CONSTRUCTION)					\$198,278
13	Engineering and Design (8%)	LS	1	\$15,900	\$15,900
14	Surveying (1%)	LS	1	\$2,000	\$2,000
15	Construction Management (6%)	LS	1	\$11,900	\$11,900
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$29,800
SUBTOTAL COST					\$228,078
CONTINGENCY					20%
<b>TOTAL PROJECT</b>					<b>\$274,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

IS0967 to MH0332

Street: Palos Verdes Dr East

Atlas Map 27A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	172	\$190	\$32,637
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$7,500	\$7,500
6	Remove 18" RCP	FT	58	\$24	\$1,400.70
7	Remove 21" RCP	FT	114	\$28	\$3,244.73
8	Traffic Control	LS	1	\$1,300	\$1,300
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
10	Mobilization (10%)	LS	1	\$5,600	\$5,600
11	Miscellaneous Items (10%)	LS	1	\$6,200	\$6,200
SUBTOTAL (CONSTRUCTION)					\$67,582
12	Engineering and Design (8%)	LS	1	\$5,500	\$5,500
13	Surveying (1%)	LS	1	\$700	\$700
14	Construction Management (6%)	LS	1	\$4,100	\$4,100
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$10,300
SUBTOTAL COST					\$77,882
CONTINGENCY					20%
TOTAL PROJECT					\$15,576.49
					\$93,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

CB36128 to CB36129

Street: Tarapaca Rd

Atlas Map 27A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	51	\$190	\$9,677
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	2	\$5,000	\$10,000
4	Junction Structure	EA	2	\$2,000	\$4,000
5	Utility Relocation Allowance	LS	1	\$4,800	\$4,800
6	Remove 18" RCP	FT	51	\$24	\$1,231.65
7	Traffic Control	LS	1	\$800	\$800
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$3,600	\$3,600
10	Miscellaneous Items (10%)	LS	1	\$4,000	\$4,000
SUBTOTAL (CONSTRUCTION)					\$43,109
11	Engineering and Design (8%)	LS	1	\$3,500	\$3,500
12	Surveying (1%)	LS	1	\$500	\$500
13	Construction Management (6%)	LS	1	\$2,600	\$2,600
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$6,600
SUBTOTAL COST					\$49,709
CONTINGENCY					20%
TOTAL PROJECT					\$60,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

JS1947 to OS0513

Street: Schooner Dr

Atlas Map 28A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 60" RCP	FT	480	\$397	\$190,440.00
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$39,100	\$39,100
6	Remove 45" RCP	FT	150	\$50.03	\$7,504
7	Remove 48" RCP	FT	330	\$50.03	\$16,508
8	Traffic Control	LS	1	\$6,600	\$6,600
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
10	Mobilization (10%)	LS	1	\$27,000	\$27,000
11	Miscellaneous Items (10%)	LS	1	\$29,700	\$29,700
SUBTOTAL (CONSTRUCTION)					\$326,552
12	Engineering and Design (8%)	LS	1	\$26,200	\$26,200
13	Surveying (1%)	LS	1	\$3,300	\$3,300
14	Construction Management (6%)	LS	1	\$19,600	\$19,600
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$49,100
SUBTOTAL COST					\$375,652
CONTINGENCY					20%
<b>TOTAL PROJECT</b>					<b>\$451,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

CB3134 to OS3138

Street: Maritime Rd

Atlas Map 28A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	186	\$190	\$35,293.50
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$7,100	\$7,100
6	Remove 18" RCP	FT	186	\$24.15	\$4,492
7	Traffic Control	LS	1	\$1,200	\$1,200
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$5,400	\$5,400
10	Miscellaneous Items (10%)	LS	1	\$5,900	\$5,900
SUBTOTAL (CONSTRUCTION)					\$64,385
11	Engineering and Design (8%)	LS	1	\$5,200	\$5,200
12	Surveying (1%)	LS	1	\$700	\$700
13	Construction Management (6%)	LS	1	\$3,900	\$3,900
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$9,800
SUBTOTAL COST					\$74,185
CONTINGENCY					20%
TOTAL PROJECT					\$14,837.08
					\$89,000



**CITY OF RANCHO PALOS VERDES MASTER PLAN OF DRAINAGE**

**Michael Baker**  
**INTERNATIONAL**

**TECHNICAL APPENDIX B-3**

**COST ESTIMATES  
OCEAN SOUTH WEST**



**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South West

CB1065 to CB1063

Street: Crest Rd

Atlas Map 12D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	68	\$207	\$14,076.00
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$2,900	\$2,900.00
6	Remove 24" RCP	FT	68	\$28	\$1,935.45
7	Traffic Control	LS	1	\$500	\$500.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$2,500	\$2,500.00
10	Miscellaneous Items (10%)	LS	1	\$2,700	\$2,700.00
SUBTOTAL (CONSTRUCTION)					\$29,611
11	Engineering and Design (8%)	LS	1	\$2,400	\$2,400
12	Surveying (1%)	LS	1	\$300	\$300
13	Construction Management (6%)	LS	1	\$1,800	\$1,800
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$4,500
SUBTOTAL COST					\$34,111
CONTINGENCY				20%	\$6,822
TOTAL PROJECT					\$41,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South West

GB1743 to MH13709

Street: Palos Verdes Dr S

Atlas Map 22B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 42" RCP	FT	357	\$316	\$112,901
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$23,600	\$23,600
6	Remove 24" RCP	FT	197	\$28	\$5,607
7	Remove 30" RCP	FT	160	\$31	\$4,968
8	Traffic Control	LS	1	\$3,900	\$3,900
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
10	Mobilization (10%)	LS	1	\$16,100	\$16,100
11	Miscellaneous Items (10%)	LS	1	\$17,700	\$17,700
SUBTOTAL (CONSTRUCTION)					\$194,476
12	Engineering and Design (8%)	LS	1	\$15,600	\$15,600
13	Surveying (1%)	LS	1	\$2,000	\$2,000
14	Construction Management (6%)	LS	1	\$11,700	\$11,700
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$29,300
SUBTOTAL COST					\$223,776
CONTINGENCY					20%
TOTAL PROJECT					\$269,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South West

CB0552 to MH25730

Street: Palos Verdes Dr S

Atlas Map 22B & 22D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	1258	\$190	\$238,706
2	Manhole	EA	4	\$4,700	\$18,800
3	Catch Basin	EA	2	\$5,000	\$10,000
4	Junction Structure	EA	2	\$2,000	\$4,000
5	Utility Relocation Allowance	LS	1	\$54,400	\$54,400
6	Remove 18" RCP	FT	1258	\$24	\$30,381
7	Traffic Control	LS	1	\$9,100	\$9,100
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$37,100	\$37,100
10	Miscellaneous Items (10%)	LS	1	\$40,800	\$40,800
SUBTOTAL (CONSTRUCTION)					\$448,286
11	Engineering and Design (8%)	LS	1	\$35,900	\$35,900
12	Surveying (1%)	LS	1	\$4,500	\$4,500
13	Construction Management (6%)	LS	1	\$26,900	\$26,900
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$67,300
SUBTOTAL COST					\$515,586
CONTINGENCY					20%
TOTAL PROJECT					\$619,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South West

IS40930 to MH25770

Street: Terranea Way

Atlas Map 22D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	592	\$190	\$112,332
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$24,900	\$24,900
6	Remove 18" RCP	FT	592	\$24	\$14,297
7	Traffic Control	LS	1	\$4,200	\$4,200
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$17,300	\$17,300
10	Miscellaneous Items (10%)	LS	1	\$19,000	\$19,000
SUBTOTAL (CONSTRUCTION)					\$208,729
11	Engineering and Design (8%)	LS	1	\$16,700	\$16,700
12	Surveying (1%)	LS	1	\$2,100	\$2,100
13	Construction Management (6%)	LS	1	\$12,600	\$12,600
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$31,400
SUBTOTAL COST					\$240,129
CONTINGENCY					20%
TOTAL PROJECT					\$288,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South West

MH0675 to OS0673

Street: Arrowroot Ln

Atlas Map 23B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 48" RCP	FT	346	\$334	\$115,391.00
2	Manhole	EA	1	\$4,700	\$4,700.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$24,100	\$24,100.00
6	Remove 36" RCP	FT	346	\$43	\$14,921.25
7	Traffic Control	LS	1	\$4,100	\$4,100.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$16,900	\$16,900.00
10	Miscellaneous Items (10%)	LS	1	\$18,600	\$18,600.00
SUBTOTAL (CONSTRUCTION)					\$203,712
11	Engineering and Design (8%)	LS	1	\$16,300	\$16,300
12	Surveying (1%)	LS	1	\$2,100	\$2,100
13	Construction Management (6%)	LS	1	\$12,300	\$12,300
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$30,700
SUBTOTAL COST					\$234,412
CONTINGENCY					20%
TOTAL PROJECT					\$281,000



**CITY OF RANCHO PALOS VERDES MASTER PLAN OF DRAINAGE**

**Michael Baker**  
**INTERNATIONAL**

**TECHNICAL APPENDIX B-4**

**COST ESTIMATES  
OCEAN WEST**



**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean West

JS2675 to OS1184

Street: Palos Verdes W

Atlas Map 11C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 36" RCP	FT	47	\$288	\$13,512.50
2	Install 48" RCP	FT	216	\$334	\$72,036.00
3	Install 54" RCP	FT	121	\$345	\$41,745.00
4	Manhole	EA	1	\$4,700	\$4,700.00
5	Catch Basin	EA	0	\$5,000	\$0.00
6	Junction Structure	EA	0	\$2,000	\$0.00
7	Utility Relocation Allowance	LS	1	\$26,400	\$26,400.00
8	Remove 18" RCP	FT	47	\$24	\$1,135.05
9	Remove 30" RCP	FT	197	\$31	\$6,116.85
10	Remove 39" RCP	FT	140	\$47	\$6,641.25
11	Traffic Control	LS	1	\$4,400	\$4,400.00
12	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
13	Mobilization (10%)	LS	1	\$18,200	\$18,200.00
14	Miscellaneous Items (10%)	LS	1	\$20,000	\$20,000.00
SUBTOTAL (CONSTRUCTION)					\$219,887
15	Engineering and Design (8%)	LS	1	\$17,600	\$17,600
16	Surveying (1%)	LS	1	\$2,200	\$2,200
17	Construction Management (6%)	LS	1	\$13,200	\$13,200
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$33,000
SUBTOTAL COST					\$252,887
CONTINGENCY					20% \$50,577
TOTAL PROJECT					\$303,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean West

GB3310 to JS3303

Street: Rue La Fleur

Atlas Map 11C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	25	\$190	\$4,743.75
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$1,000	\$1,000.00
6	Remove 18" RCP	FT	25	\$24	\$603.75
7	Traffic Control	LS	1	\$200	\$200.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$1,200	\$1,200.00
10	Miscellaneous Items (10%)	LS	1	\$1,300	\$1,300.00
SUBTOTAL (CONSTRUCTION)					\$14,048
11	Engineering and Design (8%)	LS	1	\$1,200	\$1,200
12	Surveying (1%)	LS	1	\$200	\$200
13	Construction Management (6%)	LS	1	\$900	\$900
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$2,300
SUBTOTAL COST					\$16,348
CONTINGENCY					20%
TOTAL PROJECT					\$20,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean West

MH1191 to GB32121

Street: Berry Hill Dr

Atlas Map 11C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 42" RCP	FT	115	\$316	\$36,368.75
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$7,300	\$7,300.00
6	Remove 36" RCP	FT	115	\$43	\$4,959.38
7	Traffic Control	LS	1	\$1,300	\$1,300.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$5,500	\$5,500.00
10	Miscellaneous Items (10%)	LS	1	\$6,100	\$6,100.00
SUBTOTAL (CONSTRUCTION)					\$66,528
11	Engineering and Design (8%)	LS	1	\$5,400	\$5,400
12	Surveying (1%)	LS	1	\$700	\$700
13	Construction Management (6%)	LS	1	\$4,000	\$4,000
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$10,100
SUBTOTAL COST					\$76,628
CONTINGENCY				20%	\$15,326
TOTAL PROJECT					\$92,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean West

GB2310 to MH2306

Street: Via Borica

Atlas Map 11C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	84	\$207	\$17,388.00
2	Install 45" RCP	FT	106	\$334	\$35,351.00
3	Manhole	EA	0	\$4,700	\$0.00
4	Catch Basin	EA	0	\$5,000	\$0.00
5	Junction Structure	EA	0	\$2,000	\$0.00
6	Utility Relocation Allowance	LS	1	\$10,600	\$10,600.00
7	Remove 21" RCP	FT	84	\$28	\$2,390.85
8	Remove 30" RCP	FT	106	\$31	\$3,291.30
9	Traffic Control	LS	1	\$1,800	\$1,800.00
10	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
11	Mobilization (10%)	LS	1	\$7,600	\$7,600.00
12	Miscellaneous Items (10%)	LS	1	\$8,400	\$8,400.00
SUBTOTAL (CONSTRUCTION)					\$91,821
13	Engineering and Design (8%)	LS	1	\$7,400	\$7,400
14	Surveying (1%)	LS	1	\$1,000	\$1,000
15	Construction Management (6%)	LS	1	\$5,600	\$5,600
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$14,000
SUBTOTAL COST					\$105,821
CONTINGENCY					20%
TOTAL PROJECT					\$127,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean West

IS0632 to CB0735

Street: Alta Vista Dr

Atlas Map 20B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 36" RCP	FT	673	\$288	\$193,487.50
2	Manhole	EA	2	\$4,700	\$9,400.00
3	Catch Basin	EA	1	\$5,000	\$5,000.00
4	Junction Structure	EA	1	\$2,000	\$2,000.00
5	Utility Relocation Allowance	LS	1	\$42,000	\$42,000.00
6	Remove 24" RCP	FT	673	\$28	\$19,155.26
7	Traffic Control	LS	1	\$6,900	\$6,900.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$28,300	\$28,300.00
10	Miscellaneous Items (10%)	LS	1	\$31,200	\$31,200.00
SUBTOTAL (CONSTRUCTION)					\$342,443
11	Engineering and Design (8%)	LS	1	\$27,400	\$27,400
12	Surveying (1%)	LS	1	\$3,500	\$3,500
13	Construction Management (6%)	LS	1	\$20,600	\$20,600
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$51,500
SUBTOTAL COST					\$393,943
CONTINGENCY					20%
TOTAL PROJECT					\$473,000



**CITY OF RANCHO PALOS VERDES MASTER PLAN OF DRAINAGE**

**Michael Baker**  
**INTERNATIONAL**

**TECHNICAL APPENDIX B-5**

**COST ESTIMATES  
LOS ANGELES HARBOR SOUTH**



**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

CB0785 to OS0783

Street: Grandpoint Ln

Atlas Map 16C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	196	\$207	\$40,572
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$8,200	\$8,200
6	Remove 21" RCP	FT	83	\$28	\$2,362.39
7	Remove 24" RCP	FT	113	\$28	\$3,216.26
8	Traffic Control	LS	1	\$1,400	\$1,400
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
10	Mobilization (10%)	LS	1	\$6,100	\$6,100
11	Miscellaneous Items (10%)	LS	1	\$6,700	\$6,700
SUBTOTAL (CONSTRUCTION)					\$73,551
12	Engineering and Design (8%)	LS	1	\$5,900	\$5,900
13	Surveying (1%)	LS	1	\$800	\$800
14	Construction Management (6%)	LS	1	\$4,500	\$4,500
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$11,200
SUBTOTAL COST					\$84,751
CONTINGENCY					20%
TOTAL PROJECT					\$102,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

GB0819 to OS0817

Street: Knoll View Dr

Atlas Map 16C & 16D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 36" RCP	FT	588	\$288	\$169,050
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$36,200	\$36,200
6	Remove 24" RCP	FT	166	\$28	\$4,724.78
7	Remove 30" RCP	FT	422	\$31	\$13,103
8	Traffic Control	LS	1	\$6,000	\$6,000
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
10	Mobilization (10%)	LS	1	\$24,600	\$24,600
11	Miscellaneous Items (10%)	LS	1	\$27,100	\$27,100
SUBTOTAL (CONSTRUCTION)					\$297,478
12	Engineering and Design (8%)	LS	1	\$23,800	\$23,800
13	Surveying (1%)	LS	1	\$3,000	\$3,000
14	Construction Management (6%)	LS	1	\$17,900	\$17,900
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$44,700
SUBTOTAL COST					\$342,178
CONTINGENCY					20%
<b>TOTAL PROJECT</b>					<b>\$411,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

CB0814 to OS0816

Street: Crownview Dr

Atlas Map 16C & 16D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	433	\$190	\$82,161.75
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$17,400	\$17,400
6	Remove 18" RCP	FT	433	\$24	\$10,456.95
7	Traffic Control	LS	1	\$3,000	\$3,000
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$12,300	\$12,300
10	Miscellaneous Items (10%)	LS	1	\$13,600	\$13,600
<b>SUBTOTAL (CONSTRUCTION)</b>					<b>\$148,619</b>
11	Engineering and Design (8%)	LS	1	\$11,900	\$11,900
12	Surveying (1%)	LS	1	\$1,500	\$1,500
13	Construction Management (6%)	LS	1	\$9,000	\$9,000
<b>SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)</b>					<b>\$22,400</b>
<b>SUBTOTAL COST</b>					<b>\$171,019</b>
<b>CONTINGENCY</b>					<b>20%</b>
<b>TOTAL PROJECT</b>					<b>\$34,203.74</b>
<b>TOTAL PROJECT</b>					<b>\$205,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

CB0834 to OS0831

Street: Via Siena

Atlas Map 16D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 18" RCP	FT	284	\$161	\$45,724
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$9,200	\$9,200
6	Remove 12" RCP	FT	284	\$24.15	\$6,859
7	Traffic Control	LS	1	\$1,600	\$1,600
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$6,900	\$6,900
10	Miscellaneous Items (10%)	LS	1	\$7,600	\$7,600
SUBTOTAL (CONSTRUCTION)					\$82,883
11	Engineering and Design (8%)	LS	1	\$6,700	\$6,700
12	Surveying (1%)	LS	1	\$900	\$900
13	Construction Management (6%)	LS	1	\$5,000	\$5,000
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$12,600
SUBTOTAL COST					\$95,483
CONTINGENCY					20%
TOTAL PROJECT					\$115,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

CB0254 to OS0251

Street: Via Colinita

Atlas Map 26B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 18" RCP	FT	545	\$161	\$87,745
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$19,900	\$19,900
6	Remove 12" RCP	FT	545	\$24	\$13,162
7	Traffic Control	LS	1	\$3,400	\$3,400
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$14,100	\$14,100
10	Miscellaneous Items (10%)	LS	1	\$15,600	\$15,600
SUBTOTAL (CONSTRUCTION)					\$170,607
11	Engineering and Design (8%)	LS	1	\$13,700	\$13,700
12	Surveying (1%)	LS	1	\$1,800	\$1,800
13	Construction Management (6%)	LS	1	\$10,300	\$10,300
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$25,800
SUBTOTAL COST					\$196,407
CONTINGENCY					20%
TOTAL PROJECT					\$39,281
					\$236,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

CB0247 to OS0248

Street: Via Colinita

Atlas Map 26B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 18" RCP	FT	578	\$161	\$93,058
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$21,000	\$21,000
6	Remove 12" RCP	FT	578	\$24	\$13,959
7	Traffic Control	LS	1	\$3,600	\$3,600
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$14,900	\$14,900
10	Miscellaneous Items (10%)	LS	1	\$16,400	\$16,400
SUBTOTAL (CONSTRUCTION)					\$179,617
11	Engineering and Design (8%)	LS	1	\$14,400	\$14,400
12	Surveying (1%)	LS	1	\$1,800	\$1,800
13	Construction Management (6%)	LS	1	\$10,800	\$10,800
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$27,000
SUBTOTAL COST					\$206,617
CONTINGENCY					20%
TOTAL PROJECT					\$248,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

IS0235 to OS0232

Street: Via Colinita

Atlas Map 26B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 48" RCP	FT	159	\$334	\$53,026.50
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$10,700	\$10,700
6	Remove 30" RCP	FT	159	\$31.05	\$4,937
7	Traffic Control	LS	1	\$1,800	\$1,800
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$7,600	\$7,600
10	Miscellaneous Items (10%)	LS	1	\$8,400	\$8,400
<b>SUBTOTAL (CONSTRUCTION)</b>					<b>\$91,463</b>
11	Engineering and Design (8%)	LS	1	\$7,400	\$7,400
12	Surveying (1%)	LS	1	\$1,000	\$1,000
13	Construction Management (6%)	LS	1	\$5,500	\$5,500
<b>SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)</b>					<b>\$13,900</b>
<b>SUBTOTAL COST</b>					<b>\$105,363</b>
<b>CONTINGENCY</b>					<b>20%</b>
<b>TOTAL PROJECT</b>					<b>\$126,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

CB0124 to OS0125

Street: Deluna Dr

Atlas Map 26C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	274	\$190	\$51,992
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	2	\$5,000	\$10,000
4	Junction Structure	EA	2	\$2,000	\$4,000
5	Utility Relocation Allowance	LS	1	\$13,200	\$13,200
6	Remove 18" RCP	FT	274	\$24	\$6,617
7	Traffic Control	LS	1	\$2,200	\$2,200
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$9,400	\$9,400
10	Miscellaneous Items (10%)	LS	1	\$10,300	\$10,300
SUBTOTAL (CONSTRUCTION)					\$112,709
11	Engineering and Design (8%)	LS	1	\$9,100	\$9,100
12	Surveying (1%)	LS	1	\$1,200	\$1,200
13	Construction Management (6%)	LS	1	\$6,800	\$6,800
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$17,100
SUBTOTAL COST					\$129,809
CONTINGENCY					20%
TOTAL PROJECT					\$156,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

CB0058 to OS0059

Street: Palos Verdes Dr E

Atlas Map 26C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	59	\$190	\$11,195
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$3,700	\$3,700
6	Remove 18" RCP	FT	59	\$24	\$1,425
7	Traffic Control	LS	1	\$600	\$600
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$2,900	\$2,900
10	Miscellaneous Items (10%)	LS	1	\$3,200	\$3,200
SUBTOTAL (CONSTRUCTION)					\$35,020
11	Engineering and Design (8%)	LS	1	\$2,900	\$2,900
12	Surveying (1%)	LS	1	\$400	\$400
13	Construction Management (6%)	LS	1	\$2,200	\$2,200
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$5,500
SUBTOTAL COST					\$40,520
CONTINGENCY					20%
TOTAL PROJECT					\$49,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor South

CB0053 to OS0055

Street: Palos Verdes Dr E

Atlas Map 26C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	215	\$190	\$40,796
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	2	\$5,000	\$10,000
4	Junction Structure	EA	2	\$2,000	\$4,000
5	Utility Relocation Allowance	LS	1	\$11,000	\$11,000
6	Remove 18" RCP	FT	215	\$24	\$5,192
7	Traffic Control	LS	1	\$1,800	\$1,800
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$7,800	\$7,800
10	Miscellaneous Items (10%)	LS	1	\$8,600	\$8,600
<b>SUBTOTAL (CONSTRUCTION)</b>					<b>\$94,189</b>
11	Engineering and Design (8%)	LS	1	\$7,600	\$7,600
12	Surveying (1%)	LS	1	\$1,000	\$1,000
13	Construction Management (6%)	LS	1	\$5,700	\$5,700
<b>SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)</b>					<b>\$14,300</b>
<b>SUBTOTAL COST</b>					<b>\$108,489</b>
<b>CONTINGENCY</b>					<b>20%</b>
<b>TOTAL PROJECT</b>					<b>\$130,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Ocean South East

CB0294 to GB42524

**Pipe slope change**

Street: Vista Mesa Dr

Atlas Map 26D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 18" RCP	FT	254	\$161	\$40,894
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$8,200	\$8,200
6	Remove 18" RCP	FT	254	\$24	\$6,134
7	Traffic Control	LS	1	\$1,500	\$1,500
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$6,200	\$6,200
10	Miscellaneous Items (10%)	LS	1	\$6,800	\$6,800
<b>SUBTOTAL (CONSTRUCTION)</b>					<b>\$74,728</b>
11	Engineering and Design (8%)	LS	1	\$6,000	\$6,000
12	Surveying (1%)	LS	1	\$800	\$800
13	Construction Management (6%)	LS	1	\$4,500	\$4,500
<b>SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)</b>					<b>\$11,300</b>
<b>SUBTOTAL COST</b>					<b>\$86,028</b>
<b>CONTINGENCY</b>					<b>20%</b>
<b>TOTAL PROJECT</b>					<b>\$103,000</b>



**CITY OF RANCHO PALOS VERDES MASTER PLAN OF DRAINAGE**

**Michael Baker**  
**INTERNATIONAL**

**TECHNICAL APPENDIX B-6**

**COST ESTIMATES  
LOS ANGELES HARBOR EAST**



**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

IS0915 to OS0916

Street: Rockinghorse Rd

Atlas Map 15D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	120	\$190	\$22,770
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$4,600	\$4,600
6	Remove 18" RCP	FT	120	\$24	\$2,898
7	Traffic Control	LS	1	\$800	\$800
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$3,700	\$3,700
10	Miscellaneous Items (10%)	LS	1	\$4,000	\$4,000
SUBTOTAL (CONSTRUCTION)					\$43,768
11	Engineering and Design (8%)	LS	1	\$3,600	\$3,600
12	Surveying (1%)	LS	1	\$500	\$500
13	Construction Management (6%)	LS	1	\$2,700	\$2,700
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$6,800
SUBTOTAL COST					\$50,568
CONTINGENCY					20%
TOTAL PROJECT					\$61,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

CB3272 to CB3271

Street: Colt Rd

Atlas Map 15D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	36	\$190	\$6,831
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$1,400	\$1,400
6	Remove 18" RCP	FT	36	\$24	\$869
7	Traffic Control	LS	1	\$300	\$300
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$1,500	\$1,500
10	Miscellaneous Items (10%)	LS	1	\$1,600	\$1,600
SUBTOTAL (CONSTRUCTION)					\$17,500
11	Engineering and Design (8%)	LS	1	\$1,500	\$1,500
12	Surveying (1%)	LS	1	\$200	\$200
13	Construction Management (6%)	LS	1	\$1,100	\$1,100
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$2,800
SUBTOTAL COST					\$20,300
CONTINGENCY					20% \$4,060
TOTAL PROJECT					\$24,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

IS0876 to OS0872

Street: Palos Verdes Dr E

Atlas Map 16A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30"RCP	FT	215	\$207	\$44,505
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$9,000	\$9,000
6	Remove 12" RCP	FT	215	\$24	\$5,192
7	Traffic Control	LS	1	\$1,500	\$1,500
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$6,600	\$6,600
10	Miscellaneous Items (10%)	LS	1	\$7,200	\$7,200
SUBTOTAL (CONSTRUCTION)					\$78,997
11	Engineering and Design (8%)	LS	1	\$6,400	\$6,400
12	Surveying (1%)	LS	1	\$800	\$800
13	Construction Management (6%)	LS	1	\$4,800	\$4,800
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$12,000
SUBTOTAL COST					\$90,997
CONTINGENCY					20%
TOTAL PROJECT					\$109,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

CB0864 to OS0866

Street: Via Canada

Atlas Map 16B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 18" RCP	FT	399	\$161	\$64,239
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$15,200	\$15,200
6	Remove 12" PVC	FT	399	\$24	\$9,636
7	Traffic Control	LS	1	\$2,600	\$2,600
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$10,900	\$10,900
10	Miscellaneous Items (10%)	LS	1	\$12,000	\$12,000
SUBTOTAL (CONSTRUCTION)					\$131,275
11	Engineering and Design (8%)	LS	1	\$10,600	\$10,600
12	Surveying (1%)	LS	1	\$1,400	\$1,400
13	Construction Management (6%)	LS	1	\$7,900	\$7,900
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$19,900
SUBTOTAL COST					\$151,175
CONTINGENCY					20%
<b>TOTAL PROJECT</b>					<b>\$181,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

CB0851 to TS0852

Street: Via Canada and Via de Anzar

Atlas Map 16B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 18" RCP	FT	86	\$161	\$13,846
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$4,200	\$4,200
6	Remove 12" RCP	FT	86	\$24	\$2,077
7	Traffic Control	LS	1	\$700	\$700
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$3,300	\$3,300
10	Miscellaneous Items (10%)	LS	1	\$3,700	\$3,700
SUBTOTAL (CONSTRUCTION)					\$39,823
11	Engineering and Design (8%)	LS	1	\$3,200	\$3,200
12	Surveying (1%)	LS	1	\$400	\$400
13	Construction Management (6%)	LS	1	\$2,400	\$2,400
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$6,000
SUBTOTAL COST					\$45,823
CONTINGENCY					20%
TOTAL PROJECT					\$9,165
					\$55,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

IS0858 to OS3402

Street: Picardie Rd

Atlas Map 16B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	448	\$190	\$85,008
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$19,400	\$19,400
6	Remove 15" RCP	FT	95	\$24	\$2,294.25
7	Remove 21" RCP	FT	353	\$28	\$10,047.26
8	Traffic Control	LS	1	\$3,300	\$3,300
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
10	Mobilization (10%)	LS	1	\$13,700	\$13,700
11	Miscellaneous Items (10%)	LS	1	\$15,100	\$15,100
SUBTOTAL (CONSTRUCTION)					\$165,550
12	Engineering and Design (8%)	LS	1	\$13,300	\$13,300
13	Surveying (1%)	LS	1	\$1,700	\$1,700
14	Construction Management (6%)	LS	1	\$10,000	\$10,000
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$25,000
SUBTOTAL COST					\$190,550
CONTINGENCY					20%
<b>TOTAL PROJECT</b>					<b>\$229,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

CB0786 to OS0788

Street: Crownview Dr

Atlas Map 16C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	249	\$190	\$47,248
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	2	\$5,000	\$10,000
4	Junction Structure	EA	2	\$2,000	\$4,000
5	Utility Relocation Allowance	LS	1	\$12,300	\$12,300
6	Remove 18" RCP	FT	249	\$24	\$6,013
7	Traffic Control	LS	1	\$2,100	\$2,100
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$8,700	\$8,700
10	Miscellaneous Items (10%)	LS	1	\$9,600	\$9,600
SUBTOTAL (CONSTRUCTION)					\$104,961
11	Engineering and Design (8%)	LS	1	\$8,400	\$8,400
12	Surveying (1%)	LS	1	\$1,100	\$1,100
13	Construction Management (6%)	LS	1	\$6,300	\$6,300
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$15,800
SUBTOTAL COST					\$120,761
CONTINGENCY					20%
TOTAL PROJECT					\$145,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

IS0027 to OS0026

Street: Enrose Ave

Atlas Map 16D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 4'x2' RCB	FT	125	\$1,500	\$187,500
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$37,500	\$37,500
6	Remove 1'x1.083" Arch	FT	125	\$24	\$3,018.75
7	Traffic Control	LS	1	\$5,800	\$5,800
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$23,900	\$23,900
10	Miscellaneous Items (10%)	LS	1	\$26,300	\$26,300
<b>SUBTOTAL (CONSTRUCTION)</b>					<b>\$289,019</b>
11	Engineering and Design (8%)	LS	1	\$23,200	\$23,200
12	Surveying (1%)	LS	1	\$2,900	\$2,900
13	Construction Management (6%)	LS	1	\$17,400	\$17,400
<b>SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)</b>					<b>\$43,500</b>
<b>SUBTOTAL COST</b>					<b>\$332,519</b>
<b>CONTINGENCY</b>					<b>20%</b>
<b>TOTAL PROJECT</b>					<b>\$66,503.75</b>
<b>TOTAL PROJECT</b>					<b>\$399,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

IS0029 to OS0028

Street: Enrose Ave

Atlas Map 16D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	114	\$190	\$21,632
2	Install 4'x2' RCB	FT	157	\$1,500	\$235,500
3	Manhole	EA	0	\$4,700	\$0
4	Catch Basin	EA	0	\$5,000	\$0
5	Junction Structure	EA	0	\$2,000	\$0
6	Utility Relocation Allowance	LS	1	\$51,500	\$51,500
7	Remove 18" RCP	FT	114	\$24.15	\$2,753
8	Remove 1'x1.083' Arch	FT	157	\$24	\$3,792
9	Traffic Control	LS	1	\$8,000	\$8,000
10	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
11	Mobilization (10%)	LS	1	\$32,900	\$32,900
12	Miscellaneous Items (10%)	LS	1	\$36,200	\$36,200
SUBTOTAL (CONSTRUCTION)					\$397,276
13	Engineering and Design (8%)	LS	1	\$31,800	\$31,800
14	Surveying (1%)	LS	1	\$4,000	\$4,000
15	Construction Management (6%)	LS	1	\$23,900	\$23,900
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$59,700
SUBTOTAL COST					\$456,976
CONTINGENCY					20%
TOTAL PROJECT					\$548,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

JS3411 to OS0024

Street: Enrose Ave

Atlas Map 16D

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 4'x2' RCB	FT	158	\$1,500	\$237,000
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$47,400	\$47,400
6	Remove 1'x1.083' Arch	FT	158	\$24	\$3,815.70
7	Traffic Control	LS	1	\$7,300	\$7,300
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$30,100	\$30,100
10	Miscellaneous Items (10%)	LS	1	\$33,100	\$33,100
<b>SUBTOTAL (CONSTRUCTION)</b>					<b>\$363,716</b>
11	Engineering and Design (8%)	LS	1	\$29,100	\$29,100
12	Surveying (1%)	LS	1	\$3,700	\$3,700
13	Construction Management (6%)	LS	1	\$21,900	\$21,900
<b>SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)</b>					<b>\$54,700</b>
<b>SUBTOTAL COST</b>					<b>\$418,416</b>
<b>CONTINGENCY</b>					<b>20%</b>
<b>TOTAL PROJECT</b>					<b>\$83,683.14</b>
					<b>\$502,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

CB0127 to GB0129

Street: Ronsard Dr

Atlas Map 33C & 34A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	333	\$190	\$63,187
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$13,600	\$13,600
6	Remove 18" RCP	FT	333	\$24	\$8,042
7	Traffic Control	LS	1	\$2,300	\$2,300
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$9,700	\$9,700
10	Miscellaneous Items (10%)	LS	1	\$10,700	\$10,700
SUBTOTAL (CONSTRUCTION)					\$117,229
11	Engineering and Design (8%)	LS	1	\$9,400	\$9,400
12	Surveying (1%)	LS	1	\$1,200	\$1,200
13	Construction Management (6%)	LS	1	\$7,100	\$7,100
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$17,700
SUBTOTAL COST					\$134,929
CONTINGENCY					20%
TOTAL PROJECT					\$162,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

C1908 to JS3212

Street: Western Ave

Atlas Map 33C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	343	\$207	\$71,001
2	Manhole	EA	1	\$4,700	\$4,700
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$15,200	\$15,200
6	Remove 24" RCP	FT	343	\$28	\$9,763
7	Traffic Control	LS	1	\$2,600	\$2,600
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$10,900	\$10,900
10	Miscellaneous Items (10%)	LS	1	\$12,000	\$12,000
SUBTOTAL (CONSTRUCTION)					\$131,164
11	Engineering and Design (8%)	LS	1	\$10,500	\$10,500
12	Surveying (1%)	LS	1	\$1,400	\$1,400
13	Construction Management (6%)	LS	1	\$7,900	\$7,900
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$19,800
SUBTOTAL COST					\$150,964
CONTINGENCY					20%
TOTAL PROJECT					\$181,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

MH1914 to MH2941

Street: Western Ave

Atlas Map 33C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 60" RCP	FT	173	\$397	\$68,637.75
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$13,800	\$13,800
6	Remove 36" RCP	FT	102	\$43	\$4,399
7	Remove 42" RCP	FT	71	\$47	\$3,368.06
8	Traffic Control	LS	1	\$2,300	\$2,300
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
10	Mobilization (10%)	LS	1	\$9,800	\$9,800
11	Miscellaneous Items (10%)	LS	1	\$10,800	\$10,800
SUBTOTAL (CONSTRUCTION)					\$118,105
12	Engineering and Design (8%)	LS	1	\$9,500	\$9,500
13	Surveying (1%)	LS	1	\$1,200	\$1,200
14	Construction Management (6%)	LS	1	\$7,100	\$7,100
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$17,800
SUBTOTAL COST					\$135,905
CONTINGENCY					20%
TOTAL PROJECT					\$163,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

JS3419 to MH46131

Street: Western Ave

Atlas Map 34A & 34C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 48" RCP	FT	666	\$334	\$222,111
2	Manhole	EA	2	\$4,700	\$9,400
3	Catch Basin	EA	1	\$5,000	\$5,000
4	Junction Structure	EA	1	\$2,000	\$2,000
5	Utility Relocation Allowance	LS	1	\$47,800	\$47,800
6	Remove 24" RCP	FT	577	\$28	\$16,423
7	Remove 30" RCP	FT	89	\$31	\$2,763.45
8	Traffic Control	LS	1	\$7,800	\$7,800
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
10	Mobilization (10%)	LS	1	\$31,900	\$31,900
11	Miscellaneous Items (10%)	LS	1	\$35,100	\$35,100
SUBTOTAL (CONSTRUCTION)					\$385,297
12	Engineering and Design (8%)	LS	1	\$30,900	\$30,900
13	Surveying (1%)	LS	1	\$3,900	\$3,900
14	Construction Management (6%)	LS	1	\$23,200	\$23,200
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$58,000
SUBTOTAL COST					\$443,297
CONTINGENCY					20%
TOTAL PROJECT					\$532,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Los Angeles Harbor East

CB0007 to OS0008

Street: Homeworth Dr

Atlas Map 34A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	195	\$190	\$37,001
2	Manhole	EA	0	\$4,700	\$0
3	Catch Basin	EA	0	\$5,000	\$0
4	Junction Structure	EA	0	\$2,000	\$0
5	Utility Relocation Allowance	LS	1	\$7,500	\$7,500
6	Remove 18" RCP	FT	195	\$24	\$4,709
7	Traffic Control	LS	1	\$1,300	\$1,300
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000
9	Mobilization (10%)	LS	1	\$5,600	\$5,600
10	Miscellaneous Items (10%)	LS	1	\$6,200	\$6,200
SUBTOTAL (CONSTRUCTION)					\$67,311
11	Engineering and Design (8%)	LS	1	\$5,400	\$5,400
12	Surveying (1%)	LS	1	\$700	\$700
13	Construction Management (6%)	LS	1	\$4,100	\$4,100
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$10,200
SUBTOTAL COST					\$77,511
CONTINGENCY					20%
TOTAL PROJECT					\$93,000



**CITY OF RANCHO PALOS VERDES MASTER PLAN OF DRAINAGE**

**Michael Baker**  
**INTERNATIONAL**

**TECHNICAL APPENDIX B-7**

**COST ESTIMATES  
PALOS VERDES ESTATES NORTH**



**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Palos Verdes North

GB48129 to JS3559, TS3560 to OS1596 and lateral CB1591 to MH1592

Street: Montemalaga Dr and Ironwood Street

Atlas Map 2D & 4B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	29	\$190	\$5,502.75
2	Install 30" RCP	FT	114	\$207	\$23,598.00
3	Install 36" RCP	FT	74	\$288	\$21,275.00
4	Install 42" RCP	FT	726	\$316	\$229,597.50
5	Manhole	EA	3	\$4,700	\$14,100.00
6	Catch Basin	EA	1	\$5,000	\$5,000.00
7	Junction Structure	EA	1	\$2,000	\$2,000.00
8	Utility Relocation Allowance	LS	1	\$60,300	\$60,300.00
9	Remove 18" CMP	FT	29	\$24	\$700.35
10	Remove 21" RCP	FT	114	\$28	\$3,244.73
11	Remove 24" CMP	FT	74	\$28	\$2,106.23
12	Remove 30" CMP	FT	476	\$31	\$14,779.80
13	Remove 36" CMP	FT	250	\$43	\$10,781.25
14	Traffic Control	LS	1	\$10,000	\$10,000.00
15	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
16	Mobilization (10%)	LS	1	\$40,800	\$40,800.00
17	Miscellaneous Items (10%)	LS	1	\$44,900	\$44,900.00
SUBTOTAL (CONSTRUCTION)					\$493,686
18	Engineering and Design (8%)	LS	1	\$39,500	\$39,500
19	Surveying (1%)	LS	1	\$5,000	\$5,000
20	Construction Management (6%)	LS	1	\$29,700	\$29,700
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$74,200
SUBTOTAL COST					\$567,886
CONTINGENCY				20%	\$113,577
TOTAL PROJECT					\$681,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Palos Verdes North

CB1569 to MH1568

Street: Woodfern Dr

Atlas Map 4B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	166	\$190	\$31,498.50
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$6,300	\$6,300.00
6	Remove 18" RCP	FT	166	\$24	\$4,008.90
7	Traffic Control	LS	1	\$1,100	\$1,100.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$4,800	\$4,800.00
10	Miscellaneous Items (10%)	LS	1	\$5,300	\$5,300.00
SUBTOTAL (CONSTRUCTION)					\$58,007
11	Engineering and Design (8%)	LS	1	\$4,700	\$4,700
12	Surveying (1%)	LS	1	\$600	\$600
13	Construction Management (6%)	LS	1	\$3,500	\$3,500
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$8,800
SUBTOTAL COST					\$66,807
CONTINGENCY					20%
TOTAL PROJECT					\$80,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Palos Verdes North

CB1570 to MH1566

Street: Lightfoot Pl.

Atlas Map 4B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 36" RCP	FT	159	\$288	\$45,712.50
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$9,200	\$9,200.00
6	Remove 24" RCP	FT	159	\$28	\$4,525.54
7	Traffic Control	LS	1	\$1,600	\$1,600.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$6,700	\$6,700.00
10	Miscellaneous Items (10%)	LS	1	\$7,300	\$7,300.00
SUBTOTAL (CONSTRUCTION)					\$80,038
11	Engineering and Design (8%)	LS	1	\$6,500	\$6,500
12	Surveying (1%)	LS	1	\$900	\$900
13	Construction Management (6%)	LS	1	\$4,900	\$4,900
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$12,300
SUBTOTAL COST					\$92,338
CONTINGENCY					20%
TOTAL PROJECT					\$111,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Palos Verdes North

CB1563 to CB48134

Street: Montemalaga Dr at Basswood Ave

Atlas Map 4B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	386	\$207	\$79,902.00
2	Manhole	EA	1	\$4,700	\$4,700.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$17,000	\$17,000.00
6	Remove 24" RCP	FT	386	\$28	\$10,986.53
7	Traffic Control	LS	1	\$2,900	\$2,900.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$12,100	\$12,100.00
10	Miscellaneous Items (10%)	LS	1	\$13,300	\$13,300.00
SUBTOTAL (CONSTRUCTION)					\$145,889
11	Engineering and Design (8%)	LS	1	\$11,700	\$11,700
12	Surveying (1%)	LS	1	\$1,500	\$1,500
13	Construction Management (6%)	LS	1	\$8,800	\$8,800
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$22,000
SUBTOTAL COST					\$167,889
CONTINGENCY					20%
TOTAL PROJECT					\$201,000

**CITY OF RANCHO PALOS VERDES MASTER PLAN OF DRAINAGE**

**Michael Baker**  
**INTERNATIONAL**

**TECHNICAL APPENDIX B-8**

**COST ESTIMATES  
PALOS VERDES ESTATES WEST**



**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Palos Verdes West

TS2931 to MH2907

Street: Granvia Altamira

Atlas Map 4C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 36" RCP	FT	450	\$288	\$129,375.00
2	Install 42" RCP	FT	552	\$316	\$174,570.00
3	Manhole	EA	3	\$4,700	\$14,100.00
4	Catch Basin	EA	2	\$5,000	\$10,000.00
5	Junction Structure	EA	2	\$2,000	\$4,000.00
6	Utility Relocation Allowance	LS	1	\$66,500	\$66,500.00
7	Remove 30" RCP	FT	1002	\$31	\$31,112.10
8	Traffic Control	LS	1	\$10,900	\$10,900.00
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
10	Mobilization (10%)	LS	1	\$44,600	\$44,600.00
11	Miscellaneous Items (10%)	LS	1	\$49,100	\$49,100.00
SUBTOTAL (CONSTRUCTION)					\$539,257
12	Engineering and Design (8%)	LS	1	\$43,200	\$43,200
13	Surveying (1%)	LS	1	\$5,400	\$5,400
14	Construction Management (6%)	LS	1	\$32,400	\$32,400
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$81,000
SUBTOTAL COST					\$620,257
CONTINGENCY					20%
TOTAL PROJECT					\$744,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Palos Verdes West

PC1250 to CB1273

Street: Eddinghill Dr

Atlas Map 9B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 18" RCP*	FT	734	\$161	\$118,174.00
2	Manhole	EA	2	\$4,700	\$9,400.00
3	Catch Basin	EA	1	\$5,000	\$5,000.00
4	Junction Structure	EA	1	\$2,000	\$2,000.00
5	Utility Relocation Allowance	LS	1	\$27,000	\$27,000.00
6	Remove 8" RCP	FT	24	\$24	\$579.60
7	Traffic Control	LS	1	\$4,100	\$4,100.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$17,200	\$17,200.00
10	Miscellaneous Items (10%)	LS	1	\$18,900	\$18,900.00
SUBTOTAL (CONSTRUCTION)					\$207,354
11	Engineering and Design (8%)	LS	1	\$16,600	\$16,600
12	Surveying (1%)	LS	1	\$2,100	\$2,100
13	Construction Management (6%)	LS	1	\$12,500	\$12,500
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$31,200
SUBTOTAL COST					\$238,554
CONTINGENCY					20%
TOTAL PROJECT					\$286,000

\*New Storm Drain

**CITY OF RANCHO PALOS VERDES MASTER PLAN OF DRAINAGE**

**Michael Baker  
INTERNATIONAL**

**TECHNICAL APPENDIX B-9**

**COST ESTIMATES  
ROLLING HILLS ESTATES**



**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Palos Verdes North

MH1553 to MH1558 and TS1557 to OS1556

Street: Ironwood St

Atlas Map 5A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	636	\$207	\$131,652.00
2	Manhole	EA	2	\$4,700	\$9,400.00
3	Catch Basin	EA	1	\$5,000	\$5,000.00
4	Junction Structure	EA	1	\$2,000	\$2,000.00
5	Utility Relocation Allowance	LS	1	\$29,700	\$29,700.00
6	Remove 24" RCP	FT	636	\$28	\$18,102.15
7	Traffic Control	LS	1	\$5,000	\$5,000.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$20,600	\$20,600.00
10	Miscellaneous Items (10%)	LS	1	\$22,700	\$22,700.00
SUBTOTAL (CONSTRUCTION)					\$249,154
11	Engineering and Design (8%)	LS	1	\$20,000	\$20,000
12	Surveying (1%)	LS	1	\$2,500	\$2,500
13	Construction Management (6%)	LS	1	\$15,000	\$15,000
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$37,500
SUBTOTAL COST					\$286,654
CONTINGENCY					20%
TOTAL PROJECT					\$344,000

\*New Storm Drain

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Rolling Hills Estates

JS2686 to MH1523

Street: Hawthrone Blvd and Hawkurst Drive

Atlas Map 5C & 7A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	752	\$190	\$142,692.00
1	Install 30" RCP	FT	326	\$207	\$67,482.00
2	Install 36" RCP	FT	1249	\$288	\$359,087.50
3	Manhole	EA	7	\$4,700	\$32,900.00
4	Catch Basin	EA	4	\$5,000	\$20,000.00
5	Junction Structure	EA	4	\$2,000	\$8,000.00
6	Utility Relocation Allowance	LS	1	\$126,100	\$126,100.00
7	Remove 21" RCP	FT	1001	\$28	\$28,490.96
8	Remove 24" RCP	FT	1083	\$28	\$30,824.89
9	Remove 27" RCP	FT	183	\$31	\$5,682.15
10	Remove 30" RCP	FT	60	\$31	\$1,863.00
11	Traffic Control	LS	1	\$21,000	\$21,000.00
12	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
13	Mobilization (10%)	LS	1	\$85,000	\$85,000.00
14	Miscellaneous Items (10%)	LS	1	\$93,500	\$93,500.00
<b>SUBTOTAL (CONSTRUCTION)</b>					<b>\$1,027,623</b>
15	Engineering and Design (8%)	LS	1	\$82,300	\$82,300
16	Surveying (1%)	LS	1	\$10,300	\$10,300
17	Construction Management (6%)	LS	1	\$61,700	\$61,700
<b>SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)</b>					<b>\$154,300</b>
<b>SUBTOTAL COST</b>					<b>\$1,181,923</b>
<b>CONTINGENCY</b>					<b>20%</b>
<b>TOTAL PROJECT</b>					<b>\$1,418,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Rolling Hills Estates

TS3146 to OS1536

Street: Shadow Wood

Atlas Map 5C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 24" RCP	FT	393	\$190	\$74,571.75
2	Manhole	EA	1	\$4,700	\$4,700.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$15,900	\$15,900.00
6	Remove 18" RCP	FT	393	\$24	\$9,490.95
7	Traffic Control	LS	1	\$2,700	\$2,700.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$11,300	\$11,300.00
10	Miscellaneous Items (10%)	LS	1	\$12,400	\$12,400.00
SUBTOTAL (CONSTRUCTION)					\$136,063
11	Engineering and Design (8%)	LS	1	\$10,900	\$10,900
12	Surveying (1%)	LS	1	\$1,400	\$1,400
13	Construction Management (6%)	LS	1	\$8,200	\$8,200
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$20,500
SUBTOTAL COST					\$156,563
CONTINGENCY					20%
TOTAL PROJECT					\$188,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Rolling Hills Estates

MC3434 to OS1538

Street: Hawthorne Blvd

Atlas Map 5C

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	91	\$207	\$18,837.00
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$3,800	\$3,800.00
6	Remove 24" RCP	FT	91	\$28	\$2,590.09
7	Traffic Control	LS	1	\$700	\$700.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$3,100	\$3,100.00
10	Miscellaneous Items (10%)	LS	1	\$3,500	\$3,500.00
SUBTOTAL (CONSTRUCTION)					\$37,527
11	Engineering and Design (8%)	LS	1	\$3,100	\$3,100
12	Surveying (1%)	LS	1	\$400	\$400
13	Construction Management (6%)	LS	1	\$2,300	\$2,300
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$5,800
SUBTOTAL COST					\$43,327
CONTINGENCY					20%
TOTAL PROJECT					\$8,665
					\$52,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Rolling Hills Estates

CB1465 to OS1468

Street: Elmbridge Rd

Atlas Map 7B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	287	\$207	\$59,409.00
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$11,900	\$11,900.00
6	Remove 18" RCP	FT	43	\$24	\$1,038.45
7	Remove 21" RCP	FT	37	\$28	\$1,053.11
8	Remove 27" RCP	FT	207	\$31	\$6,427.35
9	Traffic Control	LS	1	\$2,100	\$2,100.00
10	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
11	Mobilization (10%)	LS	1	\$8,700	\$8,700.00
12	Miscellaneous Items (10%)	LS	1	\$9,600	\$9,600.00
SUBTOTAL (CONSTRUCTION)					\$105,228
13	Engineering and Design (8%)	LS	1	\$8,500	\$8,500
14	Surveying (1%)	LS	1	\$1,100	\$1,100
15	Construction Management (6%)	LS	1	\$6,400	\$6,400
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$16,000
SUBTOTAL COST					\$121,228
CONTINGENCY					20%
TOTAL PROJECT					\$145,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Rolling Hills Estates

JS2685 to OC1481

Street: Browndeer Ln

Atlas Map 7B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 30" RCP	FT	41	\$207	\$8,487.00
2	Install 36" RCP	FT	290	\$288	\$83,375.00
3	Manhole	EA	1	\$4,700	\$4,700.00
4	Catch Basin	EA	0	\$5,000	\$0.00
5	Junction Structure	EA	0	\$2,000	\$0.00
6	Utility Relocation Allowance	LS	1	\$19,400	\$19,400.00
7	Remove 18" RCP	FT	204	\$24	\$4,926.60
8	Remove 24" RCP	FT	127	\$28	\$3,614.74
9	Traffic Control	LS	1	\$3,200	\$3,200.00
10	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
11	Mobilization (10%)	LS	1	\$13,300	\$13,300.00
12	Miscellaneous Items (10%)	LS	1	\$14,700	\$14,700.00
SUBTOTAL (CONSTRUCTION)					\$160,703
13	Engineering and Design (8%)	LS	1	\$12,900	\$12,900
14	Surveying (1%)	LS	1	\$1,700	\$1,700
15	Construction Management (6%)	LS	1	\$9,700	\$9,700
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$24,300
SUBTOTAL COST					\$185,003
CONTINGENCY					20%
<b>TOTAL PROJECT</b>					<b>\$222,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Rolling Hills Estates

CB1452 to JS3295

Street: Hawthrone Blvd

Atlas Map 8B

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	Install 6'x2' RCB	FT	159	\$2,500	\$397,500.00
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$79,500	\$79,500.00
6	Remove 24" RCP	FT	159	\$31	\$4,936.95
7	Traffic Control	LS	1	\$12,100	\$12,100.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$50,000	\$50,000.00
10	Miscellaneous Items (10%)	LS	1	\$55,000	\$55,000.00
SUBTOTAL (CONSTRUCTION)					\$604,037
11	Engineering and Design (8%)	LS	1	\$48,400	\$48,400
12	Surveying (1%)	LS	1	\$6,100	\$6,100
13	Construction Management (6%)	LS	1	\$36,300	\$36,300
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$90,800
SUBTOTAL COST					\$694,837
CONTINGENCY					20%
TOTAL PROJECT					\$834,000

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Rolling Hills Estates

GB3487 to OS1015

Street: Crestridge Rd

Atlas Map 13A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	48" RCP	FT	329	\$334	\$109,721.50
2	Manhole	EA	1	\$4,700	\$4,700.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$22,900	\$22,900.00
6	Remove 36" RCP	FT	159	\$43	\$6,856.88
7	Remove 39" RCP	FT	170	\$47	\$8,064.38
8	Traffic Control	LS	1	\$3,900	\$3,900.00
9	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
10	Mobilization (10%)	LS	1	\$16,200	\$16,200.00
11	Miscellaneous Items (10%)	LS	1	\$17,800	\$17,800.00
SUBTOTAL (CONSTRUCTION)					\$195,143
12	Engineering and Design (8%)	LS	1	\$15,700	\$15,700
13	Surveying (1%)	LS	1	\$2,000	\$2,000
14	Construction Management (6%)	LS	1	\$11,800	\$11,800
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$29,500
SUBTOTAL COST					\$224,643
CONTINGENCY					20% \$44,929
<b>TOTAL PROJECT</b>					<b>\$270,000</b>

**Master Plan of Storm Drainage for City of Rancho Palos Verdes**

Watershed Rolling Hills Estates

IS1014 to OS1013

Street: Middle Crest Rd

Atlas Map 13A

**REPLACEMENT COST ESTIMATE**

Item No.	Item Description	PROJECT TOTAL			
		Unit of Measure	Estimated Quantities	Unit Price	Item Total
1	48" RCP	FT	107	\$334	\$35,684.50
2	Manhole	EA	0	\$4,700	\$0.00
3	Catch Basin	EA	0	\$5,000	\$0.00
4	Junction Structure	EA	0	\$2,000	\$0.00
5	Utility Relocation Allowance	LS	1	\$7,200	\$7,200.00
6	Remove 24" RCP	FT	107	\$28	\$3,045.49
7	Traffic Control	LS	1	\$1,200	\$1,200.00
8	Prepare Storm Water Pollution Prevention Plan	LS	1	\$5,000	\$5,000.00
9	Mobilization (10%)	LS	1	\$5,300	\$5,300.00
10	Miscellaneous Items (10%)	LS	1	\$5,800	\$5,800.00
SUBTOTAL (CONSTRUCTION)					\$63,230
11	Engineering and Design (8%)	LS	1	\$5,100	\$5,100
12	Surveying (1%)	LS	1	\$700	\$700
13	Construction Management (6%)	LS	1	\$3,800	\$3,800
SUBTOTAL (ENGINEERING AND CONSTRUCTION ADMINISTRATION)					\$9,600
SUBTOTAL COST					\$72,830
CONTINGENCY					20%
TOTAL PROJECT					\$87,000

