Appendix E COST ESTIMATES

1. INTRODUCTION

A. Questions regarding this chapter may be directed to the Construction Cost Analyst at FD&CC Pacific; (206) 220-7440.

B. This chapter describes the various cost estimate formats that may be required of the A/E.

C. The A/E shall be prepared to present the estimate to FD&CC in MS Excel in electronic format upon request.

D. The A/E estimate shall be targeted to place between the expected low bid and the median bid.

EXHIBITS
4A COMMANDANT SUMMARY
4B UNIFORMAT LEVEL 1
4C UNIFORMAT LEVEL 2
4D CSI LEVEL 1
4E CSI LEVEL 2

1.1 FORMAT DESIGNATION

A. For CSI and Uniformat estimates; the Format (see 1.2), Level of detail (1.5 and 1.6), and Type of line item cost breakdown (1.7) are designated by a **"format designation phrase"** such as "CSI Level 1 - Type B."

B. For each A/E cost estimate submittal, FD&CC shall designate which format(s) are required. Specific unique Uniformat Elements may also be requested.

C. If FD&CC does not request specific formats, use the following:

Concept: Commandant Summary

Schematic: Commandant Summary and Uniformat Level 1 - Type A

Final: Uniformat Level 2 - Type B

1.2 ESTIMATE FORMATS

A. Present the summary before the detail section.

B. The header form shall be presented as shown in the Exhibits, with the column headings in the order shown.

C. Present a separate and complete detail section for each bid item, i.e., base bid, additives, options.

D. **All work items shall be descriptive enough to analyze the cost without referring to the plans and specs.**

E. Identify which cost items are contractor cost items and which are supplied and/or installed by the Government.

F. Following are the names of the estimate formats, followed by the number of the Exhibit at the end of this section that is an example of that format. Each of the CSI and Uniformat formats can have "Type A" or "Type B" work item cost breakdowns.

1.2.1 COMMANDANT SUMMARY (Exhibit 14-A)

A. This is a format used to categorize costs to coincide with the Coast Guard budget request.

B. The project costs shall be divided into the following eight categories:

1.0 Demolition
2.0 Sitework
3.0 Exterior Utilities
4.0 Waterfront/Marine Construction
5.0 Buildings
6.0 Outfitting/Furnishings/Equipment
7.0 Electronics
8.0 Other

C. Line items within the categories shall be major components of the project. Each line item shall have a description, quantity, unit of measure, unit price, and total.

D. General Requirements; Overhead, Profit and Bonding; and Taxes shall be included in the line items of work to be done by the contractor. Items supplied and/or installed by the Government shall include Taxes only. Sub-total line items then add contingency followed by escalation.

E. Note which items are assumed to be supplied and/or installed by the Government.

1.2.2 UNIFORMAT LEVEL 1 (Exhibit 4-B)

A. The line items in the **summary** shall be Uniformat Elements as shown in the "Uniformat System Breakdown" (1.3).

B. Elements numbers 0010 through 1000 (Building) shall be sub-totaled separate from numbers 1110 through 1299 (Sitework and Support Facilities).

C. **General Requirements** may be derived as a percentage of the other direct costs, but not at Level 2.

D. Each element shall be quantified per 1.4, unit priced and totaled. Overhead, Profit and Bonding; Contingencies; and Escalation shall be shown as individual cost elements following the direct cost elements.

E. The **detailed** portion of the estimate shall appear after the summary. It shall be divided into Uniformat elements (1.3) in numerical order. The Uniformat elements shall be subdivided into CSI Level 1 Divisions (1.5) in numerical order. The CSI Divisions shall include Level 1 or Level 2 Work Items (1.6).

1.2.3 UNIFORMAT LEVEL 2 (Exhibit 4-C)

A. The line items in the **summary** shall be uniformat elements described in the "Uniformat System Breakdown" (1.3).

B. Elements numbers 0010 through 1000 (Building) shall be sub-totaled separate from 1110 through 1299 (Sitework and Support Facilities).

C. Unlike Level 1, the **General Requirements** total shall be derived by summing the General Requirements items in the detail.

D. Each element shall be quantified per 1.4, unit priced, and have a separate total for Total, Material, Labor and Equipment. Overhead, Profit and Bonding; Contingencies; and Escalation shall be shown as individual cost elements following the direct cost elements.

E. The **detailed** portion of the estimate shall be divided into Uniformat elements (1.3) in numerical order. Subdivide elements into CSI Level 2 Divisions (1.5) in numerical order. The CSI Divisions shall include Level 2 Work Items (1.6).

1.2.4 CSI LEVEL 1 (Exhibit 4-D)

A. The line items in the **summary** shall be the sixteen primary CSI Divisions (see 1.5). Overhead, Profit and Bonding; Contingencies; and Escalation shall be shown as individual cost items following the CSI divisions.

B. The **detailed** portion of the estimate shall be divided into CSI Level 1 Divisions (see 1.5). Each CSI Division shall include Level 1 Work Items (1.6). A Work Item shall not include costs of work from more than one Level 1 CSI Division.

1.2.5 CSI LEVEL 2 (Exhibit 4-E)

A. The line items in the **summary** shall be the Level 2 CSI Divisions (see 1.5). Overhead, Profit and Bonding; Contingencies; and Escalation shall follow the CSI Divisions.

B. The **detailed** portion of the estimate shall be divided into CSI Level 2 Work Items (1.6). A Work Item shall not include costs of work from more than one Level 2 CSI Division.

1.3 UNIFORMAT SYSTEM BREAKDOWN

A. Following are the numbers and names of the Uniformat Element followed by the unit of measure and work to be included in each element. See 1.4 for Rules of Measurement.

0010 BUILDING DEMOLITION (Demolition Square Feet, DSF)

Includes demolition of portions of buildings to remain, including demolition of flooring, roofing, piping, etc. Exclude complete demolition of buildings and site demolition items.

0110 FOUNDATIONS (Footprint Area, FPA)

Includes excavation and backfill for, and construction of footings, grade beams, pile caps, foundation walls and piers up to the ground floor. Exclude floor slabs, piling and other special foundations, and any excavation or backfilling for basements or to lower or raise site elevations.

0210 SLAB ON GRADE (Footprint Area, FPA)

Includes slab on grade, trenches, pits, and bases, including fine grading, sub-course, embedments, and moisture protection.

0220 BASEMENT CONSTRUCTION (Basement Wall Area, BWA)

Includes basement earthwork, and exterior basement wall construction, including moisture protection and insulation. Only include work below finish grade. Exclude basement wall footings.

0300 SUPERSTRUCTURE (Gross Square Feet, GSF)

Includes stairs, suspended slabs, beams, columns, etc., all within basement walls and/or above grade. Exclude exterior decks.

For **wood frame construction**, include only floor members, columns, and roof structure in this element; include structural wood PARTITIONS and EXTERIOR WALLS with those elements.

For buildings with **structural exterior walls**, e.g., concrete, CMU, and structural studs, include with EXTERIOR WALLS or BASEMENT CONSTRUCTION.

0410 EXTERIOR WALLS AND SOFFITS (Exterior Wall plus Soffit area, EWS)

Includes exterior walls and soffit above grade. Structural items that are in the exterior wall, but the skin of the building does not directly attach to them, e.g., columns, bracing, beams, shall be included in SUPERSTRUCTURE.

Includes concrete, CMU and stud walls, furring, girts, parapets, insulation (both within wall and attached to interior face of wall), sheathing and louvers. Excludes wall board and finishes to interior of exterior wall. Excludes doors and windows.

0420 EXTERIOR DOORS AND WINDOWS (Door and Window Area, DWA)

Includes exterior doors, frames, hardware, windows, and window walls. Includes finishes for above items. Excludes louvers.

0500 ROOFING (Roofing Area, RA)

Includes all roof coverings, facia, downspouts, gutters, skylights, blocking, flashing, and trim. Includes thermal insulation above and below the roof structure.

0610 PARTITIONS (Gross Square Feet, GSF)

Includes partitions and their wallboard with taping and joint spackling, doors, door frames, door hardware, and relites. Includes wallboard to interior face of exterior walls. Excludes finishes. Excludes toilet cubicles.

0620 INTERIOR FINISHES (Gross Square Feet, GSF)

Includes finishes to walls and floors, and complete ceiling systems. Excludes taping and spackling of wallboard wall joints.

0630 SPECIALTIES (Gross Square Feet, GSF)

Includes interior items in CSI's 10000, 12000, 05500, casework, corner guards, rails, balusters, shelving, etc.

0700 CONVEYING (Stops, STP)

Includes elevators, escalators, pneumatic tube systems, conveyors, chutes, cranes, etc.

0810 PLUMBING (Fixtures, FIX)

Plumbing to five foot building line. Exclude fire protection. Exclude plumbing for SPECIAL MECHANICAL items.

0820 HVAC (Heated Square Feet, HSF)

Heating, ventilating and air conditioning to five feet line. Fuel tanks shall be included in 1134.

0830 FIRE PROTECTION (Protected Square feet, PSF)

Fire protection systems to five feet line.

0840-0899 SPECIAL MECHANICAL elements (as is appropriate)

Compressed air systems, vacuum systems, chemical waste systems, medical gas systems, mechanical for freezers, solar, etc.

0900 ELECTRICAL (Gross Square Feet, GSF)

Power, lighting, telephone, data and fire alarm systems to five feet building line. Exclude primary power transformers. Exclude electrical for SPECIAL MECHANICAL SYSTEMS.

0910-0999 SPECIAL ELECTRICAL elements (as is appropriate)

Includes special communication, detection, alarm, generator, uninterruptable power, battery, security, and grounding systems.

1000 EQUIPMENT (Gross Square Feet, GSF)

Includes equipment typically specified in CSI 11000.

1110 SITE PREPARATION AND DEMOLITION (Site Square Yards, SSY)

Includes site clearing, grubbing, and earthwork to bring site to rough grades before site improvements and construction of structures. Exclude basement and foundation earthwork.

Includes complete and size reducing demolitions of structures and utilities. Demolition work to a building that does not reduce the size of the building shall be in 0010. Exclude marine demo.

1120 SITE IMPROVEMENT (Improved Square Yards, ISY)

Includes landscaping, patios, sidewalks, parking, roads, including fine grading and sub-course, etc.

1121-1129 SUPPORT FACILITIES ELEMENTS (as appropriate)

Dedicate separate elements for facilities with several cost items, but not enough for a separate estimate, e.g., pump houses, picnic shelters, decks, carports, etc.

1131 SITE WATER (Length of Water Pipe, LF)

Includes water pipe, valves, pumps (with associated electrical), associated earthwork, etc.

1132 SITE STORM DRAINAGE (Length of Storm Drain Pipe, LF)

Includes storm drain pipe, catch basins, earthwork, etc.

1133 SITE SEWAGE (Length of sewer and Drain Field Pipe, LF)

Includes sewer pipe, manholes, lift stations (with associated electrical), septic systems, earthwork, etc.

1134 SITE FUEL (as appropriate)

Tanks, pumps, pipe, tank pads, etc.

1135-1139 OTHER SITE PIPING ELEMENTS

Compressed air, etc.

1140-1149 SITE ELECTRICAL (as appropriate)

Includes power lines, transformers, site lighting, associated earthwork, concrete pads, etc.

1150-1159 SPECIAL FOUNDATION ELEMENTS (as appropriate)

Piling on land, caissons, underpinning, sheeting and shoring, etc. Include pile caps in "0110 Foundations."

1200-1299 MARINE AND RAILROAD ELEMENTS (as appropriate)

Includes piers, boat haulouts, rip-rap, breakwaters, etc. Includes utilities over water. Portions of utility lines serving waterfront that are on land shall be shown in elements 1130-1149.

1300 GENERAL REQUIREMENTS (@ Level 1: percent, @ Level 2: months)

Includes general contractor's field overhead. Excludes labor fringes and payroll taxes and insurances of labor performed in other sections. These costs are to be included in the unit costs of items in those sections. Exclude home office overhead, profit, bonding and insurance premiums.

1410 PRIME CONTRACTOR OVERHEAD, PROFIT AND BOND (percentage)

Includes the general contractor's home office overhead, profit and bonding applicable to the project. Exclude direct labor taxes and insurances.

1420 SALES TAX (percentage)

State sales and use taxes on materials or project value in states that it's appropriate. Do not use this element if material unit prices include sales tax.

1510 DESIGN, ESTIMATING AND BID CONTINGENCY (percentage)

Contingency added to estimate to cover unidentified cost items that will be defined in later design stages. Bid contingency may be included in estimates for projects that might receive higher bids than would normally be expected.

1520 ESCALATION (percentage)

Cost added to estimate to midpoint of construction. The costs of items in the estimate are what the items would cost if installed on the date of the estimate.

1.4 UNIFORMAT RULES OF MEASUREMENT

BWA - Basement Wall Area: Wall area below grade. In square feet.

DSF - Demolition Square Feet: The portion of the gross square footage of a building that is subjected to demolition.

DWA - Door and Window Area: Area of exterior doors and windows. In square feet.

EWS - Exterior Wall and Soffit Area: Wall area above grade, portion of soffit area that is 3 feet beyond wall, and parapet area. Individual openings (doors and windows) in the wall greater than 70 square feet shall not be counted. Measured in square feet.

FIX - Fixtures: Following count as one fixture; toilet, sink, shower, bathtub, dishwasher, drinking fountain, urinal. Following count as 1/3 of a fixture; hose bibs, roof and floor drains. Do not count pumps and water heaters as fixtures.

FPA - Footprint Area: Horizontal area enclosed by outside edge of perimeter foundation wall. Measured in square feet.

GSF - Gross Square Feet: Horizontal area of enclosed floors with more than 6'6" head space to structure above, measured from outside of exterior wall. Include mechanical, elevator and stair shafts. Exclude voids in the floor more than 100 square feet. The following shall be added at half value: covered portion of patios and entries with at least five feet of covering beyond exterior wall, and floors with less than 6'6" of head space to structure above.

HSF - Heated Square Feet: Area heated and/or air conditioned.

ISY - Improved Square Yards: Developed site area minus building footprint areas.

PSF - Protected Square Feet: Area of a building protected by a fire extinguishing system. Include attic and crawl spaces.

RA - Roof Area: Area of roof measured flat. Measure to outer edge of parapets and eaves. Include canopies. In square feet.

SSY - Site Square Yards: Developed site area including buildings.

STP - Stops; Number of elevator stops. Measured by each.

1.5 CSI DIVISIONS

1.5.1 LEVEL 1 CSI DIVISIONS BREAKDOWN

At this level, the work items shall be divided into the sixteen primary CSI divisions:

01000	General Requirements
02000	Sitework
03000	Concrete
04000	Masonry
05000	Metals
06000	Wood and Plastic
07000	Thermal and Moisture
08000	Doors and Windows
09000	Finishes
10000	Specialties
11000	Equipment
12000	Furnishings
13000	Special Construction
14000	Conveying System
15000	Mechanical
16000	Electrical

1.5.2 LEVEL 2 CSI DIVISIONS BREAKDOWN

A. At this level, the work items shall be divided into more specific specification divisions than at LEVEL 1. For example, work items in "05000 Metals" would be divided into "05120 Structural Steel," "05210 Steel Joists," "05311 Steel Roof Deck," and "05500 Metal Fabrications" for a project with work in these divisions.

B. This level of breakdown is necessary to segregate individual subcontractor and supplier costs.

1.6 WORK ITEMS

A. **All work items shall be descriptive enough for a reviewer to analyze the pricing without referring to the plans and specs. Words in descriptions may be abbreviated.**

B. Quantity of work items shall be commensurate with level of detail on plans.

1.6.1 LEVEL 1 WORK ITEMS BREAKDOWN

A. At this level of work breakdown, the estimate is broken into fewer work items than at Level 2. The costs of distinct work activities that together produce a single construction component may be combined into one work item as long as they are in the same Level 1 CSI division. For example, the costs of the forming, rebar, concrete, and finishing for a concrete deck may be combined into one work item. The work item should be described and quantified as follows:

Concrete deck, 4" thick	982 SF, or
Concrete deck, 4" thick	12 CY

Likewise, the costs of the frame, door and hardware may be combined into a single work item as follows:

Single hollow metal door with frame + hdw	10 EA

B. Components of construction that have different unit costs must be itemized separately even though they may be functionally and/or compositionally alike. For example, all the concrete footings for a building may not be lumped into one item and assigned a cost per cubic yard if they vary in size or form to a degree that there unit costs are significantly different.

C. It is okay to use Level 2 Work Items in lieu of Level 1.

1.6.2 LEVEL 2 WORK ITEMS BREAKDOWN (more detail than Level 1)

A. At this level, the estimate shall be broken down into more work items than at Level 1. All distinct work activities shall be presented as separate work items. For example, the work that is required to construct a concrete deck would include the following items in the estimate:

Form concrete deck	982 SF
Rebar in concrete deck	.6 TON
Pour concrete deck	12 CY
Finish concrete deck	982 SF

Likewise , the cost of a single door would be shown by the following items in the

estimate:

Single hollow metal door	10 EA
Hardware for single door	10 SET
Hollow metal frame for single door	10 EA

B. A level 2 work item shall not contain costs of work from more than one Level 2 CSI division. This level of detail is necessary to segregate the costs of various vendors, suppliers, trades and subcontractors.

1.7 UNIT COST BREAKDOWN

A. All prices in the estimate shall be the price for the item installed on the date of the estimate at the geographic location of the project, i.e., **do not have separate cost item(s) for geographic cost factors.** If lodging, per diem, and/or travel are included in labor rates, indicate.

B. **Do not show dollar signs. Round to nearest dollar and leave out decimal in Total columns.** Order of column headings shall be as shown in Exhibits.

1.7.1 TYPE A UNIT COST BREAKDOWN

A. The cost of each work item in this type of unit cost breakdown shall be shown by one total unit cost. The unit cost will include the cost of material, labor (including fringes and labor taxes and insurances), equipment and subcontractor overhead and profit for work expected to be performed by subcontractors. Work items expected to be performed by the prime contractor shall exclude overhead and profit. Show prime's OH&P in the summary.

B. Note which items include subcontractor OVHD and PROFIT.

C. If the estimator chooses, he may fill in the "MATERIAL," "LABOR," and "EQUIPMENT" columns (Type B Breakdown).

1.7.2 TYPE B UNIT COST BREAKDOWN (more detail than Type A)

A. Every work item cost shall be divided into Material, Labor and Equipment in this type of cost breakdown. The unit prices for work items expected to be performed by subcontractors shall include the subcontractors' overhead and profit in the unit prices.

B. The estimator shall include a note in the estimate stating which work items include or exclude subcontractor overhead and profit.

C. Include the following in Material columns: dump fees, utility charges, supplies, temporary offices, trailers, sanikan, dumpster, freight, temporary fence, off-site

fabrication labor.

D. Include the following costs in Equipment columns: power equipment larger than hand tools, e.g., air compressors, welding machines, jack hammers, tampers, forklifts, boom trucks, pickups, backhoes, cranes, etc. Include hand tools with Labor.

1.8 ADDITIONAL REQUIREMENTS

1.8.1 WAGE RATES, OVERTIME, LODGING, PER-DIEM, FREIGHT AND SALES TAX

A. Estimator shall be prepared to submit a report, upon request, that shows hourly labor costs used to derive labor unit costs for each trade to be used in the project. Cost per hour labor taxes and insurances. Lodging and per-diem, if appropriate, shall be included in labor rates or shown in General Requirements. Estimator shall note where lodging and per-diem are included.

B. For construction work in remote regions, the estimator shall include freight costs in Division 2-16 work items.

C. Estimator shall note the sales tax rate included in the material unit costs, or show as a line item in the summary.

1.9 ESTIMATE EXAMPLES

One example for each of the five estimate formats are presented herein. Each of the CSI and Uniformat formats could have "Type A" or "Type B" cost breakdowns. Only one example for each format is presented herein. If the "Type" of cost breakdown in the example is not the one required by FD&CC look at another example that has that "Type" of cost breakdown and interpolate.

EXHIBIT 4A Commandant Summary

3.4	COST ESTIMATE				11/8/99	
	COMMANDANT SUMMARY				PPR-B	
	CPB Moorings, Port Angeles, WA					
ITEM NO.		QUANT	UNIT OF MEAS	UNIT COST	TOTAL	
	CONTRACTOR COSTS:					
1.0	**DEMOLITION:**					**12,100**
1.1	1 1/2" water pipe on pier	150	lf	7.00	1,100	
1.2	2ea 2000gal fuel tanks, 200' pipe, pump		ls		11,000	
2.0	**SITEWORK:**					**21,000**
2.1	earthwork for bldg and paving	900	cy	14.00	12,600	
2.2	concrete sidewalks to bldg	800	sf	5.50	4,400	
2.3	asphalt paving, 3", w/ subcourse	100	sy	40.00	4,000	
3.0	**UTILITIES:**					**36,800**
3.1	1" water w/ earthwk	80	lf	50.00	4,000	
3.2	8" storm drain w/ earthwk	70	lf	70.00	4,900	
3.3	4" hdpe san sewer w/ earthwk	120	lf	65.00	7,800	
3.4	4" c + wire from substa, incl 150A ckt brkr	60	lf	75.00	4,500	
3.5	pad mnt xfrmr, 112.5KVA 120/208V 3ph	1	ea	10,000.00	10,000	
3.6	2ea 4" c, 100pr, and 12 strand f.o. cable	80	lf	70.00	5,600	
4.0	**WATERFRONT/MARINE:**					**46,000**
4.1	marine mobilize and demobilize		ls		15,000	
4.2	remove 10 pile dolphin at west end	2	day	5,500.00	11,000	
4.3	haul and dump creos piling	10	ea	200.00	2,000	
4.4	rotate log boom and secure w/ conc sinkr		ls		3,000	
4.5	new 8 pile dolphin at end of log boom	1	ea	15,000.00	15,000	
5.0	**BUILDING CONSTRUCTION**					**301,600**
5.1	WPB Suprt bldg, cmu, stnd sm rfg, el heat	2320	GSF	130.00	301,600	
	CONTRACTOR SUB-TOTAL TODAY					417,500
	Escalate to midpt, July 00	3.00%				13,000
	CONTRACTOR SUB-TOTAL w/ Escal					430,500
	Design contingency	15.00%				65,000
	TOTAL CONTRACTOR BID					495,500
	Construction contingency	5.00%				25,000
	TOTAL CONTRACTOR COST					**521,000**

EXHIBIT 4A Commandant Summary

3.4	**COST ESTIMATE**				**11/8/99**	
	COMMANDANT SUMMARY				PPR-B	
	CPB Moorings, Port Angeles, WA					
ITEM NO.		QUANT	UNIT OF MEAS	UNIT COST	TOTAL	
	NON-CONTRACTOR COSTS:					
6.0	**FURNISHINGS**					**15,000**
7.0	**ELECTRONICS OUTFITTING**					**42,000**
7.1	computing (8 computrs + 1 server)		ls		21,500	
7.2	data dist equip		ls		11,000	
7.3	voice dist equip		ls		9,500	
8.0	**OTHER: none**					**0**
	NON-CONTRACTOR SUB-TOTAL TODAY					57,000
	Escalate to midpt, July 00	3.00%				2,000
	NON-CONTRACTOR SUB-TOTAL w/ Escal					59,000
	Design contingency	15.00%				9,000
	TOTAL NON-CONTRACTOR COST					**68,000**
	TOTAL CONTRACTOR plus NON-CONTR					**589,000**

Sitka Admin Addn *(Uniformat Level 1 Type A)*

5/12/97 Schem Est

UNIF	CSI		Q	UNIT	TOTAL $/U	TOTAL COST
		SUMMARY				
		BUILDING:				
0010		Bldg Demo	7350	SF	4.51	33118
0100		Foundations	3600	FPA	10.37	37346
0210		Slab on Grade	3600	FPA	5.44	19578
0300		Superstructure, Addn	6500	GSF	15.76	102457
0310		Seismic Retrofit	7350	SF	1.12	8220
0410		Ext Walls & Soffits, Addn	4750	EWA	24.90	118288
0415		Ext Walls & Soffits, Exist	4500	EWA	2.71	12206
0420		Ext Doors & Windows	730	DWA	41.21	30086
0500		Roofing, repl + new	8960	RA	4.07	36501
0610		Partitions	8350	GSF	14.35	119862
0620		Finishes	8350	GSF	7.46	62270
0630		Specialties	8350	GSF	4.08	34094
0700		Convey	2	STP	24000.00	48000
0810		Plumbing	45	FIX	2422.98	109034
0820		HVAC	8350	GSF	21.60	180395
0830		Fire Protection	21125	PSF	2.41	51008
0840		Special Mech (welding + compr air)	8350	GSF	1.06	8880
0900		Electrical	8350	GSF	26.71	222996
		Bldg Total, Div 2-16	8350	GSF	147.82	1234337
		SITEWORK & SUPPORT FACILITIES:				
1110		Demolition + Preparation	1000	SSY	26.93	26930
1120		Improvements	600	ISY	39.46	23678
1131		Water		LS		13350
1132		Storm		LS		4404
1133		Sewer (excl lift station)		LS		16500
1134		Fuel		LS		36290
1140		Electric (excl shoretie off-shore)		LS		59834
1150		Foundation @ Seawall		LS		83145
1151		Batter Piles @ Wharf		LS		50500
		Site Total, Div 2-16	1000	SSY	39.46	314631
		Total, Div 2-16				1549000
1300		Gen Requirements	9	pct	139000	1688000
1410		Prime's OH+P+Bond	12	pct	203000	1891000
1510		Design, Est, Bid Contingency	10	pct	203000	1891000
1520		Escal to midpt 2/98	3	pct	57000	1948000

5/12/97 Schematic Est

UNIF	CSI		Q	UNIT	TOTAL $/U	TOTAL COST
0100		**FOUNDATION**				
0100	02000	excavation + stockpile	290	cy	10.00	2900
0100	02000	backfill + comp native	236	cy	15.00	3540
0100	02000	load, haul + Disposal, 10 miles ow	54	cy	20.00	1080
0100	03000	footings w/form pour rebr	25	cy	400.00	10000
0100	03000	fdn walls " " " " , 6" th.	29	cy	550.00	15950
0100	03000	roughen ex conc fdn wall	130	sf	6.00	780
0100	03000	dowell bars to ex fdn wall, 3/4" dia x 6"	20	ea	90.00	1800
0100	07000	rig insul, 2" polystyrene	720	sf	1.80	1296
0210		**SLAB ON GRADE**				
0210	02000	exc + haul top 10"	105	cy	20.00	2100
0210	02000	fine grade + compact	3564	sf	0.30	1069
0210	02000	4" stone under slab	44	cy	40.00	1760
0210	02000	2" sand under slab	22	cy	45.00	990
0210	03000	grade slab, frm,rebr,pour,fin, 5"	55	cy	260.00	14300
0300		**SUPERSTRUCTURE, ADDN**				
0300	03000	4" topping slab, 2888sf	42	cy	260.00	10920
0300	03000	4" topping slab @ mezz, 160sf	3	cy	260.00	780
0300	05000	tube steel columns , 4"sq x 1/4" x 12', 16ea	2600	lb	2.00	5200
0300	05000	tube steel beams, 4x12x3/8	5000	lb	1.60	8000
0300	05000	channel framing	1100	lb	1.90	2090
0300	05000	wide flange beams, W14x30	4100	lb	1.80	7380
0300	05000	connections	1300	lb	2.60	3380
0300	05000	metal deck , 2" 18ga, 2nd flr	2800	sf	2.00	5600
0300	05000	metal deck, 2" 20ga, mezz	160	sf	2.80	448
0300	05000	steel ships ladder w/ rails, 12' flr to flr	1	flt	1800.00	1800
0300	06000	pre-eng rf trusses, 2x6 incl canopy	5046	sf	4.00	20184

US. .CC **Rockshore Clinic Final Est** *(Uniformat Level 2)* Final Est

5/13/97

UNIF	CSI		Q	U	TOTAL $/U	TOTAL COST	MATERIAL $/U	MATERIAL TOTAL	LABOR $/U	LABOR TOTAL	EQUIPMENT $/U	EQUIPMENT TOTAL
		SUMMARY										
		Base Bldg:										
0100		FOUNDATIONS incl stem walls + mat	7820	FPA	15.65	122354	7.29	57020	7.89	61665	0.47	3668
0210		CRAWL & FLOOR ABOVE excl walls + mat	7820	FPA	9.00	70342	4.99	38985	2.87	22466	1.14	8891
0300		SUPERSTRUCT excl first floor	7300	GSF	16.93	123581	11.31	82580	4.81	35107	0.81	5893
0410		EXTERIOR WALLS & SOFFIT	6176	EWS	12.44	76819	5.55	34288	6.89	42532		
0420		EXTERIOR DOORS AND WINDOWS	754	DWA	32.81	24738	24.22	18258	8.59	6480		
0500		ROOFING	9920	RA	4.44	44086	2.52	24990	1.93	19097		
0610		PARTITIONS	6850	HSF	14.89	101988	8.52	58356	6.37	43633		
0620		INTERIOR FINISHES	6850	HSF	11.50	78784	6.22	42631	5.28	36154		
0630		SPECIALTIES AND CASEWORK	6850	HSF	14.81	101470	12.21	83656	2.60	17814		
0810		PLUMBING	47	FXT	2277.05	107021	1244.70	58501	1032.34	48520		
0820		HVAC	6850	HSF	34.02	233058	19.32	132368	14.70	100690		
0830		FIRE PROTECT	6850	PSF	2.45	16800	1.17	8034	1.28	8766		
0840		SPECIAL MECH (excl equip)	6850	HSF	1.92	13167	0.94	6466	0.98	6701		
0900		ELECTRICAL	6850	HSF	20.21	138416	9.68	66325	10.52	72091		
0910		SPECIAL ELECTRICAL	6850	HSF	3.28	22481	1.85	12681	1.43	9800		
1000		EQUIPMENT (excl Gov furnished)	6850	HSF	20.18	138262	17.90	122634	2.28	15628		
		BUILDING TOTAL DIV 2-16	7300	GSF	193.61	1413368	116.13	847772	74.95	547144	2.53	18452
		Base Site & Support Facilities:										
1110		PREP	9000	SSY	19.39	174479	6.24	56177	9.20	82772	3.95	35531
1120		IMPROVEMENTS	8200	ISY	15.87	130162	7.32	60030	7.31	59973	1.24	10159
1121		TEMP EAST WALLS		LS		10650		4130		6220		300
1122		PAINT STORAGE BLDG	300	SF	30.00	9000	10.00	3000	15.00	4500	5.00	1500
1123		RELOCATE MMP BLDG	600	SF	20.00	12000	5.00	3000	10.00	6000	5.00	3000
1131		WATER		LS		164901		81467		64072		19361
1132		STORM DRAINAGE		LS		19910		9998		9274		638
1133		SEWAGE		LS		26180		13310		10695		2175
1134		FUEL		LS		15573		8711		6387		475
1140		ELECTRICAL		LS		3354		1300		1748		306
1150		PILING	7820	FPA	20.18	83461	9.18	48119	5.00	31709	6.00	3633
		TOTAL SITE & SUPPORT DIV 2-16	9000	SSY	113.68	649669		289242		283350		77078

UNIF	CSI		Q	U	TOTAL $/U	TOTAL COST	MATERIAL $/U	MATERIAL TOTAL	LABOR $/U	LABOR TOTAL	EQUIPMENT $/U	EQUIPMENT TOTAL
		SUMMARY (cont)										
		TOTAL DIV 2-16 from prev page				2436493		1184715		1031351		220427
1300		GENERAL REQUIREMENTS	13	MOS	14491	188379	2245	29187	10249	133240	1996	25952
		TOTAL DIRECT COSTS				2624872		1213902		1164591		246379
1420		PRIME'S OH, PROFIT & BOND	11.0%		299000	3021000						
1510		BID CONTINGENCY	1.0%		30210	3051000						
1520		ESCAL TO MIDPT 1/98	2.0%		61000	3112000						
		Option #1 X-Ray Addn				95000						
		Additive #1 Emergency Power System				42000						
		GROSS TOTAL				3249000						

Rockshore Clinic Final Est *(Uniformat Level 2 Type B)*

5/13/97

UNIF	CSI		Q	U	TOTAL $/U	TOTAL COST	MATERIAL $/U	MATERIAL TOTAL	LABOR $/U	LABOR TOTAL	EQUIPMENT $/U	EQUIPMENT TOTAL
0820		**HVAC**										
0820	15190	Pipe and equip identification	6850	GSF	0.06	431	0.02	148	0.04	283		
0820	15200	Noise, vibr, seismic control	6850	GSF	0.11	747	0.05	370	0.06	377		
0820	15250	Insul 1-1/2" unicl 1-1/4"pipe	50	LF	4.13	205	2.39	118	1.75	86		
0820	15250	Insul, 2"th unicl, 1-1/2"pipe	30	LF	6.71	199	4.37	130	2.34	69		
0820	15250	Insul 3/4"th unicl 2"pipe	139	LF	5.40	749	3.37	467	2.04	282		
0820	15250	Insul 1-1/2"th unicl 1/2"-3/4"pipe	234	LF	3.78	885	2.03	476	1.75	409		
0820	15250	Insul 2"th unicl, 2" pipe	79	LF	6.60	523	4.27	338	2.34	185		
0820	15250	Insul 1-1/2"th unic 1" pipe	89	LF	3.80	338	2.05	183	1.75	156		
0820	15512	**Chilled Water System:**										
0820	15512	glycol pump, 1hp	1	EA	586.99	587	470.45	470	116.55	117		
0820	15512	Automatic air vent 3/4"	1	EA	122.25	122	81.00	81	41.25	41		
0820	15512	Automatic air vent 2"	2	EA	892.50	1785	810.00	1620	82.50	165		
0820	15512	Expansion tank, 50gal	1	EA	470.69	471	237.60	238	233.09	233		
0820	15512	Coil in SAF1 40"x57"	1	EA	2000.00	2000	1300.00	1300	700.00	700		
0820	15512	FCU 2 12.5mbh cool 400cfm	1	EA	960.00	960	800.00	800	160.00	160		
0820	15512	FCU 3 3mbh cool 150cfm	2	EA	740.00	1480	600.00	1200	140.00	280		
0820	15512	FCU 4 6.9mbh cool 400cfm	5	EA	850.00	4250	700.00	3500	150.00	750		
0820	15512	Flexible connection, 2"	3	EA	153.31	460	95.04	285	58.27	175		
0820	15512	Pipe, copper 'L', 2"	150	LF	31.05	4657	21.44	3216	9.61	1442		
0820	15512	Pipe, copper 'L', 3/4"	30	LF	10.66	320	4.26	128	6.41	192		
0820	15512	Pressure gauge	4	EA	78.70	315	34.99	140	43.71	175		

1/12/91 Schematic Est

CSI		Q	UNIT	TOTAL $/U	TOTAL COST
	CSI SUMMARY				
01000	General Requirements				236597
02000	Sitework				47616
03000	Concrete				192393
04000	Masonry				
05000	Metals				275640
06000	Wood and Plastic				132001
07000	Thermal & Moist Protect				244198
08000	Doors and Windows				84266
09000	Finishes				297663
10000	Specialties				83926
11000	Equipment				30360
12000	Furnishings				12333
13000	Special Construction				
14000	Conveying Systems				
15000	Mechanical				481091
16000	Electrical				335141
	TOTAL DIRECT COST				2865453
	TOTAL w/ GEN CONTRACTOR'S OVERHEAD, PROFIT & BOND	10	PCT		3151998
	TOTAL w/ DESIGN, ESTIMATE and BID CONTINGENCY	10	PCT		3467198
	TOTAL w/ ESCALATION to MIDPOINT 6/92	6	PCT		3814000

Shoreville Site Upgrades *(CSI Level 1 Type A, Detail)*

2/12/91 Schematic Estimate

		Q	UNIT	TOTAL $/U	TOTAL COST
02000	**Site Work**				
02000	6" pvc water w/ earth, 4' ave dp	33	lf	15.00	495
02000	4" pvc water w/ earth, 4' ave dp	810	lf	14.00	11340
02000	1-1/2" cu water w/ earth, 3' ave dp	227	lf	6.85	1555
02000	6" water valves	2	ea	607.00	1214
02000	12"-18" cmp storm w/ earth 5' ave dp	368	lf	17.87	6576
02000	precast catch basins w/ earth, 4' dp	2	ea	850.00	1700
02000	precast cb's w/ grate + earthwk, 6' dp	3	ea	1200.00	3600
02000	8" di sewer w/ earth, 5' ave dp	102	lf	35.94	3666
02000	4" di sewer w/ earth, 5' ave dp	370	lf	29.61	10956
02000	precst swr mh's w/lid + earthwk 6' dp	2	ea	1400.00	2800
02000	struct fill @ roads, imported	44	cy	22.12	973
02000	rock excav for road + haul 3 miles	10	cy	60.00	600
02000	excav for headwall, stockpile	45	cy	10.14	456
02000	backfill for headwall	20	cy	12.00	240
02000	haul excess soil, 4 miles	25	cy	13.00	325
02000	rip-rap @ headwall	32	cy	35.00	1120
03000	**Concrete**				
03000	6" headwall @ drain, frm, rebr pour	8	cy	542.00	4336
03000	6" trnsfrmr slab w/ form rbar pour	6	cy	295.00	1770
03000	stairs on grade w/ frm, rebr pour	7	cy	450.00	3150
04000	**Masonry**				
04000	8" cmu screen wall, fill + rebr	235	sf	11.90	2797
05000	**Metals**				
05000	3 tier steel pipe guardrail @ stairs	50	lf	30.00	1500
05000	5 tier steel pipe guardrail @ ramp	42	lf	38.00	1596
05000	5 tier steel pipe guardrail @ load dock	33	lf	38.00	1254
09000	**Finishes**				
09000	paint cmu	470	sf	0.80	376
09000	paint 3 tier railings	50	lf	12.00	600
09000	paint 5 tier railings	75	lf	14.00	1050
16000	**Electrical**				
16000	1" pvc cnd w/ 3ea#8 + earthk for lights	640	lf	12.90	8256
16000	25' aluminum poles w/ 2 ea 100w hps	5	ea	1770.00	8850
16000	2" pvc cnd w/3ea#1/0 + earthk for pwr	126	lf	26.00	3276
16000	4'x4'x3' conc vault w/ earth	2	ea	880.00	1760
16000	75 kva transformer 5kv/480-240v	1	ea	3600.00	3600
16000	1" pvc cnd + earthk for telep	430	lf	12.90	5547
16000	50 pr CAT5 telep wire	440	lf	7.00	3080
16000	fglass handholes 2'x2'x2', for telep	5	ea	500.00	2500

ROCK POINT WAREHOUSE *CSI Level 2 Type B (Summary)*

12/12/91 Final Est

CSI		TOTAL		MATERIAL		LABOR		EQUIP	
		$/U	COST	$/U	COST	$/U	COST	$/U	COST
	CSI SUMMARY								
01000	General Requirements		235117		23410		197509		14198
02050	Demolition & Removal		14000				7400		6600
02221	Earthwork for Structures		119710		29800		64510		25400
02222	Earthwork for Utilities		106423		22000		66054		18369
02233	Base Course for Pavement		20789		13289		4500		3000
02660	Exterior Water System		56900		35000		21900		
02720	Storm Drainage System		60029		43812		15467		750
02730	Exterior Sanitary Sewer		11290		5490		4000		1800
02930	Turf		13561		9000		4561		
02950	Trees, Plants, Grnd Covr		15511		12311		3000		200
03300	Cast-in-place Concrete		189023		115900		55100		18023
05120	Structural Steel		284724		208790		59423		16511
05500	Metal Fabrications		36062		23671		12391		
06100	Rough Carpentry		96912		51000		45912		
06200	Finish Carpentry		40843		31666		9177		
07160	Damproofing		22733		12933		9800		
07212	Rigid Insulation		1145		545		600		
07230	Perimeter & Slab Insul		1190		567		623		
07232	Ceiling, Wall, Floor Ins		27466		12000		15466		
07412	Preformed Metal Roofing		121121		91000		25121		5000
07600	Flashing & Sheetmetal		5925		2988		2937		
07920	Sealants		1100		700		400		
08110	Steel Doors & Frames		9146		6090		3056		
08210	Wood Doors		25289		18778		6511		
08300	Special Doors		5800		4000		1800		
08400	Entrance & Storefront		3053		2000		1053		
08500	Metal Windows		36300		30300		6000		
08710	Finish Hardware		7200		6000		1200		
09100	Metal Support System		79890		37800		42090		
09250	Gypsum Board		53800		21344		32456		
09500	Acoustical Treatment		94786		45332		49454		
09660	Resilient Flooring		31105		13434		17671		
09680	Carpet		40830		27541		13289		
09900	Painting		59500		23000		36500		
10200	Louvers		5500		3200		2300		
10800	Toilet & Bath Accessorie		36303		25300		11003		
11400	Hospital Equipment		30360		21000		9360		
12300	Hospital Casework		35000		25000		10000		

ROCK POINT WAREHOUSE
12/12/91 Final Est

CSI Level 2 Type B (Summary)

CSI		TOTAL $/U	TOTAL COST	MATERIAL $/U	MATERIAL COST	LABOR $/U	LABOR COST	EQUIP $/U	EQUIP COST
	CSI SUMMARY (cont)								
15010	Mechanical Gen Requiremt		5344		1254		4090		
15200	Noise, Vibration, Seismc		5937		3200		2737		
15250	Insulate Mechanical Sys		23057		8700		14357		
15330	Fire Exting Sprink Sys		76655		32981		43674		
15400	Plumbing		195682		58900		136782		
15492	Fuel Gas Piping		33900		26010		7890		
15653	Unitary AC Systems		11471		9000		2471		
15813	Warm Air Heating Systems		37454		17654		19800		
15850	Air Handling Equipment		24286		13409		10877		
15895	Ductwork and Accessories		47963		24512		23451		
15971	Space Temperature Contrl		27541		14090		13451		
15996	Test & Balance HVAC		10256		256		10000		
16010	Electrical Gen Requiremt		2487		500		1987		
16375	Underground Electrical		9599		4400		3701		1498
16401	Interior Wiring Systems		142000		68000		74000		
16510	Interior Lighting		150450		80322		70128		
16530	Exterior Lighting		8300		4000		4300		
16722	Interior Fire Alarm		8300		4900		3400		
16740	Telephone Distribution		9395		4000		5395		
16760	Intercom Systems		8030		4530		3500		
	TOTAL DIRECT COST		1502897		673897		723000		106000
	TOTAL with GEN CONTR's OVERHEAD, PROFIT & BOND	10 PCT	1653186.7						
	TOTAL with DESIGN, EST and BID CONTINGENCY	1 PCT	1669718.57						
	TOTAL with ESCALATION to MIDPOINT CONST 6/92	2 PCT	1703000						

ROCK POINT WAREHOUSE

12/12/91 Final Est

CSI Level 2 Type B (Detail)

CSI		Q	UNIT	TOTAL $/U	TOTAL COST	MATERIAL $/U	MATERIAL COST	LABOR $/U	LABOR COST	EQUIP $/U	EQUIP COST
02221	**Earthwork for structures**										
	Reduce levels and haul	657	cy	5.50	3614			3.00	1971	2.50	1643
	Rough grade site	7000	sy	1.00	7000			0.50	3500	0.50	3500
	Trench excav for strip footg	44	cy	9.32	410			6.10	268	3.22	142
	6" gravel base for footings	28	cy	17.50	490	12.00	336	3.00	84	2.50	70
	Excavate for elevator pit	17	cy	4.00	68			2.00	34	2.00	34
	6" gravel base for elev pit	2	cy	21.32	43	12.00	24	6.10	12	3.22	6
	Backfill native to footgs	30	cy	6.20	186			4.20	126	2.00	60
	Backfill native to elev pit	6	cy	9.69	58			6.35	38	3.34	20
	struct fill, compact	39	cy	22.12	863	11.78	459	7.00	273	3.34	130
	6" gravel under slab, comp	28	cy	9.69	271			6.35	178	3.34	94
	Haul excess excavation	50	cy	22.12	1106	11.78	589	7.00	350	3.34	167
	Storm drain headwall: excav	45	cy	5.50	248			3.00	135	2.50	113
	rip-rap at headwall	32	cy	28.20	902	20.00	640	4.20	134	4.00	128
	backfill native at headwall	45	cy	8.22	370			5.00	225	3.22	145
02225	**Earthwork for utilities**										
	Water Line: trench 2' ave dp	325	cy	5.06	1645			2.75	894	2.31	751
	bedding	27	cy	21.20	572	15.00	405	4.20	113	2.00	54
	backfill native	254	cy	9.69	2461			6.35	1613	3.34	848
	struc fill under roads	44	cy	22.12	973	11.78	518	7.00	308	3.34	147
	load + haul excav	71	cy	8.21	583			3.33	236	4.88	346
	Storm Drain: trench 5'x2' av dp	75	cy	6.00	450			3.90	293	2.10	158
	trench shoring, 5' ht	100	lf	6.20	620	2.00	200	3.70	370	0.50	50
	backfill native	75	cy	9.42	707			6.20	465	3.22	242
	San Sewer: trench 4'x2.5' ave dp	110	cy	5.60	616			3.60	396	2.00	220
	rock excav	10	cy	46.29	463	5.00	50	25.00	250	16.29	163
	bedding	20	cy	21.20	424	15.00	300	4.20	84	2.00	40
	backfill native	90	cy	9.69	872			6.35	572	3.34	301