



Superior Court of California
County of Solano
Renovation to Old Solano
Courthouse

BUDGET PACKAGE

FEBRUARY 13, 2009



ADMINISTRATIVE OFFICE
OF THE COURTS

OFFICE OF COURT CONSTRUCTION
AND MANAGEMENT

The Administrative Office of the Court, Office of Court Construction and Management (AOC-OCCM) has compiled the following information in this budget package to support the COBCP for the Renovation to Old Solano Courthouse project.

The AOC-OCCM has utilized a consultant, Mark Cavagnero Associates, to prepare a reuse study and cost estimate for the project. Mark Cavagnero Associates is very familiar with the Old Solano Courthouse and was hired by the AOC to prepare the Superior Court of California County of Solano Court Facilities Master Plan, completed in 2003. The 2003 Superior Court of California, County of Solano Court Facilities Master Plan proposed reusing the Old Solano Courthouse as a civil courthouse.

1. Space Program.

The space program was developed by the Administrative Office of the Court in collaboration with the Superior Court of California, County of Solano. The program presents space requirements for three courtrooms and associated support space for the reuse of the Old Solano Courthouse for civil calendars.

2. Project Schedule.

3. Old Solano Courthouse Feasibility Study – Addendum Final February 2008, Mark Cavagnero Associates.

This study establishes an updated construction cost for the full renovation of the building for three civil courtrooms. The cost estimate prepared by Davis Langdon for this study is the basis for the cost estimate presented in the COBCP. The COBCP estimate has been escalated to construction mid-point and augmented for additional site development costs and historic allowances not included in the Langdon estimate.

4. Old Solano Courthouse Feasibility Study – Addendum Final May 2004, Mark Cavagnero Associates.

This study is provided for reference. When the availability of funding for full renovation of the building was uncertain, the AOC retained Mark Cavagnero Associates to confirm how the court could reuse the Old Solano Courthouse prior to the full renovation of the building anticipated by the feasibility study prepared in December 2003 (see below).

5. Old Solano Courthouse Feasibility Study –Final Report December 2003, Mark Cavagnero Associates.

This study is included for reference. The study was jointly funded by both the court and the county, both of which were interested in reusing the Old Solano Courthouse. In this study Mark Cavagnero Associates and its consultants studied two options for reusing the old courthouse; one for the court as a civil courthouse and one for the county as a meeting center and depository of historic artifacts.

Superior Court of California, County of Solano
 Projected Staff and Space Requirements for Civil program at Old Solano Courthouse

2/2/2009
 KAM

Component ID / Name	Space Required 3 Courtrooms-Civil Court					
	Space Count	Total Staff	Component Net Area	Total Net Area	Total Gross Square Feet	
COURTSETS		18		9,614	13,460	
Courtroom; Civil-Jury	3	-	1,600	4,800	40%	
Attorney/Client/Witness Room	6	-	100	600		
Exhibit Storage	3	-	50	150		
Judicial Chambers (toilet and closet)	3	3	400	1,200		
Judicial Assistant/Chambers Waiting/Reception	3	3	120	360		
Conference Room/Legal Collection	1	-	240	240		
Jury Suite (Toilet, Kitchenette, Closet)	2	-	410	820		
Jury Break Room (No assembly in building)	1	-	300	300		
Research Attorney Office (12x12)	4	4	144	576		
Courtroom Clerks Supervisor	1	-	100	100		
Courtroom Clerks (8x8)	3	3	64	192		
Court Reporter Workstation (8x8)	3	3	64	192		
Interpreter Workstation (6x7)	2	2	42	84		
CIVIL CLERKS OFFICE		12		2,048		2,867
Program Manager (12 x 14)	1	1	168	168		40%
Clerks Supervisor (10 x 10)	1	1	100	100		
Legal Clerks Workstations (8 x 8)	10	10	64	640		
Public Counter Workstations w/Glass (unassigned)	6	-	64	384		
Public Queuing Area	30	-	9	270		
Public Viewing Counter (2 sit-down stations)	1	-	50	50		
File Storage (42" x 7 Shelf Unit)	20	-	12	240		
Sorting/Staging Workstation	1	-	40	40		
File Carts	6	-	6	36		
Copy/Work/Supply Room	1	-	120	120		
LOBBY/SECURITY OPERATIONS		6		850	1,148	
Security Screening Queuing (20 each station)	20	-	14	280	35%	
Weapons Screening Station	1	-	250	250		
Information Kiosk (2 public use computers)	1	-	80	80		
Court Security Personnel (2.35 Screening/Perimeter and 1.35 Bailiff per courtroom)	-	6.4	-	-		
Court Security Locker Room; Male	1	-	120	120		
Court Security Locker Room; Female	1	-	120	120		
FACILITY SUPPORT FUNCTIONS		-		2,185	2,731	
Multi-Purpose Meeting Room	1	-	375	375	25%	
Children's Waiting Room (check-in, play, restroom, vol. desk)	1	-	250	250		
Public Vending Area	1	-	100	100		
Staff Break Room	1	-	250	250		
Staff Shower/Restroom	2	-	80	160		
Loading/Receiving Area	1	-	40	40		
Central Storage & Mail Distribution	1	-	80	80		
Janitor Closet/Storage (one per floor)	3	-	40	120		
Telecommunications Equipment Room (one per floor)	3	-	120	360		
IS Computer Room	1	-	200	200		
Main Electrical Room	1	-	250	250		
Subtotal Staff and Departmental Gross Square Feet:		36		14,697		20,206
Interdepartmental Circulation/Restrooms/Building Support:				35%		7,072
Building Envelop/Mechanical/Electrical:				10%		2,021
Total Building Gross Area :						29,298
GSF per Courtroom:					9,766	

OLD SOLANO COURTHOUSE FEASIBILITY STUDY
Addendum Final February 2008

MARK CAVAGNERO ASSOCIATES

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Existing Architectural Plans

A1 - Old Solano Courthouse Existing Basement Floor Plan

A2 - Old Solano Courthouse Existing First Floor Plan

A3 - Old Solano Courthouse Existing Second Floor Plan

A4 - Old Solano Courthouse Existing Roof Plan

Proposed Architectural Plans

A5 - Old Solano Courthouse Civil Courthouse Basement Floor Plan

A6 - Old Solano Courthouse Civil Courthouse First Floor Plan

A7 - Old Solano Courthouse Civil Courthouse Second Floor Plan

A8 - Old Solano Courthouse Civil Courthouse Roof Plan

Proposed Structural Plans

S5 - Old Solano Courthouse Civil Courthouse Basement Floor Plan

S6 - Old Solano Courthouse Civil Courthouse First Floor Plan

S7 - Old Solano Courthouse Civil Courthouse Second Floor Plan

S8 - Old Solano Courthouse Civil Courthouse Roof Plan

Project Participants

Superior Court of California, County of Solano:

David E. Power, Presiding Judge of the Superior Court of California, County of Solano

Administrative Office of the Courts

Kristin Metzger, Supervising Planner, Administrative Office of the Courts

Lisa Hinton, Project Manager, Administrative Office of the Courts

County of Solano:

Veronica A. Ferguson, Assistant County Administrator

Charlene M. Ping, Deputy County Administrator

Kanon R. Artiche, AIA, County Architect

Consultants

Laura Blake, Principal, Mark Cavagnero Associates

Jack Verdon, AIA, Project Architect, Mark Cavagnero Associates

Mason Walters, PE, Principal Forell Elsesser Engineers, Inc

Addendum Two

Overview

In 2003, Mark Cavagnero Associates, working with its consultants, the Administrative Office of the Courts (AOC) and the Superior Court of Solano Court Facilities Master Plan Steering Committee, developed the *Superior Court of California County of Solano Court Facilities Master Plan*. At the time the county occupied the Old Solano courthouse but was planning to relocate to the new County Administration Center. Both the court and the county were interested in reusing the Old Solano courthouse and jointly funded the *Old Solano Courthouse Feasibility Study*. In that study Mark Cavagnero Associates and its consultants studied two options for reusing the old courthouse; one for the court and one for the county. The 2003 Superior Court of California County of Solano Court Facilities Mater Plan proposed, subject to county approval, reusing the Old Solano courthouse as a civil courthouse.

In October 2007 the AOC and the county requested that Mark Cavagnero Associates update the court portion of the study to establish an updated construction cost. This Addendum Two summarizes that work.

Existing Facility

The Old Solano Courthouse is owned by the County of Solano and is located at 580 Texas Street in the Government Center in Fairfield, the county seat. The building has a basement and two floors above grade and is 29,900 gross square feet. The Old Solano courthouse was designed by E.C. Hemmings and built in 1911 and is an excellent example of classical beaux-arts architecture. It does not have an official local, state or national listing, however it is included in the 1977 Central Solano County Heritage Commission [Our Lasing Heritage](#) inventory.

Renovation Concept

The 2003 Court Master Plan proposed renovating and expanding the Old Solano courthouse to create a five courtroom civil courthouse. The proposed renovation included renovating the first floor office spaces into clerk areas; the two second floor courtrooms and adjoining offices into contemporary court sets and the basement into support spaces. The proposed renovation included infrastructure upgrades, interior improvements and exterior refurbishing. The infrastructure upgrades included seismic, mechanical, electrical, fire-life safety and plumbing upgrades. Conceptual plans, finish schedules, seismic recommendations and mechanical system recommendations were developed and used in developing a feasibility level construction cost estimate.

In 2007, anticipating that an addition could not be undertaken in the near term, the court requested that a third courtroom be added to the renovation plan to meet current civil caseload needs. Mark Cavagnero Associates added the third courtroom and associated court set spaces to the first floor as part of this addendum. The existing and proposed architectural plans are included in Attachment Three.

Code Review

In 2003, the county building officials preliminarily determined that the court's reuse of the building would be a continuation of the building's original use and therefore any seismic upgrade would be voluntary. The officials noted that any improvements and/or addition to the building would need to be in compliance with applicable current codes.

Since then California has adopted a new building code. Mark Cavagnero Associates reviewed the requirements of the new 2007 California Building Code to identify any significant code changes that could impact the renovation concept. No significant impacts were found. In addition the county building official confirmed the 2003 preliminary determination that any seismic upgrade would be voluntary and that any improvements and/or additions to the building would need to be in compliance with current codes.

Structural Review

Forell/Elsesser Engineers reviewed the question of appropriate seismic retrofit criteria for the Old Solano Courthouse and concluded that ASCE 41-06, which is a FEMA-produced guideline that is specifically written to address existing buildings, is the most appropriate. Based on this criteria Forell/Elsesser Engineers recommends that the proposed shear wall arrangement shown in the 2003 study be refined to more directly address the high inertia, and consequent seismic effects, of the massive entry colonnade and related granite elements. Specifically the engineers recommend adding wall piers at the inside of the south wall at all levels, as well as on the west wall at the basement level. In addition, the engineers recommend adding steel transfer framing to support the removal of the two interior columns at the new first floor courtroom. The transfer framing should be designed in accordance with current code. These revisions were incorporated in the proposed structural plans. The existing and proposed structural plans are included in Attachment Three.

Estimated Costs

In 2007 dollars the estimated construction cost for reusing the Old Solano Courthouse for civil court use is \$12 million. Assuming 25% allowance for other costs the total project cost would be \$15 million. Seismic strengthening of the non-structural building components could be an additional \$1.8 million.

The Old Solano Courthouse estimated construction cost has approximately doubled since 2003. The increase is largely due to unusually high escalation over the past four years. Since 2003 construction costs have increased on average 60-65%, however concrete, mechanical systems and other items have increased more. The Old Solano Courthouse estimated construction cost has escalated approximately 75%. Additional seismic strengthening, an additional courtroom and, security, data and telecommunications costs have also contributed to the increase. The following summarizes the increase in estimated construction costs from 2003 to 2007:

\$5.8 Million	2003 Estimated Construction cost
\$4.4 Million	Escalation from 2003 to 2007
\$0.7Million	Additional Courtroom and associated court set spaces
\$0.4 Million	Additional Seismic Strengthening
<u>\$0.7 Million</u>	<u>Security, data, telecommunications equipment and cabling</u>
\$12 Million	2007 estimated construction cost

The Feasibility Project Cost Estimate and detailed Feasibility Construction Cost Estimate are included in Attachment One. Both estimates are in 2007 dollars. Escalation beyond 2007 is not included in these numbers. Cost Planners, Davis Langdon anticipate that over the next few years escalation will

Old Solano Courthouse Feasibility Study – Addendum Two

be 6-8% tapering down to 5%. The County of Solano Technical Review Comments along with mark Cavagnero Associates responses are included in Attachment Two and the existing and proposed drawings are included in Attachment Three.

Attachment One: Feasibility Cost Estimate

Feasibility Project Cost Estimate

	Quantity	Unit Cost	Cost
Construction Costs in 2007 Dollars			
Building renovation including seismic, mechanical, electrical and plumbing upgrades	29,900 SF	\$377	\$11,277,000
Security, Data and telecommunications (allowance to rework existing and connect to court systems)	20,000 SF	\$17	\$340,000
FF&E for Courtrooms, Jury rooms and Judicial support	20,000 SF	\$20	\$400,000
Construction Cost Total			\$12,017,000
Other Costs in 2007 Dollars			
Design Fees, Construction, Plan Check, Testing and other Owner Costs		25.00%	\$3,000,000
Escalation (not included)		0.00%	\$0
Other Cost Total			\$3,000,000
TOTAL PROJECT COST IN 2007 DOLLARS			\$15,017,000
Alternate in 2007 Dollars			
Seismic strengthening of non-structural building components			1,786,000

UPDATED FEASIBILITY
COST PLAN

for

Solano County Courthouse
Conceptual Master Plan
Fairfield, California

January 22, 2008

DAVIS LANGDON

UPDATED FEASIBILITY COST PLAN

for

Solano County Courthouse
Conceptual Master Plan
Fairfield, California

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January 22, 2008

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BASIS OF COST PLAN

<u>Cost Plan Prepared From</u>	Dated	Received
Drawings issued for Old Solano Courthouse		
Architectural		
A1 through A12	08/27/03	08/28/03
Updated First Floor Plan	11/30/07	12/18/07
Structural		
S5 through S12, "Preliminary"	08/27/03	08/28/03
Previous plans with markups	09/10/03	12/18/07
Outline Specifications		

Conditions of Construction

The pricing is based on the following general conditions of construction

A start date of January 2008

A construction period of 14 months

The general contract will be competitively bid with qualified general and main subcontractors

There will not be small business set aside requirements

The contractor will be required to pay prevailing wages

There are no phasing requirements

The general contractor will have full access to the site during normal business hours

INCLUSIONS

The project consists of updating the unit pricing in the cost plan from 2003. That cost plan entailed a seismic upgrade, other systems upgrades, major remodeling of most spaces, and the refurbishing of the original two courtrooms for civil court use. This current plan also includes the cost of adding a third court set on the first floor of the building in a space previously planned for open office.

Foundations include reinforced concrete doweled to existing footings. Vertical structure includes concrete shearwalls tied to existing columns and beams, and strengthening of existing columns in the Court Scheme. Horizontal structure includes steel beams, metal deck and concrete fill, and steel collector beams.

Exterior cladding includes cleaning and minor repointing to the stone cladding, new exterior doors, and new door openings at the rear of the building. Roofing includes a new built-up roof membrane.

Interior partitions includes new wood doors throughout, with new gypsumboard partitions and furred shear walls. Floor finishes includes cleaning of existing marble, linoleum, ceramic tile, carpet, and sealing of existing concrete. Wall finishes are ceramic tile wainscot in restrooms. Ceilings are gypsum board, with some acoustic tile and skim coating of existing plaster. The entire interior is painted.

Function equipment includes toilet partitions and accessories, laminate countertops and casework, mecho shades, and wood millwork in the Civil Courtrooms.

Plumbing includes sanitary fixtures, floor drains, hosebibbs, sanitary waste, vent and domestic service, gas distribution, gas-fired water heaters, surface water drainage and trade demolition.

Heating, ventilation and air conditioning includes gas-fired boiler, watercooled chiller and cooling tower, expansion tanks, air separators, circulation pumps, variable frequency drives, chilled and steam heated hot water, valves and specialties, insulation, fan coil units, air distribution and return, diffusers, registers and grilles, DDC building management controls, testing, balancing, unit ventilation and trade demolition.

Electrical includes main service and distribution, machine and equipment power, user convenience power, lighting and power specialties, telephone/data (conduit only), fire alarm system, security conduit, a central battery inverter, and trade demolition.

Fire protection includes automatic wet sprinkler system - complete

Site utilities allowance includes connection to street mains for domestic/fire water, sewer, normal power and telecommunications.

INCLUSIONS

BIDDING PROCESS - MARKET CONDITIONS

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this document. Unit rates have been obtained from historical records and/or discussion with contractors. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated. The mark-ups cover the costs of field overhead, home office overhead and profit and range from 15% to 25% of the cost for a particular item of work.

Pricing reflects probable construction costs obtainable in the project locality on the date of this statement of probable costs. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors and general contractors, with a minimum of 4 bidders for all items of subcontracted work and 6-7 general contractor bids. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since Davis Langdon has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market conditions at the time of bid, the statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents Davis Langdon's best judgement as professional construction consultant familiar with the construction industry. However, Davis Langdon cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

EXCLUSIONS

Earthquake resistance upgrade beyond primary structure (see alternates for allowances)

Site work except for utility connection allowance

Holding areas or hardened walls, except bullet-proof judge's bench

Site drainage and site lighting

Data/telephone equipment and wiring

Owner supplied and installed furniture, fixtures and equipment

Loose furniture and equipment except as specifically identified

Security equipment, devices, and cabling except body scanner & small baggage scanner

Audio visual cabling (conduit only); AV equipment beyond allowances specified on page 13

Hazardous material handling, disposal and abatement beyond allowance specified

Compression of schedule, premium or shift work, and restrictions on the contractor's working hours

Design, testing, inspection or construction management fees

Architectural and design fees

Scope change and post contract contingencies

Assessments, taxes, finance, legal and development charges

Environmental impact mitigation

Builder's risk, project wrap-up and other owner provided insurance program

Land and easement acquisition

Cost escalation beyond a start date of January 2008

OVERALL SUMMARY

	Gross Floor Area	\$ / SF	\$x1,000
Revised Court Option	29,930 SF	376.77	11,277

Alternates

Alternate 1: Allowances for Additional Structural Upgrades			1,786
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*Costs shown are construction costs only and exclude project "soft" costs
Please refer to the Inclusions and Exclusions sections of this report*

REVISED COURT OPTION AREAS & CONTROL QUANTITIES

Areas	SF	SF	SF
Enclosed Areas			
Basement	10,250		
First Floor	9,530		
Second Floor	9,780		
SUBTOTAL, Enclosed Area		29,560	
Covered area	740		
SUBTOTAL, Covered Area @ ½ Value		370	
TOTAL GROSS FLOOR AREA			29,930

Control Quantities

			Ratio to Gross Area
Functional Units	3	Courtrooms	0.100
Number of stories (x1,000)	3	EA	0.100
Gross Area	29,930	SF	1.000
Enclosed Area	29,560	SF	0.988
Covered Area	740	SF	0.025
Footprint Area	10,250	SF	0.342
Volume	461,080	CF	15.405
Gross Wall Area	25,000	SF	0.835
Retaining Wall Area	2,450	SF	0.082
Finished Wall Area	22,550	SF	0.753
Windows or Glazing Area (Approximate)	20.00%	5,000 SF	0.167
Roof Area - Flat	10,250	SF	0.342
Roof Area - Sloping	0	SF	0.000
Roof Area - Total	10,250	SF	0.342
Roof Glazing Area	0	SF	0.000
Interior Partition Length	1,890	LF	0.063
Finished Area	29,930	SF	1.000
Elevators (x10,000)	1	EA	0.334
Plumbing Fixtures (x1,000)	50	EA	1.671

REVISED COURT OPTION COMPONENT SUMMARY

	Gross Area:	29,930 SF		
			\$/SF	\$x1,000
1. Foundations			13.18	395
2. Vertical Structure			29.21	874
3. Floor & Roof Structures			22.08	661
4. Exterior Cladding			7.93	237
5. Roofing, Waterproofing & Skylights			4.51	135
<i>Shell (1-5)</i>			76.90	2,302
6. Interior Partitions, Doors & Glazing			15.33	459
7. Floor, Wall & Ceiling Finishes			25.43	761
<i>Interiors (6-7)</i>			40.76	1,220
8. Function Equipment & Specialties			20.14	603
9. Stairs & Vertical Transportation			9.13	273
<i>Equipment & Vertical Transportation (8-9)</i>			29.27	876
10. Plumbing Systems			15.01	449
11. Heating, Ventilating & Air Conditioning			47.37	1,418
12. Electric Lighting, Power & Communications			43.94	1,315
13. Fire Protection Systems			7.81	234
<i>Mechanical & Electrical (10-13)</i>			114.13	3,416
Total Building Construction (1-13)			261.07	7,814
14. Site Preparation & Demolition			15.90	476
15. Site Paving, Structures & Landscaping			0.00	0
16. Utilities on Site			6.68	200
Total Site Construction (14-16)			22.58	676
TOTAL BUILDING & SITE (1-16)			283.65	8,490
General Conditions	10.00%		28.37	849
Contractor's Overhead & Profit or Fee	5.00%		15.60	467
PLANNED CONSTRUCTION COST			January 2008	327.62
Contingency for Development of Design	15.00%		49.15	1,471
Escalation is excluded	0.00%		0.00	0
RECOMMENDED BUDGET			January 2008	11,277

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>1. Foundations</u>				
Footings for shearwalls Allow for 4' wide x 3' deep reinforced concrete including excavation, doweled at 1' o.c.e.w.	460	LF	600.00	276,000
Equivalent footings at proposed new shear wall locations	88	LF	600.00	52,800
Allow for 2' wide x 3' deep reinforced concrete including excavation, doweled at 1' o.c.e.w.	110	LF	480.00	52,800
Pit for new elevator	1	LS	13,000.00	13,000
				394,600
<u>2. Vertical Structure</u>				
Columns				
Elevator hoistways	1	EA	10,000.00	10,000
Fireproof exposed steel	1	LS	15,000.00	15,000
Concrete shear walls, 12" thick				
Basement Level	2,750	SF	55.00	151,250
First Floor	3,030	SF	55.00	166,650
Second Floor	1,980	SF	55.00	108,900
Attic Level	1,200	SF	55.00	66,000
Similar shear walls at new locations, south and west walls, all floors	4,136	SF	55.00	227,480
Adhesive anchors to existing masonry at 2' o.c. and welded studs to existing steel beams	1,400	EA	50.00	70,000
"Backup system" to connect shear walls to existing masonry walls where non-contiguous - assume 50% of shear walls	4,480	SF	12.00	53,760

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Concrete retaining walls at exterior stairs, 4' tall	16	LF	320.00	5,120
				874,160

3. Floor and Roof Structure

Suspended floors

New steel beams to support existing at floor cut-outs, 2 floors	80	SF	160.00	12,800
New beams at new elevator opening	2	LOC	8,000.00	16,000
Concrete work at new slab openings	2	LOC	2,400.00	4,800
Close existing slab opening with new steel beams and concrete fill/metal deck	150	SF	160.00	24,000
Patch floor structure at proposed new shear wall locations for new court set	88	LF	600.00	52,800
Collector beam: TS 6x6 or MC12 bolted to shear walls and welded to existing beams	1,180	LF	400.00	472,000
Reinforce existing concrete diaphragm using shotcrete or TS 6x6 cross braces	536	SF	65.00	34,840
Fireproof exposed beams	1	LS	15,000.00	15,000
Allowance to fireproof exposed steel in attic (per s.f. floor area)	9,500	SF	3.00	28,500
				660,740

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>4. Exterior Cladding</u>				
Wall framing, furring, and insulation				
Infill existing opening at basement level	40	SF	150.00	6,000
Cut new opening for door at existing window	60	SF	150.00	9,000
Furring to interior face of exterior walls				<i>See section 6</i>
Applied exterior finishes				
Stone to match existing at infill	40	SF	115.00	4,600
Stone cladding to vertical face of new ramp	350	SF	115.00	40,250
Allowance for power wash and minor repointing of existing stone facade	22,550	SF	1.50	33,825
Windows, glazing, and louvers				
Paint and minor repair to existing windows and grilles	93	EA	1,350.00	125,550
Exterior doors, frames, and hardware				
New entry doors, front	1	PR	12,000.00	12,000
Rear entry door, first floor	1	EA	3,000.00	3,000
New basement entry door	1	EA	3,000.00	3,000
				237,225
<u>5. Roofing, Waterproofing & Skylights</u>				
Roofing				
New built-up roofing and flashing	10,250	SF	12.00	123,000
Allowance for new equipment mounts	1	LS	12,000.00	12,000
				135,000

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
6. Interior Partitions, Doors & Glazing				
Partitions				
New partitions: metal stud, insulation, gypsum wallboard both sides				
Basement Level	2,420	SF	14.00	33,880
First Floor	2,325	SF	14.00	32,550
Second Floor	1,980	SF	14.00	27,720
Furred walls: metal stud, insulation, gypsum wallboard one side				
Basement Level	2,750	SF	10.00	27,500
First Floor	3,600	SF	10.00	36,000
Second Floor	4,320	SF	10.00	43,200
Additional furred walls at proposed new shear wall locations				
	4,550	SF	10.00	45,500
Premium for rated walls				
	15,070	SF	6.00	90,420
Window walls and borrowed lights				
Allowance	200	SF	70.00	14,000
Interior doors, frames, and hardware				
Wood doors, metal frames				
Single leaf	34	EA	1,700.00	57,800
Double leaf	3	PR	2,800.00	8,400
New court set doors				
Single leaf	7	EA	1,700.00	11,900
Double leaf (high acoustic rating)	1	PR	6,000.00	6,000
Elevator smoke screens				
	3	EA	8,000.00	24,000
				458,870

7. Floor, Wall & Ceiling Finishes

Floors

Clean existing marble	2,700	SF	3.00	8,100
Clean and seal concrete	3,100	SF	2.25	6,975
Linoleum	1,000	SF	12.00	12,000

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Carpet (including corridors)	16,900	SF	5.25	88,725
Ceramic tile	770	SF	16.00	12,320
Ceramic tile for new court set	524	SF	16.00	8,384
Premium for upgraded carpet in courtroom & chambers	1,268	SF	5.00	6,340
Allowance for raised floor for accessibility & for raised benches and seating areas	1	LS	10,000.00	10,000
Walls				
Ceramic tile wainscot to 6'	2,040	SF	16.00	32,640
Paint all walls	71,035	SF	1.50	106,553
Allowance to patch existing surfaces	40,000	SF	2.00	80,000
Ceramic tile for new court set toilet rooms	1,200	SF	16.00	19,200
Allowance for wood paneling and acoustic treatment in courtroom	1,400	SF	75.00	105,000
Ceilings				
Basement Level				
New painted gypsum wallboard and framing system in offices and all public areas	9,000	SF	12.00	108,000
First Floor				
Patch and paint existing plaster	1,200	SF	4.50	5,400
Acoustic ceiling tile	6,300	SF	6.00	37,800
Allowance for enhanced ceiling elements in courtroom	1,008	SF	10.00	10,080
Allowance to patch existing vaulted ceilings (Assume not disturbed for structural work)	1	LS	10,000.00	10,000
Second Floor				
Skim coat plaster	2,400	SF	9.00	21,600
New gypsum wallboard and framing	4,000	SF	13.50	54,000
Paint entire ceiling	9,000	SF	2.00	18,000
				761,117

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>8. Function Equipment & Specialties</u>				
Prefabricated compartments and accessories				
Toilet partitions	6	EA	1,500.00	9,000
Toilet accessories	1	LS	5,000.00	5,000
Additional partitions & accessories first floor	1	LS	20,000.00	20,000
Shelving and millwork				
Janitor shelf and mop rack	1	EA	500.00	500
Judge's Bench, Court Reporter, Witness Stand	1	LS	55,000.00	55,000
Additional court set bench, witness stand, recorder, bailiff stands, clerk	1	LS	25,000.00	25,000
Jury seating area	1	LS	15,000.00	15,000
Chambers	1	LS	5,000.00	5,000
Cabinets and countertops				
Vanity tops	42	LF	200.00	8,400
Service desks, counter and lower casework	90	LF	560.00	50,400
Chalkboards, ensignia, and graphics				
Wayfinding signage	29,930	SF	1.00	29,930
Markerboard allowance	1	LS	3,000.00	3,000
Light control and vision equipment				
Mecco shades	5,000	SF	12.00	60,000
Blackout shades in first floor court	1	LS	2,000.00	2,000
Projection screen allowance	1	LS	3,750.00	3,750
Allowance for sound system and closed circuit TV equipment and wiring	1	LS	105,000.00	105,000
AV equipment allowance for new court first floor only	1	LS	100,000.00	100,000
Amenities and convenience items				
Fire extinguishers	9	EA	500.00	4,500
Entrance mats	4	EA	600.00	2,400
Lockers	10	EA	400.00	4,000
Courtroom fixed seating	30	EA	500.00	15,000
Gallery first floor court, including paneling & seats	1	LS	20,000.00	20,000

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Special use equipment				
Small baggage scanner	1	EA	45,000.00	45,000
Body scanner	1	EA	15,000.00	15,000
				602,880

9. Stairs & Vertical Transportation

Steps and ramps				
Concrete steps into Basement Level at exterior	50	SF	100.00	5,000
Pipe rail	28	LF	110.00	3,080
New exterior ramp to First Floor	620	SF	60.00	37,200
Railings	210	LF	300.00	63,000
Elevators				
New 4-stop elevator	1	EA	165,000.00	165,000
				273,280

10. Plumbing Systems

Sanitary fixtures and connection piping	50	FX)		
Waterclosets, low-flow	23	EA	1,750.00	40,250
Lavatory basins, motion activated	20	EA	1,675.00	33,500
Sinks	2	EA	1,300.00	2,600
Service sinks	2	EA	2,000.00	4,000
Drinking fountains, handicap	3	EA	3,750.00	11,250
Sanitary waste, vent and service piping				
Floor drains, 3" w/trap primer - saw cut & patch (allow)	10	EA	3,500.00	35,000
Hose bibbs, 3/4" w/vacuum breaker	1	LS	5,000.00	5,000
Fixture rough-in, including waste, vent and domestic service pipework, fittings and insulation (<i>based on some existing to remain</i>)	50	EA	2,000.00	100,000
Condensate drainage, < 2"	1	LS	10,000.00	10,000

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Replace sewage ejector, pit, controls, pumps and discharge pipework, fittings	1	LS	25,000.00	25,000
Water treatment, storage and circulation Gas-fired water heater, storage and circulatory equipment	1	LS	10,000.00	10,000
Gas distribution Pipework, fittings, < = 3" (allow)	100	LF	75.00	7,500
Valves and specialties	1	LS	7,750.00	7,750
Seismic shut-off	1	LS	7,500.00	7,500
Surface water drainage Roof and overflow drains, < = 6" - including pipework, fittings - allow	32	EA	3,750.00	120,000
Trade demolition	1	LS	30,000.00	30,000
				449,350

11. Heating, Ventilation & Air Conditioning

Heat generation and chilling				
Heating				
Replace existing steam boiler with new gas fired boiler, 750 mbh	1	EA	22,500.00	22,500
Flue, 24"	15	LF	375.00	5,625
Cooling				
Replace existing water cooled chiller, 80 tons	1	EA	57,500.00	57,500
Replace existing cooling tower, 80 tons	1	EA	32,500.00	32,500
Chemical treatment	1	LS	15,000.00	15,000
Thermal storage and circulation pumps				
Air separators	1	LS	3,000.00	3,000
Expansion tanks	1	LS	3,000.00	3,000
Pumps				
Heated hot water, < 5 hp	2	EA	3,750.00	7,500

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Chilled water, < 7.5 hp	2	EA	5,500.00	11,000
Condenser water	2	EA	7,250.00	14,500
Variable speed drive package	4	EA	3,250.00	13,000
Vibration isolation	6	EA	1,750.00	10,500
Piping, fittings, valves and insulation				
Including heated hot water, condenser & chilled water, valves and specialties, insulation	29,930	SF	10.00	299,300
Air handling equipment				
Fancoils units, including sound insulated casing, filters, hc, cc, sf, and mixing box	80	TONS	2,000.00	160,000
Air distribution and return				
Galvanized steel ductwork, supply and return	25,000	LB	10.00	250,000
Flexible duct	750	LF	15.00	11,250
Dampers				
Volume	150	EA	75.00	11,220
Duct insulation	18,000	SF	3.50	63,000
Acoustical lining	2,000	SF	5.00	10,000
Diffusers, registers and grilles	29,930	SF	2.00	59,860
Controls, instrumentation and balancing				
Replace pneumatic with DDC controls - allow	150	pts	1,750.00	262,500
Testing and balancing	250	HR	120.00	30,000
Unit ventilation	1	LS	15,000.00	15,000
Trade demolition	1	LS	50,000.00	50,000
				1,417,755

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>12. Electrical Lighting, Power & Communication</u>				
Main service and distribution				
Including 5 kVA/480V substation transformer, 480-120/208V distribution equipment and feeders - allow	500	kVA	375.00	187,500
Emergency power				
Central battery inverter re egress lighting	5	kVA	2,000.00	10,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Mechanical connections, < 10 hp	15	EA	2,500.00	37,500
Miscellaneous connections, < 225 A - including power re elevator, speciaty equipment, fire/smoke dampers, fire alarm, IT, audio/visual and security systems	1	LS	75,000.00	75,000
User convenience power				
Panelboard breakers, 120 V circuits	252	EA	105.00	26,460
Feeder conduit and cable	500	LF	45.00	22,500
Receptacles, including conduit and cable (1/100 SF)	300	EA	375.00	112,500
Lighting				
Fixtures and switching - including conduit & cable	29,930	SF	15.00	448,950
Lighting and power specialties				
Grounding	1	LS	7,500.00	7,500
Lighting controls/dimming	1	LS	25,000.00	25,000
Cable tray	200	LF	75.00	15,000
Centralized clocks				NIC
Telephone and communications systems				
Telephone/data outlets, conduit only (1/150 SF)	200	EA	300.00	60,000
Audio/visual, conduit only	1	LS	57,500.00	57,500

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Alarm and security systems				
Fire alarm devices, including conduit and cable	29,930	SF	4.50	134,685
Security - conduit only	29,930	SF	1.50	44,895
Trade demolition	1	LS	50,000.00	50,000
				1,314,990

13. Fire Protection Systems

Fire protection				
Automatic wet fire sprinklers - complete	29,930	SF	7.00	209,510
Attic fire sprinklers	9,700	SF	2.50	24,250
				233,760

14. Site Preparation & Building Demolition

Selective demolition				
Allowance for hazardous material abatement	29,930	SF	2.00	59,860
Sawcut and remove existing concrete slab for new foundations and elevator	2,140	SF	10.00	21,400
Demolish & remove existing exterior ramp/stair	1	LS	5,000.00	5,000
Remove plaster and concrete and expose existing beams and columns for collectors and ties to shear walls	1	LS	88,000.00	88,000
Cut existing slabs and shore for continuous shear walls and new elevator	1,336	LF	75.00	100,200
Protection of existing finishes	1	LS	75,000.00	75,000
Interior partitions	17,990	SF	6.00	107,940

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Remove existing concrete vaults	1,848	SF	10.00	18,480
				475,880

15. Site Paving, Structures & Landscaping

No work anticipated

0

16. Utilities on Site

Site utilities				
Including domestic/fire water, sewer, gas, electrical power and telecommunications	1	LS	200,000.00	200,000
				200,000

	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>Alternate 1: Allowances for Additional Structural Upgrades</u>				
Brace remaining masonry partitions				
Presumed masonry partitions not attached to proposed new shear walls	400	LF	160.00	64,000
Exterior stone cladding support and anchorage to structure				
Steel pins through existing stone, 4' o.c.	22,550	SF	10.00	225,500
Steel strongback system at interior side of exterior wall	25,000	SF	15.00	375,000
Remove and replace wall finishes at exterior wall	25,000	SF	12.00	300,000
Additional support of colonnade and other large stone pieces	1	LS	160,000.00	160,000
Brace existing parapets				
Steel strut system anchored through roof	500	LF	250.00	125,000
Reinforce grand stairs				
Reinforce stringer connections	1	LS	20,000.00	20,000
Allowance to remove and replace portion of vaulted ceiling for access	500	SF	150.00	75,000
Markups	32.83	%	1,344,500.00	441,332
				1,785,832

COMPARISON SUMMARY

	Updated Feasibility		Established Budget		Difference +/-		Difference +/- %
	29,930 SF		29,930 SF		0 SF		
	\$/SF	\$x1,000	\$/SF	\$x1,000	\$/SF	\$x1,000	
1. Foundations	13.18	395	7.13	214	6.05	181	85%
2. Vertical Structure	29.21	874	12.12	363	17.09	511	141%
3. Floor & Roof Structures	22.08	661	12.74	381	9.34	279	73%
4. Exterior Cladding	7.93	237	4.80	144	3.13	94	65%
5. Roofing & Waterproofing	4.51	135	2.32	70	2.19	66	94%
Shell (1-5)	76.90	2,302	39.12	1,171	37.78	1,131	
6. Interior Partitions, Doors & Glazing	15.33	459	7.95	238	7.38	221	93%
7. Floor, Wall & Ceiling Finishes	25.43	761	12.94	387	12.49	374	97%
Interiors (6-7)	40.76	1,220	20.89	625	19.87	595	
8. Function Equipment & Specialties	20.14	603	8.64	259	11.50	344	133%
9. Stairs & Vertical Transportation	9.13	273	5.73	171	3.40	102	59%
Equipment & Vertical Transportation (8-9)	29.27	876	14.36	430	14.91	446	
10. Plumbing Systems	15.01	449	6.15	184	8.86	265	144%
11. Heating, Ventilating & Air Conditioning	47.37	1,418	26.39	790	20.98	628	80%
12. Electric Lighting, Power & Communications	43.94	1,315	21.00	629	22.94	686	109%
13. Fire Protection Systems	7.81	234	4.40	132	3.41	102	78%
Mechanical & Electrical (10-13)	114.13	3,416	57.94	1,734	56.19	1,682	
Total Building Construction (1-13)	261.07	7,814	132.31	3,960	128.76	3,854	
14. Site Preparation & Demolition	15.90	476	10.78	323	5.12	153	47%
15. Site Paving, Structures & Landscaping	0.00	0	<i>Excluded</i>		0.00		
16. Utilities on Site	6.68	200	4.18	125	2.50	75	60%
Total Site Construction (14-16)	22.58	676	14.96	448	7.62	228	
TOTAL BUILDING & SITE (1-16)	283.65	8,490	147.26	4,408	136.39	4,082	
General Conditions	28.37	849	13.26	397	15.11	452	114%
Contractor's Overhead & Profit or Fee	15.60	467	6.41	192	9.19	275	143%
PLANNED CONSTRUCTION COST	327.62	9,806	166.94	4,997	160.68	4,809	
Contingency for Design Development	49.15	1,471	25.03	749	24.12	722	96%
Allowance for Rising Costs	0.00	0	0.00	0	0.00	0	
RECOMMENDED BUDGET	376.77	11,277	191.97	5,746	184.80	5,531	96%

Attachment Two: County Of Solano Technical Review Comments

TECHNICAL REVIEW COMMENTS			
Project:		Old Solano Courthouse Feasibility Study, Mark Cavagnero Associates	Date: January 7, 2008
Level:		Addendum Two Draft December 2007	Reviewer: Veronica Ferguson/Charlene Ping Solano County Administrators Office
			Organization:
Sht./Page/ Paragraph	Comment Number	Technical Comment	Response
General	1	While anticipated costs doubling, \$15M is still a hefty price tag to work within parameters of available PFF and Courts funding.	MCA: AOC item
General	2	Looking at the Existing vs. Proposed floor plans, the new layout involved much more extensive modifications than anticipated. Thought they were only making basic structural modifications to contain costs and that existing space would be designed to minimize modifications. Instead it looks like they are removing a significant number of existing walls, old vaults, plumbing, adding and moving a lot of restrooms, etc. Thought the design would continue to work around the vaults and other unique building features like County did in the past.	MCA: With exception of the third court set and additional seismic shear walls scope is the same as the 2003 scope. The scope entails a full renovation including seismic and MEP upgrade and interior renovation for court use. The renovation approach was conceived to be generally consistent with the Secretary of the Interior Standards for the Treatment of Historic Properties. The approach entails retaining the historic common areas and courtrooms, while making the necessary ADA, seismic, security and functional changes to rehabilitate the building for contemporary court use.
General	3	How can they remove all the walls that they plan to remove without planning for hazardous materials?	MCA: An allowance for hazardous materials abatement is included in estimate (See Estimate page 18)
General	4	Based on the L&J plans for 2 courtrooms, it's possible that the third Courthouse and possibly part of the extensive plans for storage and break rooms in the basement would not be an immediate need. Is there an option for doing the work in phases?	MCA: Recommend undertaking all infrastructure work in one phase. Depending on the courts needs, it may be possible to phase the interior improvements of some portions of the basement.
Attachment 1 Updated Facility Cost Plan, Page 4, Exclusions	5	Was confused by the Exclusions listed on Page 4 because when glancing at the line item costs there are line items for small baggage scanner, body scanner,	MCA: To clarify: Except baggage and body scanners, security equipment, devised and cabling is excluded. Audio Visual equipment and cabling are included. An

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		telecommunications, sound alarms, CCTV, projection screens, etc. that seem like they are part of the excluded items. Obviously, question is what FF&E belongs in the construction costs.	allowance for hazardous materials abatement is included.
Table of Contents Project Participants	6	Please retitle section labeled "Division of Architectural Services, County of Solano" as "County of Solano" and list the following participants: Veronica A. Ferguson, Assistant County Administrator Charlene M. Ping, Deputy County Administrator Kanon R. Artiche, AIA, County Architect	MCA: Will do
Addendum Two, Page 1 Overview	7	Correct spelling of "Mater" to "Master".	MCA: Will do
Addendum Two, Page 1, Existing Facility	8	Correct capitalization of "beaux-Arts" to "beaux-arts" and spelling of "sate" to "state".	MCA: Will do
Addendum Two, Page 2, Code Review	9	This narrative section should be expanded to articulate any state requirements associated with occupying the space, whether it is leased or owned by the state. The state has previously indicated that they cannot occupy space that is not up to current seismic standards. This in effect, would make a seismic upgrade mandatory. There should be a clear differentiation of code requirements vs. state requirements with clear delineation of which standard would govern if one is more stringent than the other.	MCA: AOC item
Addendum Two, Page 2, Estimated Costs	10	This narrative section references a 25% for allowance of other costs, which are listed as Design Fees, Construction, Plan Check, Testing and other Owner Costs on page 1 of Attachment One: Cost Estimate. Obviously, construction should not be a part of this 25%. Also, 25% may be low for the project – suggest that the soft costs be further articulated to assure that 25% is a reasonable assumption for a project of this nature and complexity (e.g. what about CEQA analysis, utility connection fees, modular systems design fees, geotechnical report,	MCA: AOC item

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		land survey, title report, testing/inspection, project/construction management fees, etc?– these can add up quickly).	
Addendum Two, Page 2, Estimated Costs	11	The narrative section refers to the 2003 study, but then attributes the increase in cost to escalation over the last two years? Shouldn't this refer to four years between 2003 and 2007? Also, this narrative section should be expanded to clearly state and quantify the extent of cost increases due to increasing the project from two civil court sets in the 2003 study to three civil court sets in the 2007 study. This section does not even mention programmatic growth, which has a major cost impact. It should also list any other significant assumptions and/or factors to explain the dramatic cost differential (such as construction of new elevator shaft in lieu of expanding existing shaft).	MCA: The increase in the estimated construction cost is largely due to the high escalation over the past four years.
Attachment One: Estimated Cost, page 1	12	Other Cost section shows no escalation. Shouldn't costs be escalated to the anticipated mid-point of construction in order to determine a more accurate estimated total project cost? If costs are to be expressed in "today's costs" at the time Addendum Two is completed, then the estimator should specify a suggested escalation factor for the upcoming 2-3 years to assist the parties in projecting more accurate total estimated project costs as the anticipated start date becomes clearer?	MCA: AOC Item
Attachment One, Updated Feasibility Cost Plan, Page 1, Basis of Cost Plan	13	Outline specification is listed but no outline specification was included as part of the submittal. This makes it very difficult to comment on whether the estimated costs are consistent with the anticipated quality of construction envisioned in the outline specifications. If the outline specifications are based on information contained in the original feasibility study, then this section should make reference to the specific sections of the original study that the cost estimator used as their Basis of Cost Plan. This section also	MCA: Finishes included in the 2003 study and we will clarify that in text. Conversations were to clarify, not modify scope. We will eliminate reference to avoid confusion.

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		lists Discussions with Project Architect and Engineers. Is there record of these discussions? If there is, then why are they not included in the Addendum? If these discussions were not formally documented but were necessary in order to explain the design intent consistent with the other factors listed in the Basis of Cost Plan, then an explanatory note should be included for clarification to remove any doubt that these discussions increased or decreased the design standards set forth in the outline specifications, graphic illustrations or other written material.	
Attachment One, Updated Feasibility Cost, Plan, Page 1, Conditions of Construction	14	Why was a start date of December 2007 selected? Shouldn't a more realistic start date based on completing the entitlements and design work and bid process be selected as the start date in order to more accurately project anticipated costs?	MCA: The estimate is in current, December 2007 dollars and does not include escalation as a start of construction has not been established. See item 12 for additional information.
Attachment One, Updated Feasibility Cost Plan, Page 2, Inclusions, Second Paragraph	15	Please replace the phrase "County Scheme" with "Revised Court Option" (as noted on Page 5 of Updated Feasibility Cost Plan), "Illustrated Scheme" or "Estimated Scheme in Updated Feasibility Cost Plan".	MCA: Will do
Attachment One, Updated Feasibility Cost Plan, Page 2, Inclusions, Fourth Paragraph	16	This makes mention of "new wood doors throughout". Many of the existing doors are metal doors painted to look like wood grain. Shouldn't as many of the existing metal doors remain intact if possible and augmented with new wood doors stained to match the existing metal doors?" Isn't some patching of the existing marble floors in order in addition to simply cleaning them?	MCA: While we will retain the existing metal doors where feasible, this feasibility level estimate assumes new doors throughout to ensure there is adequate budget for this item. In the architectural design phases the doors will be surveyed and studied to determine which could remain and what modifications might be needed to meet current code requirements. Based on our preliminary walkthrough marble appears in good condition and only needs cleaning.
Attachment One, Updated Feasibility Cost Plan, Page 2, Inclusions	17	There is no mention of the following in this section: a) Data/Telecom (other than conduit only) b) Site Work/Landscaping (other than utilities) c) Additional Parking	MCA: The detailed feasibility estimate in Attachment Two includes items that the contractor would provide including baggage and body scanners, AV equipment and hazardous materials abatement. The summary estimate

Old Solano Courthouse Feasibility Study- Addendum Two

		<p>d) Security Equipment e) Audio-Visual Equipment Public Art Allowance f) Hazardous Material Allowance</p> <p>Shouldn't these be included? The project will expand the Court by three civil court sets; therefore additional parking should be planned and incorporated into the project budget to understand the total estimated project cost.</p>	<p>in Attachment One adds security, data and telecommunications equipment and cabling that would be procured separately. In the Superior Court of Solano Court Facilities Master Plan site work, landscaping and parking were included with the addition to the old Solano courthouse, rather than the renovation.</p>
Attachment One, Updated Feasibility Cost Plan, Page 2, Inclusions, Seventh Paragraph	18	<p>Please specify assumptions pertaining to HVAC equipment – is equipment roof mounted, ground mounted, or a combination of both? How is existing connection to the County's co-generation facility integrated? Or is a stand-alone HVAC system not tied to the Co-gen system envisioned? What about an emergency generator or back-up system in the event of power outages?</p>	<p>MCA: The Mechanical assumptions are described in detail in the original 2003 report.</p>
Attachment One, Updated Feasibility Cost Plan, Page 6	19	<p>Area and Control Quantities – Can the plans in Attachment Two be coded so that there is a correlation between the areas/quantities shown in Attachment One?</p>	<p>MCA: This can be provided as an additional service.</p>
Attachment One, Updated Feasibility Cost Plan, Page 7	20	<p>Is the "Contingency for Development of Design" of 15% based on the Planned Construction Cost really a design contingency? If so, then the construction contingency must be built into the construction line items. If so, what is the construction contingency included in the cost? SF and/or cost for each line item? If the contingency is really a construction contingency, then where is the design contingency and what % is assumed for that contingency?</p>	<p>MCA: The Contingency is a design contingency. 15% Design Contingency is typically recommended for preliminary estimates for renovation projects. We agree a separate Construction Contingency should be carried in the Project costs.</p>
Attachment One, Updated Feasibility Cost Plan, Page 12 Ceilings	21	<p>The allowance to patch existing vaulted ceilings assumes that they are not disturbed for structural work. I interpret this as retaining the existing hard ceilings in the former courtrooms on the second floor. How realistic is this assumption and has a cost premium been included to perform structural work in a confined space or in a space that is difficult to access since the vaulted ceilings remain intact?</p>	<p>MCA: The structural approach entails working in the attic space without removing the ceilings. Based on preliminary analysis this appears feasible because the attic is accessible.</p>

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Attachment One, Updated Feasibility Cost Plan, Page 15 Plumbing	22	Complete or correct the phrase "Replace sewage ejector, pit, controls pump, and". Something is either missing or the word "and" needs to be eliminated.	MCA: Will do
Attachment One, Updated Feasibility Cost Plan, Page 21	23	Suggest adding columns to identify percentage of difference for \$/SF and \$x1,000 to enable reader to easily spot high percentages of cost increases.	MCA: Will do
General, Attachment One, Updated Feasibility Cost Plan	24	There are several inconsistencies between the information in the Inclusion and Exclusion sections and the information contained in the more detailed estimate. For instance, A/V systems are listed as excluded but there is an A/V allowance under Light Control and Vision Equipment on page 13. Also, a hazardous material allowance is excluded but there is one shown on Page 18. Please cross check the estimating detail with the assumptions and revise so the Updated Feasibility Cost Plan is internally consistent.	MCA: See items 3 and 5 above

Attachment Three: Existing & Proposed Building Plan Drawings

Existing Architectural Plans

A1- Old Solano Courthouse Existing Basement Floor Plan

A2 - Old Solano Courthouse Existing First Floor Plan

A3 - Old Solano Courthouse Existing Second Floor Plan

A4 - Old Solano Courthouse Existing Roof Plan

Proposed Architectural Plans

A5 - Old Solano Courthouse Civil Courthouse Basement Floor Plan

A6 - Old Solano Courthouse Civil Courthouse First Floor Plan

A7 - Old Solano Courthouse Civil Courthouse Second Floor Plan

A8 - Old Solano Courthouse Civil Courthouse Roof Plan

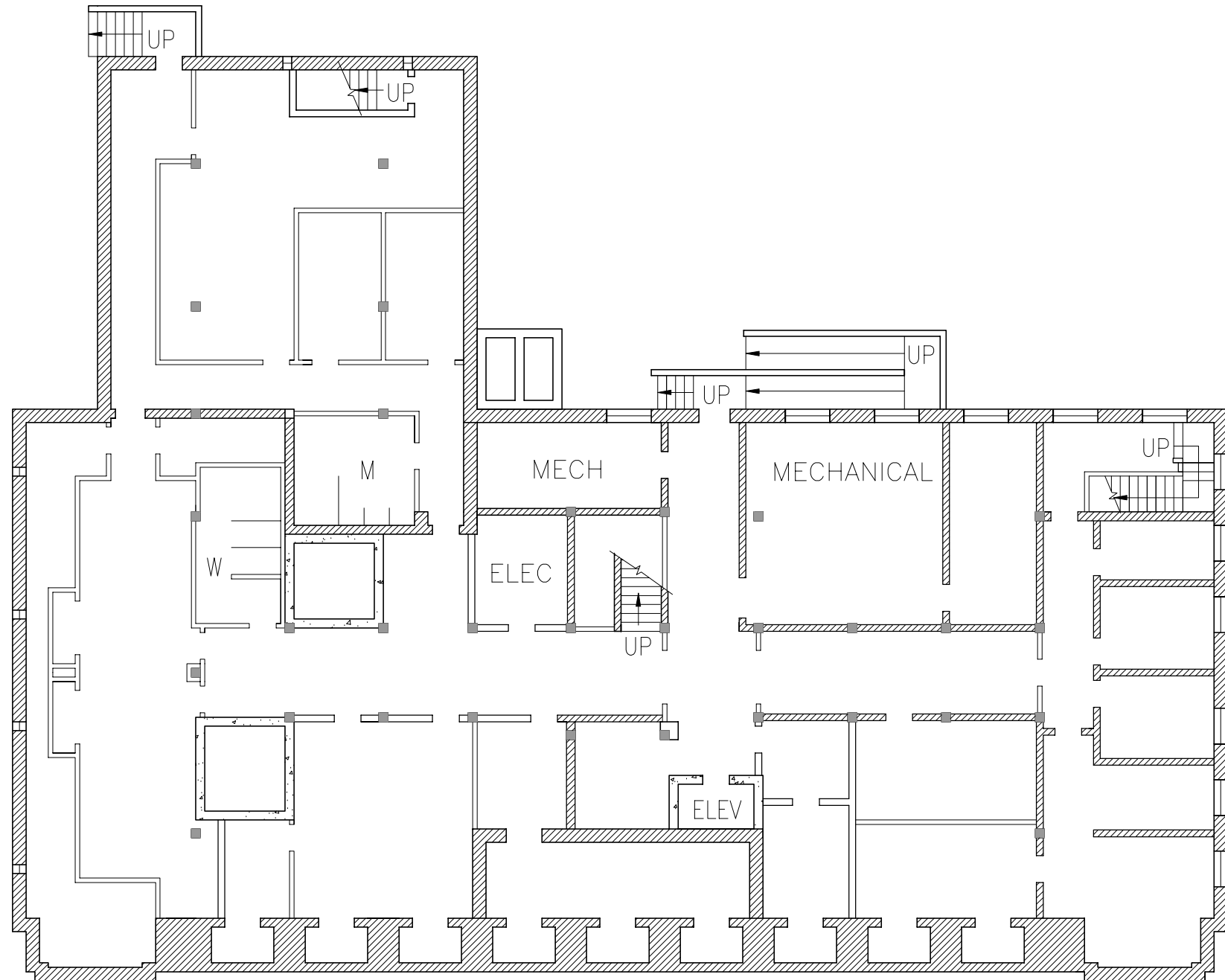
Proposed Structural Plans

S5 - Old Solano Courthouse Civil Courthouse Basement Floor Plan

S6 - Old Solano Courthouse Civil Courthouse First Floor Plan

S7 - Old Solano Courthouse Civil Courthouse Second Floor Plan

S8 - Old Solano Courthouse Civil Courthouse Roof Plan



SCALE: 1/16" = 1'-0"

EXISTING COURTHOUSE
BASEMENT PLAN

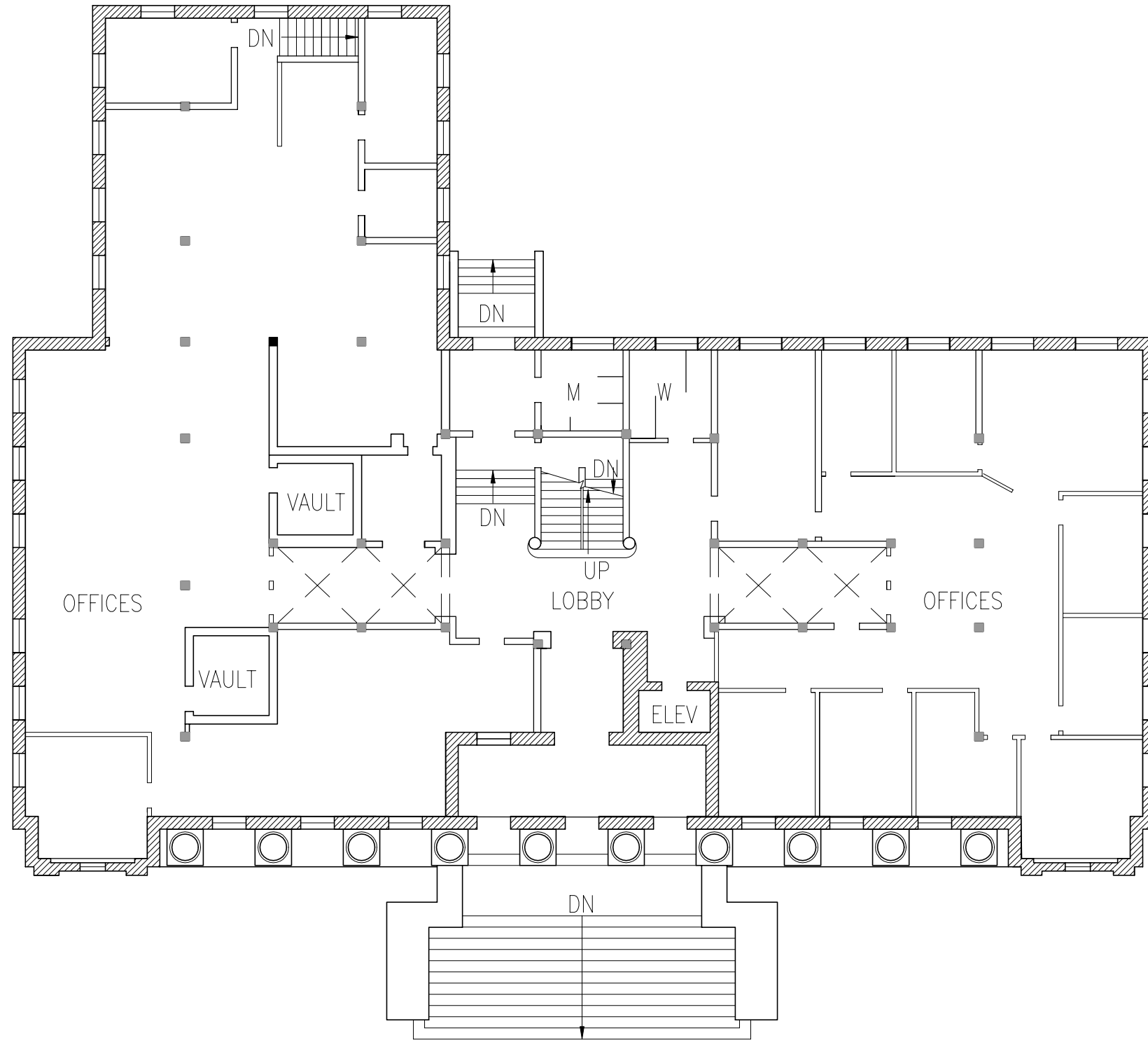
OLD SOLANO COURTHOUSE
FAIRFIELD, CALIFORNIA
SEPTEMBER 10, 2003

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STRUCTURAL ENGINEER

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MECHANICAL ENGINEER

A1



SCALE: 1/16" = 1'-0"

A2

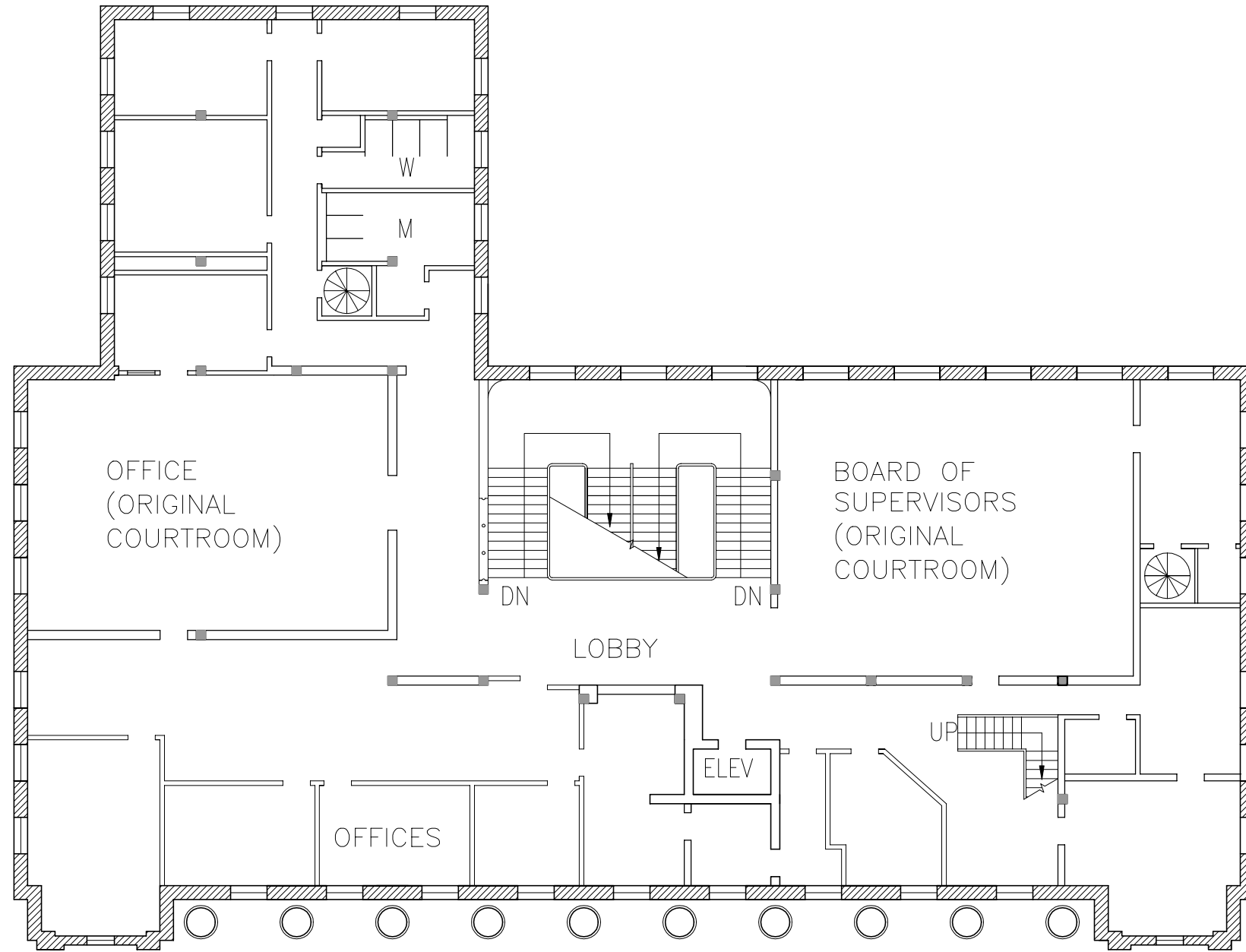
EXISTING COURTHOUSE
FIRST FLOOR PLAN

OLD SOLANO COURTHOUSE
FAIRFIELD, CALIFORNIA
SEPTEMBER 10, 2003

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MECHANICAL ENGINEER



SCALE: 1/16" = 1'-0"

A3

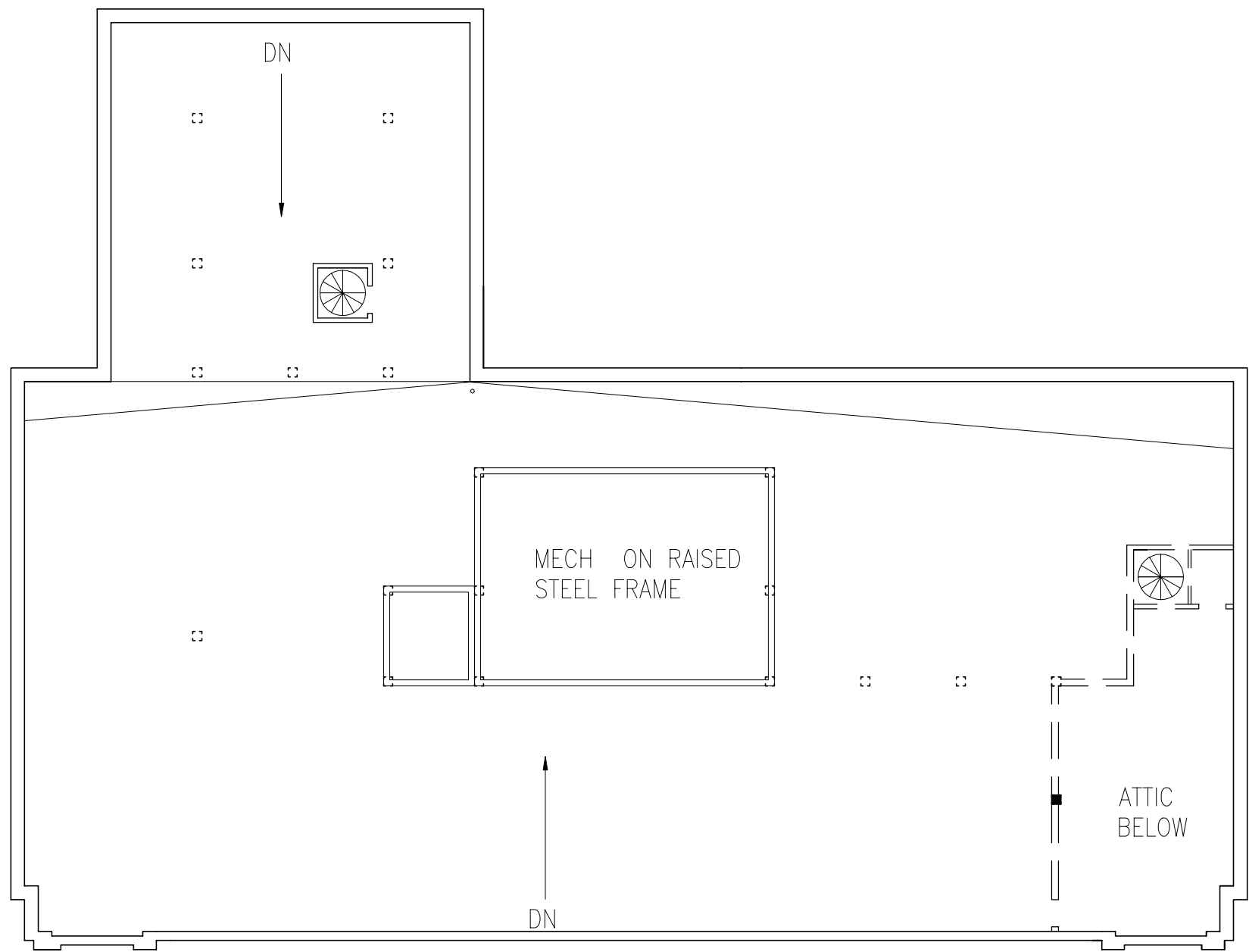
EXISTING COURTHOUSE
SECOND FLOOR PLAN

OLD SOLANO COURTHOUSE
FAIRFIELD, CALIFORNIA
SEPTEMBER 10, 2003

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MECHANICAL ENGINEER



SCALE: 1/16" = 1'-0"

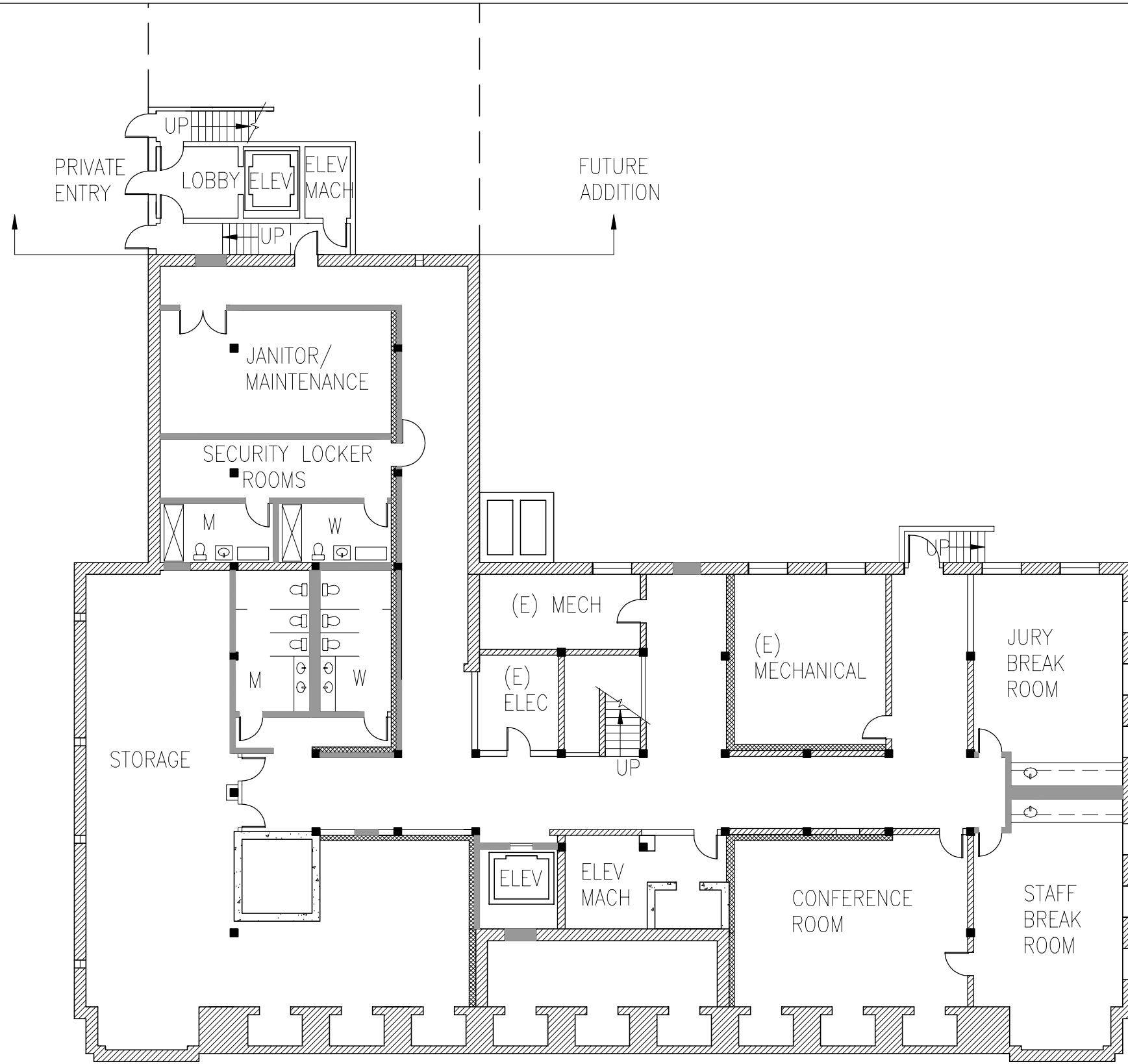
A4

EXISTING COURTHOUSE
ROOF PLAN

OLD SOLANO COURTHOUSE
FAIRFIELD, CALIFORNIA
SEPTEMBER 10, 2003

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ARCHITECT
STRUCTURAL ENGINEER
MECHANICAL ENGINEER



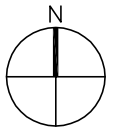
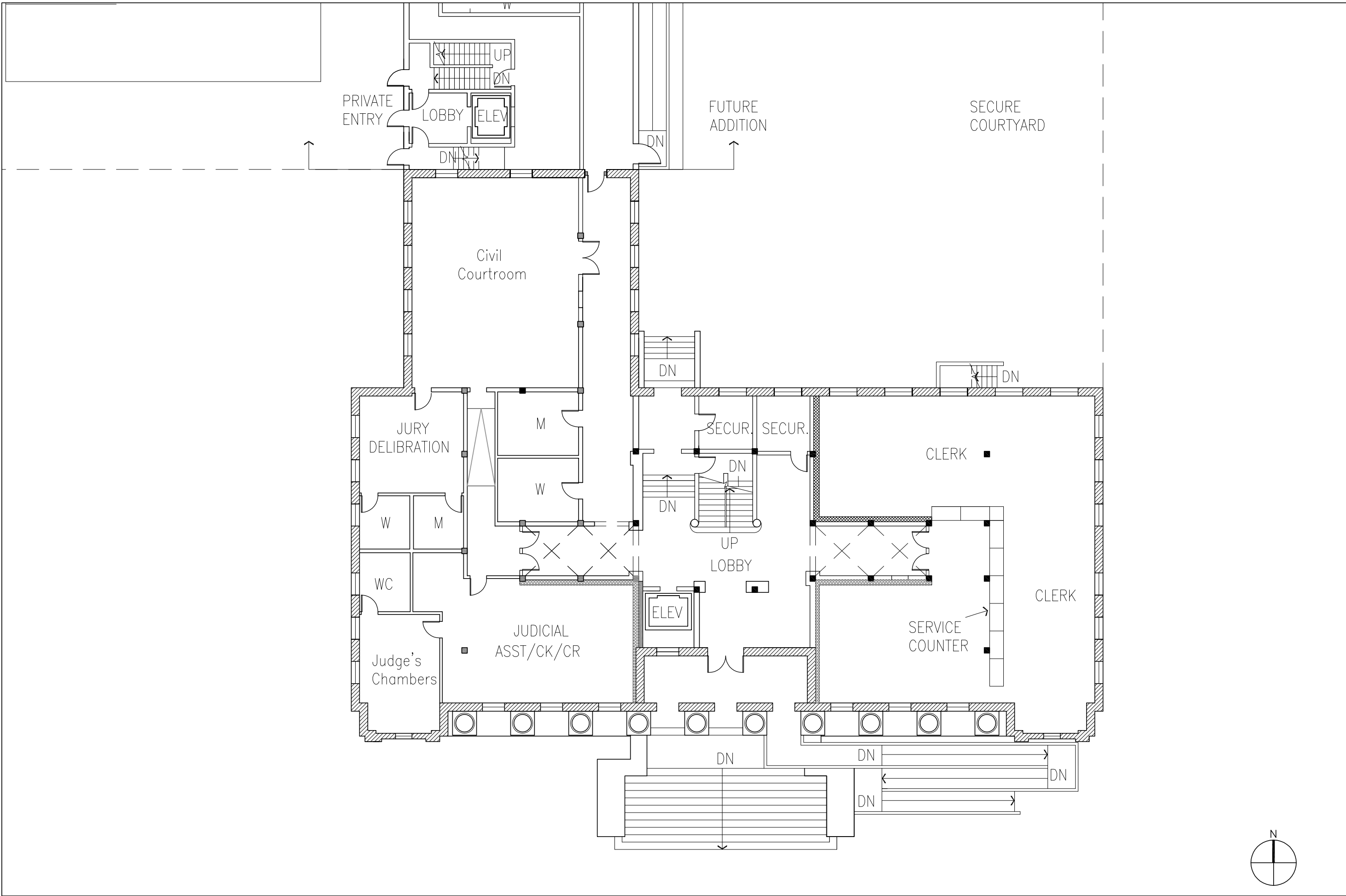
ARCHITECT
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OLD SOLANO COURTHOUSE
 FAIRFIELD, CALIFORNIA
 SEPTEMBER 10, 2003

CIVIL COURTHOUSE
 BASEMENT PLAN

SCALE: 1/16" = 1'-0"

A5



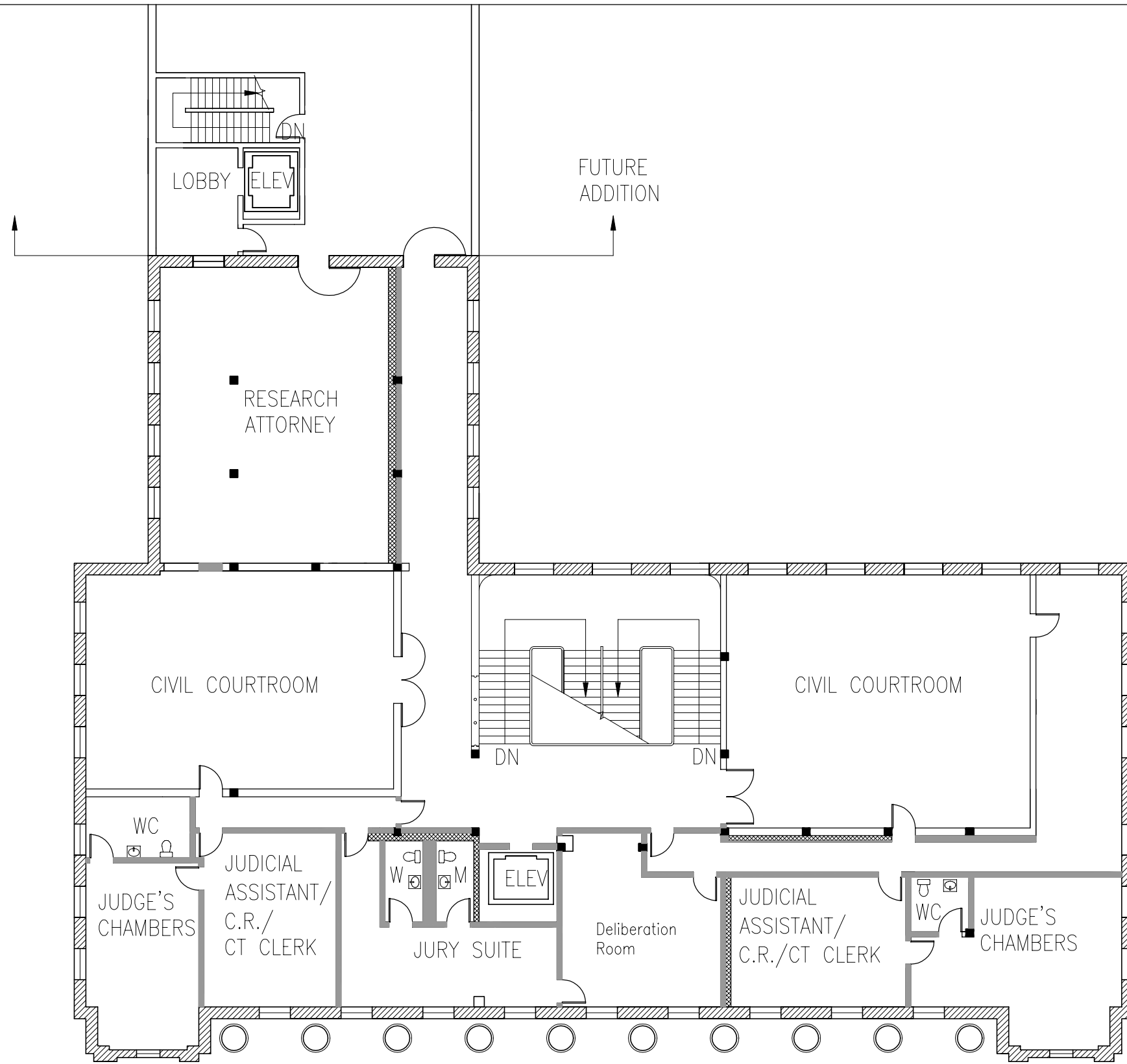
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OLD SOLANO COURTHOUSE
 FAIRFIELD, CALIFORNIA
 NOVEMBER 30, 2007

CIVIL COURTHOUSE
 FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"

A6



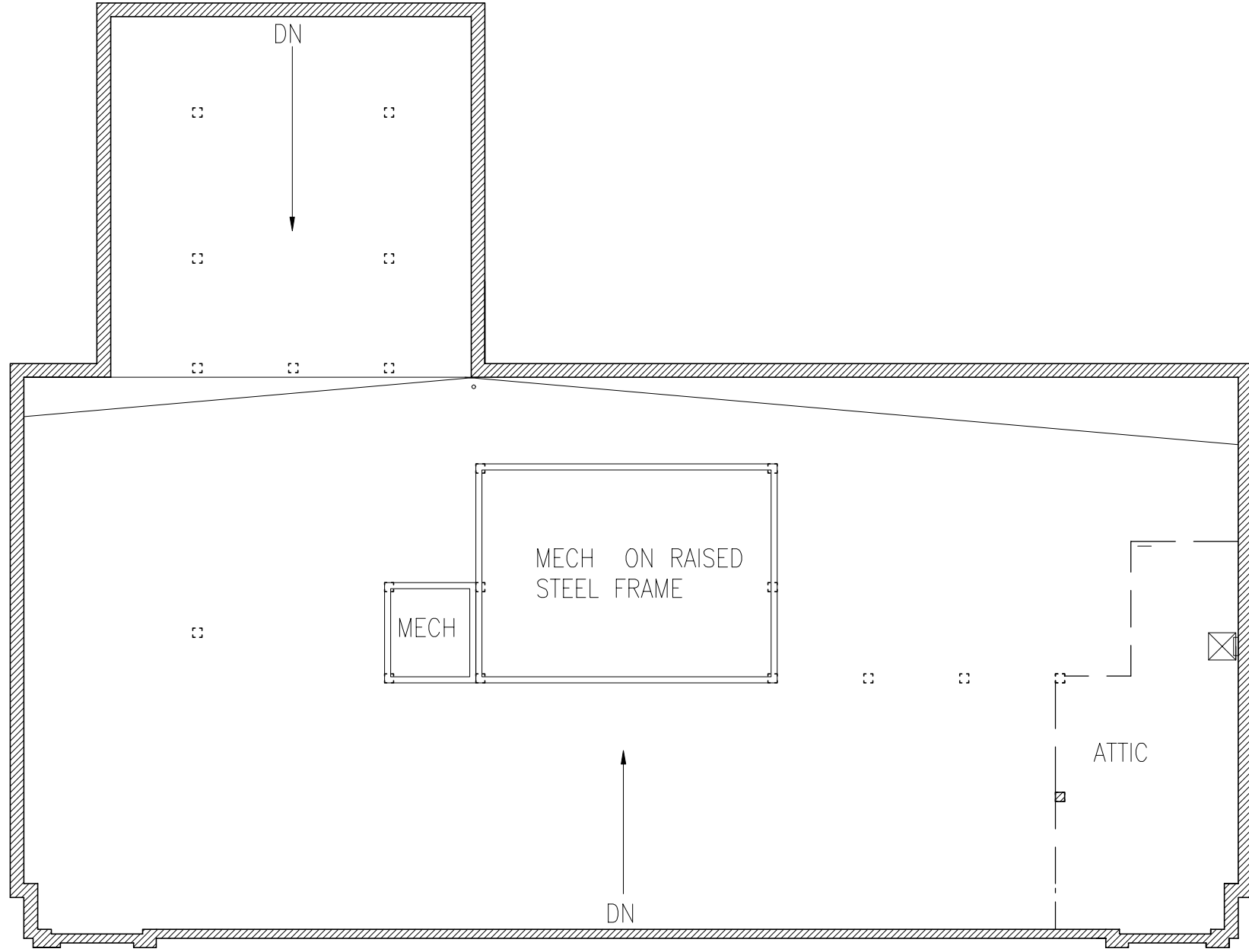
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OLD SOLANO COURTHOUSE
 FAIRFIELD, CALIFORNIA
 SEPTEMBER 10, 2003

CIVIL COURTHOUSE
 SECOND FLOOR PLAN

SCALE: 1/16" = 1'-0"

A7



SCALE: 1/16" = 1'-0"

A8

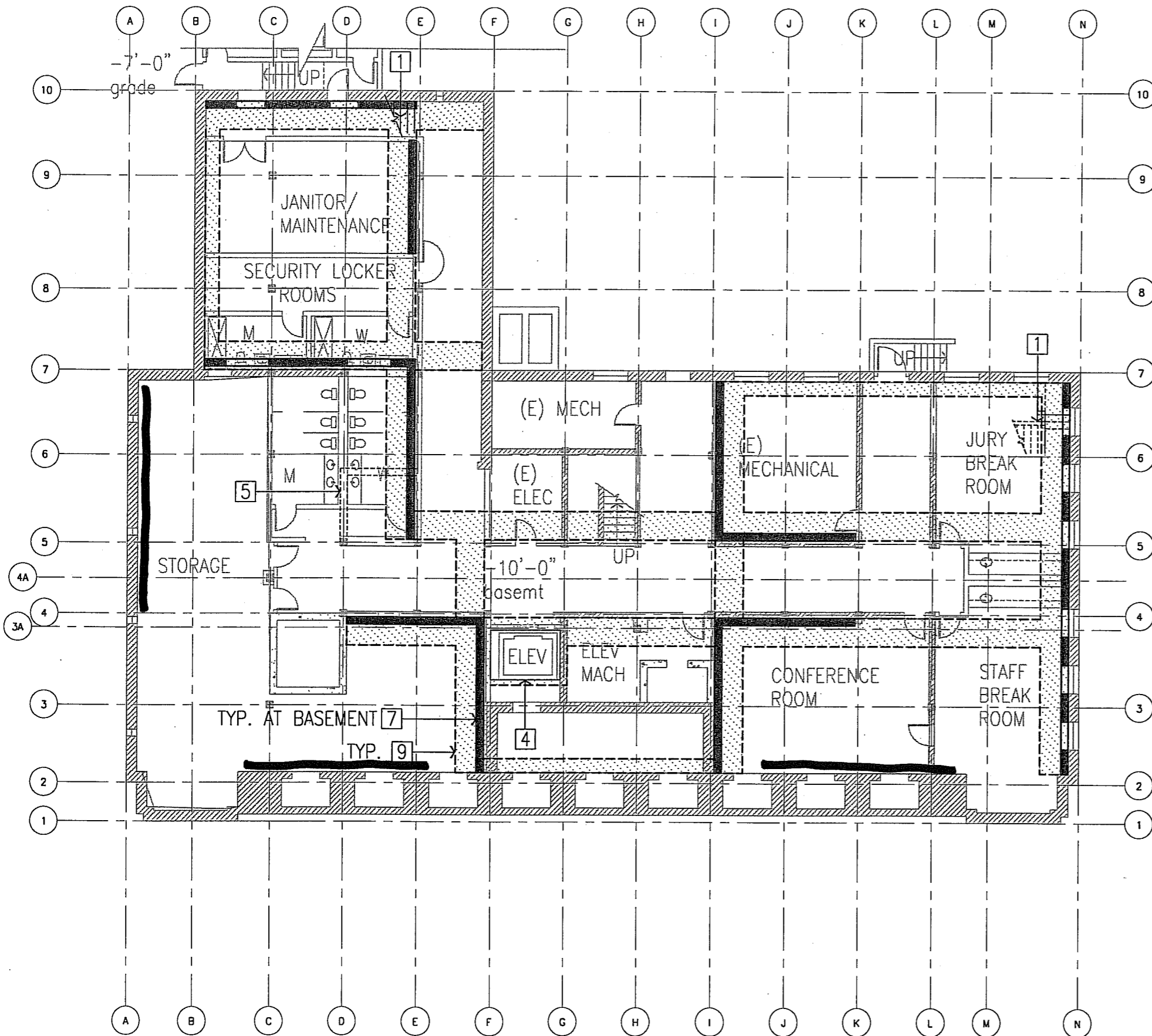
CIVIL COURTHOUSE
ROOF PLAN

OLD SOLANO COURTHOUSE
FAIRFIELD, CALIFORNIA
SEPTEMBER 10, 2003

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STRUCTURAL ENGINEER

FLACK + KURTZ INC.
405 HOWARD ST., STE. 500, SAN FRANCISCO, CA 94105 (415) 398 3833
MECHANICAL ENGINEER



- GENERAL**
- 1 Remove existing stair
 - 2 Close existing slab opening - provide steel beams at edges, steel decking and concrete fill. Fireproof decking and beams.
 - 3 Remove existing stair infill and close existing slab per Item 2.
 - 4 Provide new elevator, elevator pit, slab opening, support for guide rails, etc. Add new beams at slab opening edges.
 - 5 Remove existing concrete vault.
 - 6 New exterior stairs or ramp to be elevated slab of cast concrete or metal decking. Support slab independently of existing building on concrete stem walls and foundations. Fireproofing of decking, support may be required.
- VOLUNTARY SEISMIC UPGRADE**
- 7 Shotcrete or concrete wall, 12-inch typical thickness. Where cast or shot against existing brick or hollow clay tile masonry, provide adhesive anchors to existing masonry at 2'-0" maximum spacing horizontal and vertical. Walls to be typically placed alongside existing steel beams. Remove existing concrete cover and provide welded studs to existing steel beam. Replace cover and re-support cut slab on wall.
 - 8 Shotcrete wall placed against existing interior partition (some or all constructed of hollow clay tile) with historically significant finishes (including marble and plaster) on far side. Existing partition must be braced as required to withstand force of shotcrete placement without damage to finishes. Allowance to be provided for possible gap between existing hollow clay tile and new wall. Gap to be filled with concrete strong backs or steel stud systems. HCT to be anchored to system filling gap. See Item 7 for balance of information.
 - 9 Foundation for shotcrete and concrete shear walls. Bottom of foundation elevation to match existing. Existing footing configuration is not known; intent of work shown is to provide concept of extent of work. New footing will need to be worked around existing.
 - 10 Steel collector beam TS 6x6 or MC12 supported off existing steel beams and bolted to existing slab and face of shear wall. Remove existing concrete fireproofing to expose existing beam where connection is required. Provide field welded connection.
 - 11 Reinforce existing concrete diaphragm using shotcrete from the underside or TS 6x6 X-braces at the underside of slab, connected to existing structural steel and new collector beam.

LEGEND	
	(E) STONE, BRICK OR INTERIOR HCT MASONRY
	CONCRETE SHEAR WALL
	FOUNDATION
	STEEL COLLECTOR BEAM
	AREA FOR FLOOR JOIST REINFORCEMENT FOR GRAVITY LOADS

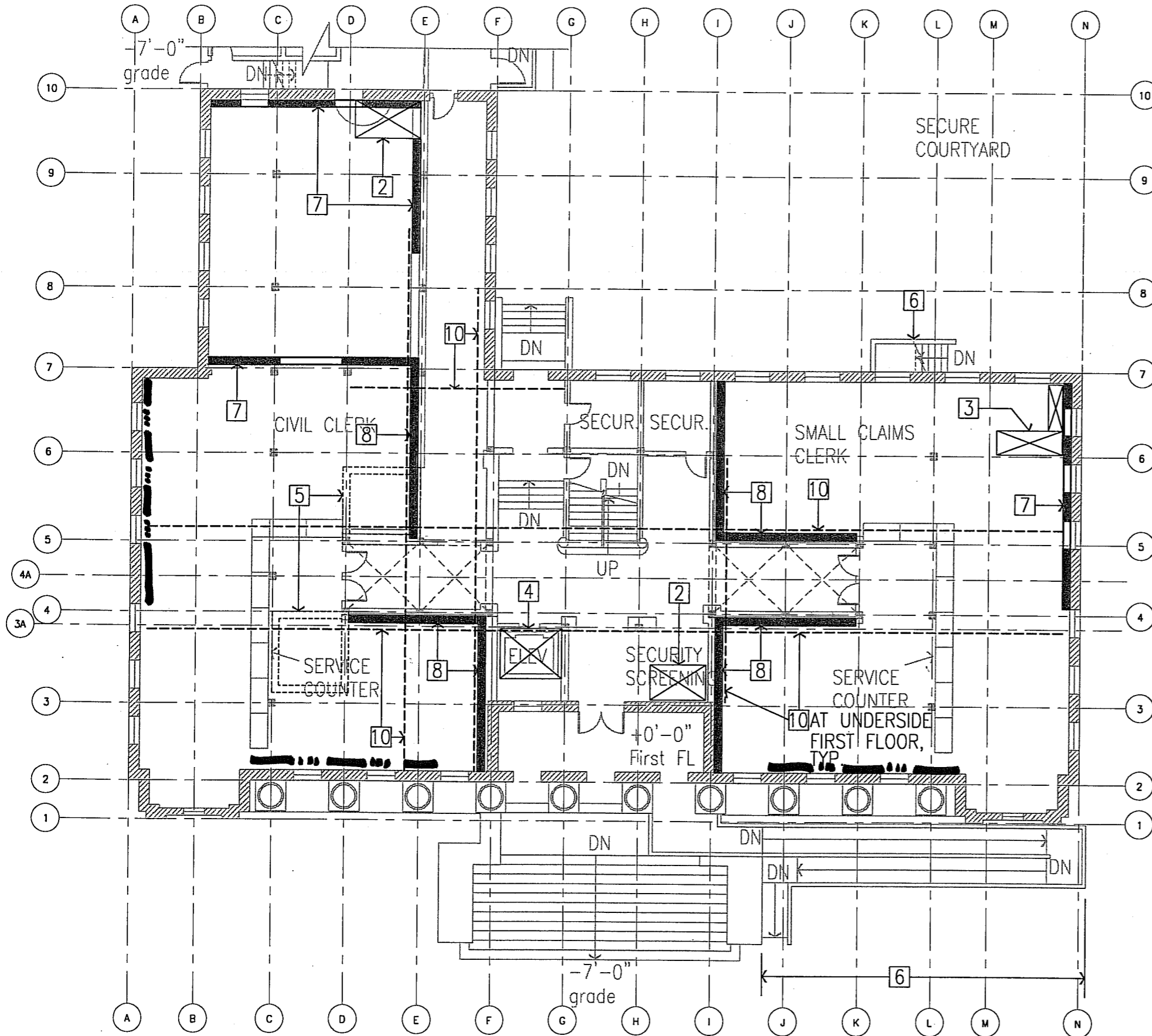
ARCHITECT: MARK CAVIGNERO ASSOCIATES
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 STRUCTURAL ENGINEER: GFDS ENGINEERS
 675 DAVIS ST., SAN FRANCISCO, CA 94111 (415) 781 1285
 MECHANICAL ENGINEER: FLACK + KURTZ INC.
 405 HOWARD ST., STE. 500, SAN FRANCISCO, CA 94105 (415) 398 3833

OLD SOLANO COURTHOUSE
 FAIRFIELD, CALIFORNIA
 SEPTEMBER 10, 2003

CIVIL COURTHOUSE
BASEMENT FLOOR PLAN

SCALE: 1/16" = 1'-0"

S5



- GENERAL**
- 1 Remove existing stair
 - 2 Close existing slab opening - provide steel beams at edges, steel decking and concrete fill. Fireproof decking and beams.
 - 3 Remove existing stair infill and close existing slab per Item 2.
 - 4 Provide new elevator, elevator pit, slab opening, support for guide rails, etc. Add new beams at slab opening edges.
 - 5 Remove existing concrete vault.
 - 6 New exterior stairs or ramp to be elevated slab of cast concrete or metal decking. Support slab independently of existing building on concrete stem walls and foundations. Fireproofing of decking, support may be required.

- VOLUNTARY SEISMIC UPGRADE**
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	CONCRETE SHEAR WALL
	FOUNDATION
	STEEL COLLECTOR BEAM
	AREA FOR FLOOR JOIST REINFORCEMENT FOR GRAVITY LOADS

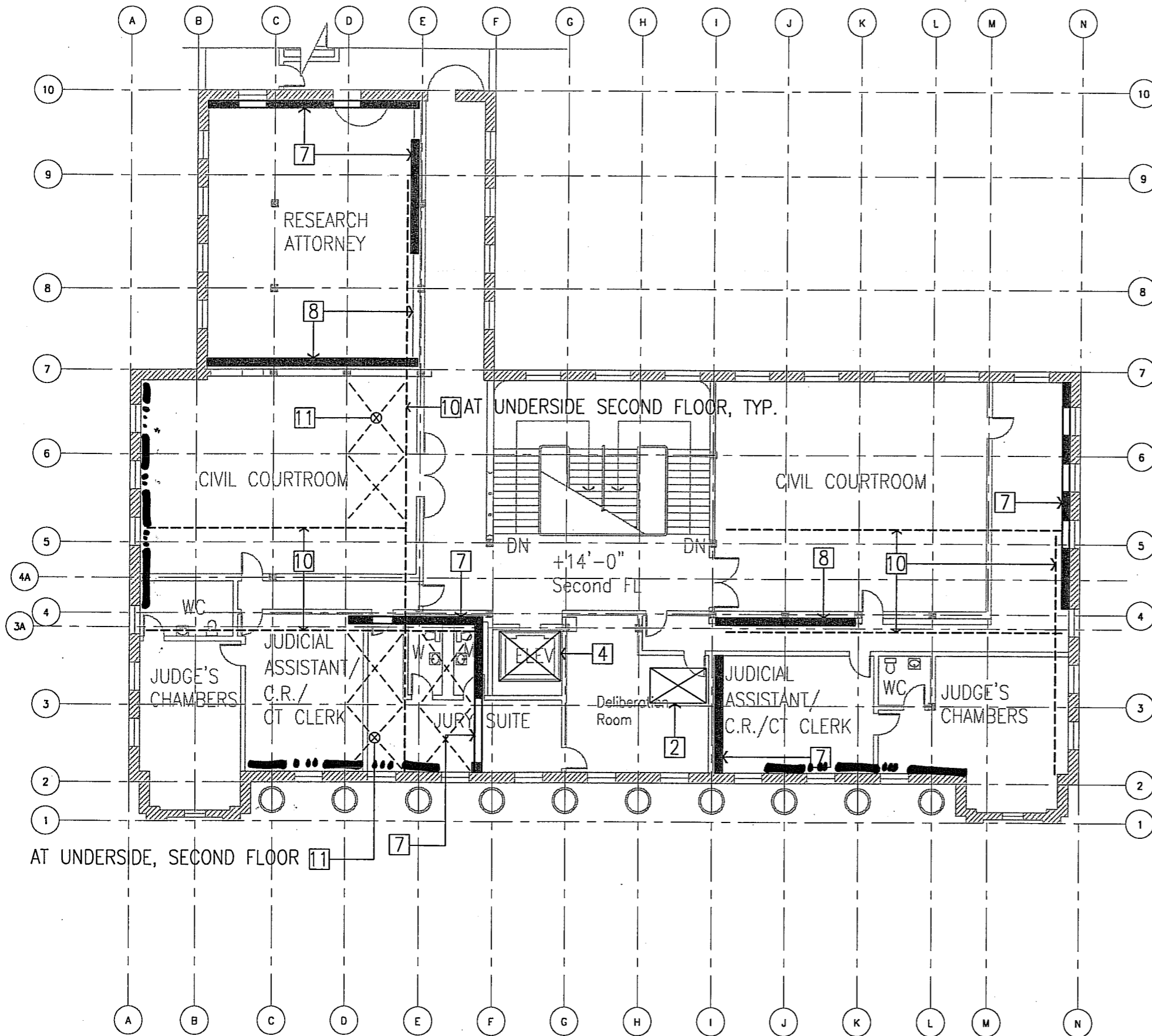
ARCHITECT: MARK CAVIGNERO ASSOCIATES
 STRUCTURAL ENGINEER: GFDS ENGINEERS
 MECHANICAL ENGINEER: FLACK + KURTZ INC.
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OLD SOLANO COURTHOUSE
 FAIRFIELD, CALIFORNIA
 SEPTEMBER 10, 2003

CIVIL COURTHOUSE
FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"

S6



- GENERAL**
- 1 Remove existing stair
 - 2 Close existing slab opening - provide steel beams at edges, steel decking and concrete fill. Fireproof decking and beams.
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	CONCRETE SHEAR WALL
	FOUNDATION
	STEEL COLLECTOR BEAM
	AREA FOR FLOOR JOIST REINFORCEMENT FOR GRAVITY LOADS

ARCHITECT
 STRUCTURAL ENGINEER
 MECHANICAL ENGINEER

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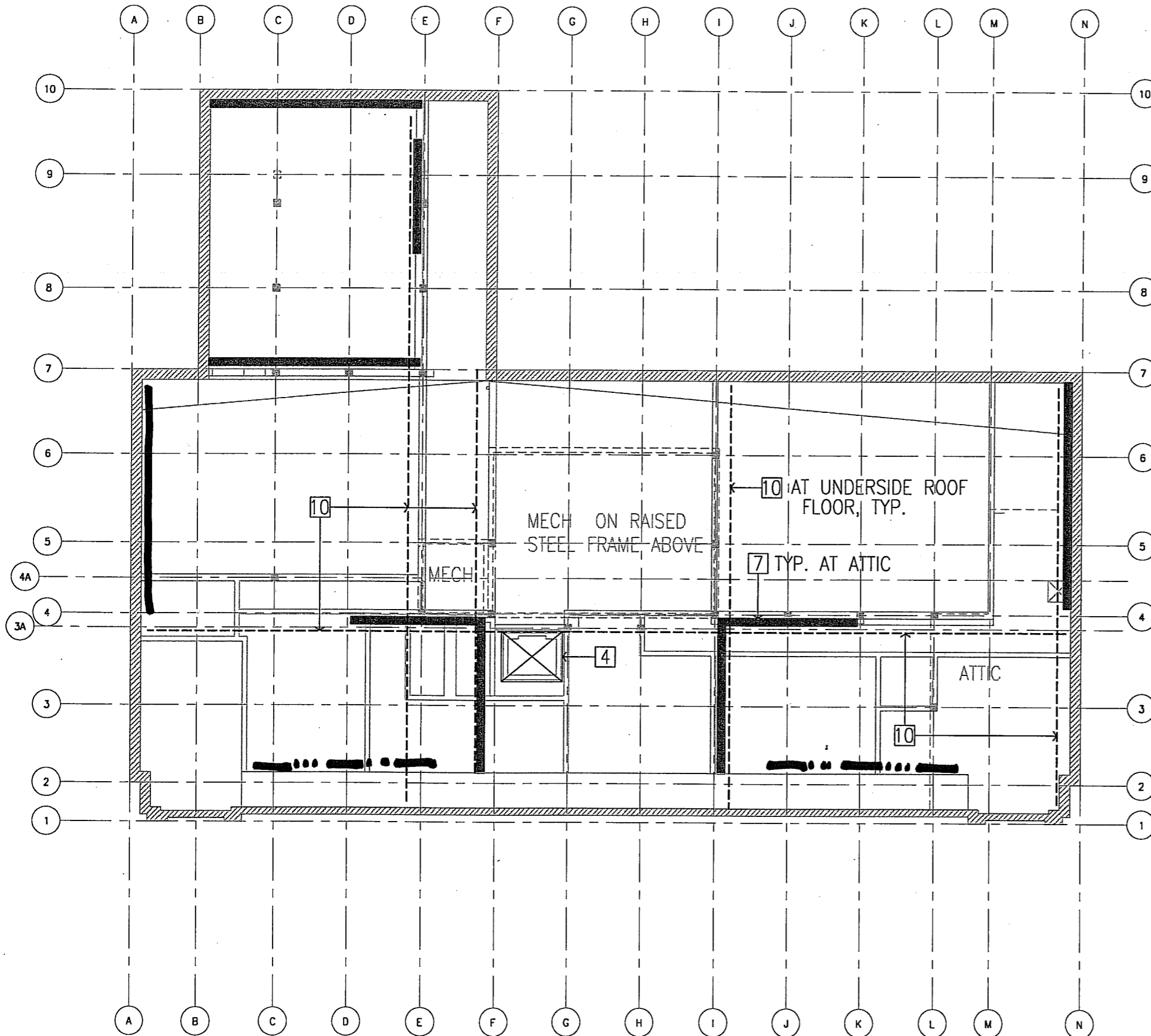
OLD SOLANO COURTHOUSE
 FAIRFIELD, CALIFORNIA

SEPTEMBER 10, 2003

CIVIL COURTHOUSE
SECOND FLOOR PLAN

SCALE: 1/16" = 1'-0"

S7



- GENERAL**
- 1 Remove existing stair
 - 2 Close existing slab opening - provide steel beams at edges, steel decking and concrete fill. Fireproof decking and beams.
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	CONCRETE SHEAR WALL
	FOUNDATION
	STEEL COLLECTOR BEAM
	AREA FOR FLOOR JOIST REINFORCEMENT FOR GRAVITY LOADS

ARCHITECT
STRUCTURAL ENGINEER
MECHANICAL ENGINEER

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OLD SOLANO COURTHOUSE
FAIRFIELD, CALIFORNIA

CIVIL COURTHOUSE
ATTIC PLAN

SEPTEMBER 10, 2003
SCALE: 1/16" = 1'-0"

S8

OLD SOLANO COURTHOUSE FEASIBILITY STUDY
Addendum Final May 2004

MARK CAVAGNERO ASSOCIATES

Table of Contents

Addendum.....Addendum Page 1-7

Drawings

Old Solano Courthouse Existing/Proposed Basement Floor

Old Solano Courthouse Existing First Floor

Old Solano Courthouse Existing Second Floor

Old Solano Courthouse Proposed First Floor

Old Solano Courthouse Proposed Second Floor

Attachment One: Preliminary Code Review.....Attachment Page 1-3

Attachment Two: Cost EstimateAttachment Page 1-2

Project Participants

Superior Court of California, County of Solano:

Peter B. Foor, Presiding Judge of the Superior Court of California, County of Solano

Scott L. Kays, Judge of the Superior Court of California, County of Solano

William C. Harrison, Judge of the Superior Court of California, County of Solano

Charles D. Ramey, Court Executive Officer, Superior Court of California, County of Solano

Administrative Office of the Courts

Harriet Raphael, Facility Planner, Administrative Office of the Courts

Rona Rothenberg, AIA, Supervising Facility Planner, Administrative Office of the Courts

Consultants

Mark Cavagnero, AIA, Principal, Mark Cavagnero Associates

Laura Blake, AIA, Project Administrator, Mark Cavagnero Associates

Addendum

Overview

The Old Solano courthouse located in Fairfield, California is owned and currently occupied by the County of Solano. The building will be vacated when the county relocates to the new County Administration Center in 2005.

In the *Old Solano Courthouse Feasibility Study*¹, Mark Cavagnero Associates and its consultants studied two possible reuses of the old courthouse: a civil courthouse and a county meeting center and depository of historic artifacts. Subsequent to completing that study, the Superior Court of California, County of Solano (the court) and the Administrative Office of the Courts (AOC) learned that the building might be available for court use immediately following the county vacating the building in January 2005, but prior to major renovation of the building. This addendum was prepared to assist the court and the AOC confirm how the court could reuse the Old Solano Courthouse prior to the full renovation of the building anticipated by the feasibility study.



Old Solano Courthouse

Reuse Concept

The reuse concept entails reusing the courthouse with some modifications but minimal building renovation, until a full renovation can be undertaken. The concept, which is illustrated in the sketches on pages 3-7 includes:

- Reusing, as is, the basement for mechanical, electrical, plumbing, storage, conference and office uses.
- Reusing, with some modifications, the first floor west wing for public counter, office and jury assembly uses.
- Renovating and reusing the first floor east wing for courtroom, office and jury deliberation uses.
- Reusing, with some modifications, the original second floor courtrooms for courtroom use.
- Reusing the second floor offices for office and jury deliberation uses.

¹ Mark Cavagnero Associates with GFDS Engineers, Flack + Kurtz, Inc. and Davis Langdon Adamso, *Old Solano Courthouse Feasibility Study*, Final Report December 2003.

- Providing some ADA upgrades including an accessible ramp at the main public entrance, accessible restrooms, and accessible ramps for the witness stands and benches in the courtrooms.
- Providing some security upgrades including screening at the main public entrance, panic alarms and monitoring.

Preliminary Code Review

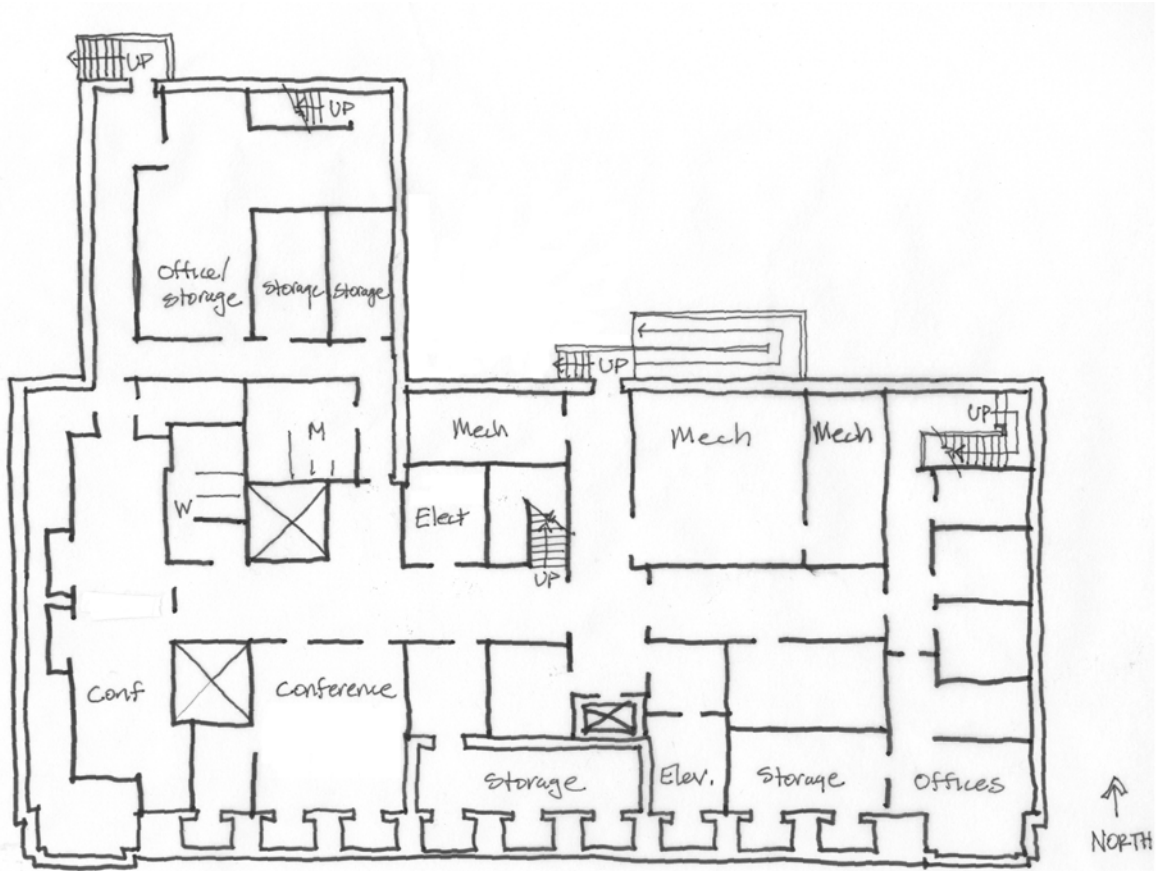
The court, the AOC and Mark Cavagnero Associates met with the county senior building inspector to review the reuse concept. Following the meeting Mark Cavagnero Associates prepared a memorandum describing the court reuse concept and requesting confirmation that the concept is acceptable to the county code officials. The code officials reviewed the memorandum and sketches and confirmed the reuse concept is acceptable. Mark Cavagnero Associates memorandum is included in Attachment One.

Estimated Costs

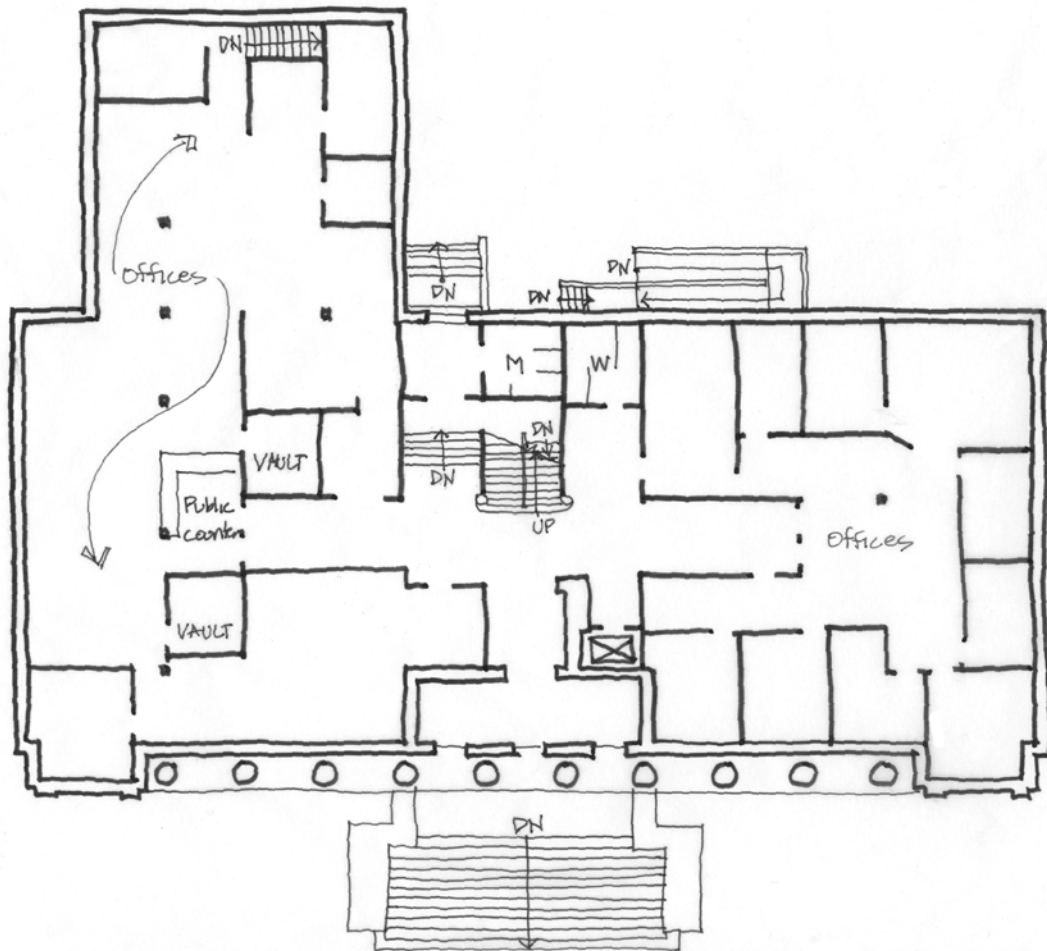
In 2004 dollars the estimated construction cost for reusing the Old Solano Courthouse for civil court use presented in this addendum is \$1.5 million and the estimated project cost is \$1.9 million. The scope and cost of this court reuse concept are significantly less than the scope and cost of the court renovation concept presented in the initial feasibility study. This reuse concept entails some modifications but minimal building renovation, whereas the renovation concept presented in the initial study entails a comprehensive interior renovation and a full building renovation including seismic, mechanical, plumbing, electrical and fire life safety upgrades.

The cost estimate for the court's reuse of Old Solano Courthouse with some modifications but minimal renovation is included in Attachment Two.

Old Solano Courthouse Feasibility Study



MARK CAVAGNERO ASSOCIATES OLD SOLANO COURTHOUSE - EXISTING/PROPOSED BASEMENT 20 APRIL 2004



MARK CAVAGNERO ASSOCIATES

OLD SOLANO COURTHOUSE - EXISTING FIRST FLOOR

20 APRIL 2004

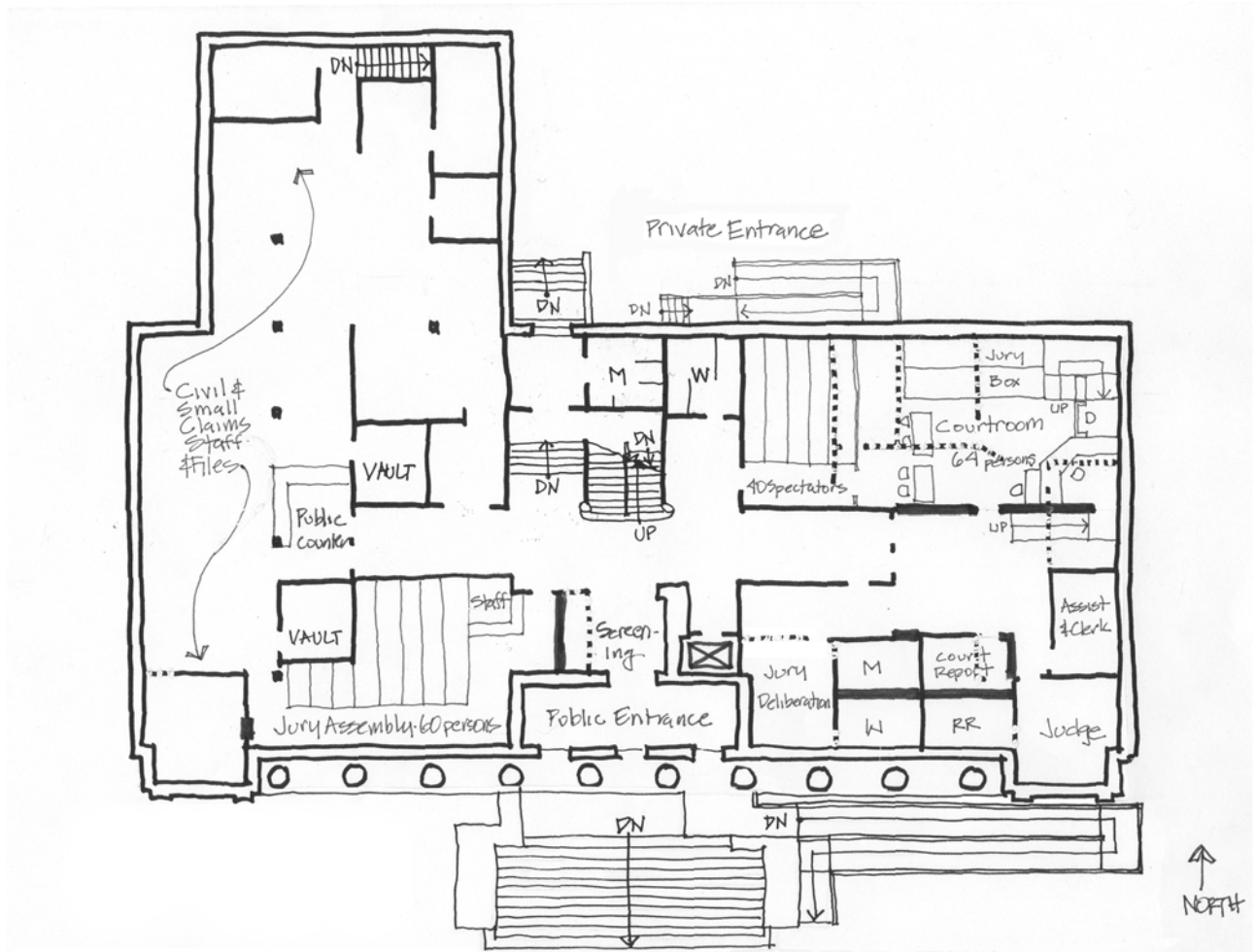


MARK CAVAGNERO ASSOCIATES

OLD SOLANO COURTHOUSE - EXISTING SECOND FLOOR

20 APRIL 2004

Old Solano Courthouse Feasibility Study

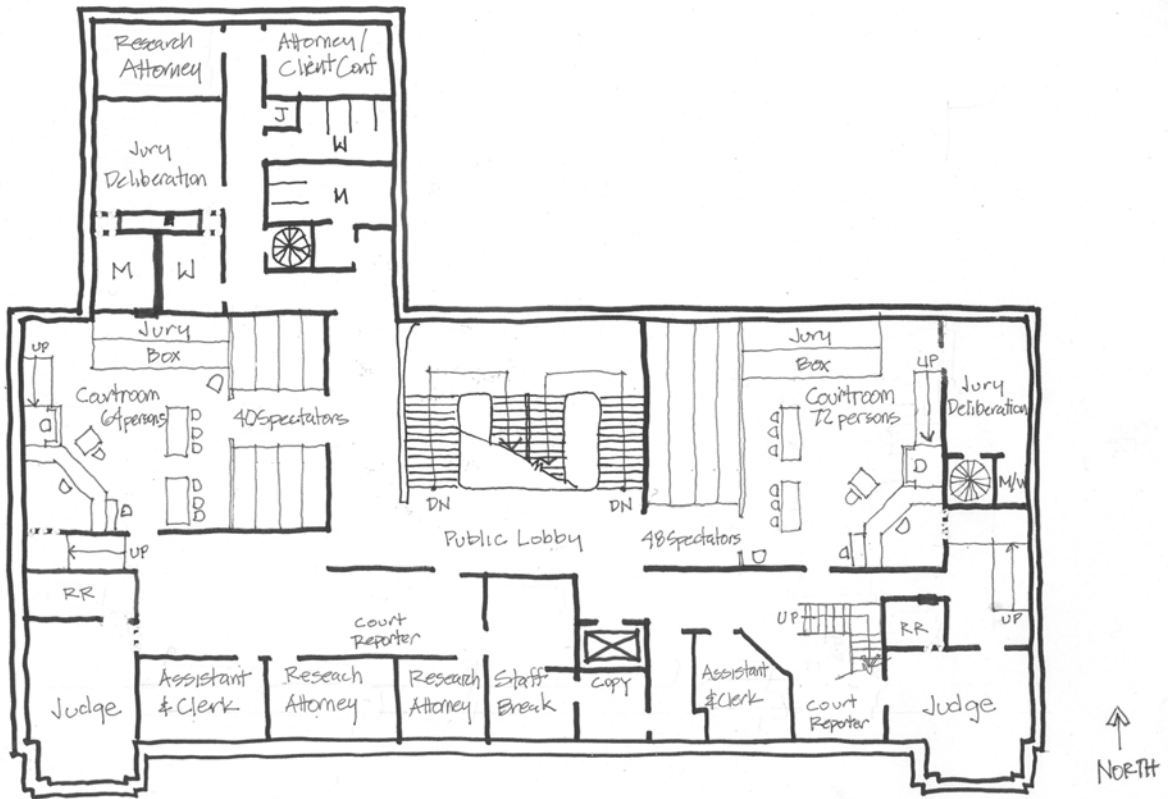


MARK CAVAGNERO ASSOCIATES

OLD SOLANO COURTHOUSE - PROPOSED FIRST FLOOR

20 APRIL 2004

Old Solano Courthouse Feasibility Study



MARK CAVAGNERO ASSOCIATES

OLD SOLANO COURTHOUSE - PROPOSED SECOND FLOOR

20 APRIL 2004

Attachment One: Preliminary Code Review

Old Solano Courthouse Feasibility Study

MARK CAVAGNERO ASSOCIATES 1045 SANSOME STREET SUITE 200 SAN FRANCISCO CALIFORNIA 94111 415 398 6944

MEMORANDUM

Date: 20 April 2004
To: David Brandeberry, Senior Building Inspector, County of Solano
From: Laura Blake
Re: Old Solano Courthouse
Preliminary Code Review

The county departments currently housed in the Old Solano Courthouse located at 580 Texas Street will relocate to the new County Administration Center when the new building is complete in 2005. The court's objective is to reuse the Old Solano Courthouse with minimal renovation until funding is available for a comprehensive renovation as proposed in the December 2003 Old Solano Courthouse Feasibility Study prepared by Mark Cavagnero Associates.

On 8 April 2004 David Brandeberry, Senior Building Inspector, County of Solano, Steve Fust, Consultant Project Manager, County of Solano, Chuck Ramey, Court Executive Officer, Superior Court of California, County of Solano, Harriet Raphael, Facility Planner, Administrative Office of the Courts and Laura Blake, Associate, Mark Cavagnero Associates met to discuss the court's proposed reuse of the Old Solano Courthouse.

At the meeting Laura Blake presented the court's proposed reuse. David Brandeberry noted that all new work should be in conformance with current code requirements and that accessibility upgrades in conformance with the requirements of the California Building Code Accessibility for Existing Buildings.

As shown in the attached conceptual layout the court's reuse of the Old Solano Courthouse entails the following:

1. Reusing the basement as is for mechanical, electrical and plumbing, storage, conference and office uses.
2. Reusing the first floor with some modifications for office, courtroom and jury assembly uses. Locating a courtroom in the northeast quadrant where a courtroom was located in the 1960's and 1970's. Modifying the southeast quadrant to accommodate courtroom staff and a jury deliberation room. Locating a jury assembly room in the existing office in the southwest quadrant. Reusing the offices and public counter in the northwest quadrant.
3. Reusing the second floor for court, jury deliberation and office uses. Renovate the original courtrooms as need for court use. Reuse the existing offices for jury deliberation and courtroom staff uses.
4. Providing ADA upgrades including a new ramp at the main public entrance, accessible restrooms for the jury deliberation and judge's chambers on the first floor and for the western jury deliberation and judge's chambers on the west side of the second floor, and ramps for the witness stands and benches in the courtrooms.
5. Providing security upgrades including screening and panic alarms.

The court would like to confirm that the concept of reusing the Old Solano Courthouse with minimal renovation as described above and shown in the attached plans is acceptable to the county code officials.

Attachment: Old Solano Courthouse Existing and Reuse Plans dated 20 April 2004

Cc: Chuck Ramey, Court Executive Officer, Superior Court of California, County of Solano
Harriet Raphael, Facility Planner, Administrative Office of the Courts
Kanon Artiche, County Architect, County of Solano
Steve Fust, Consultant Project Manager, County of Solano

Attachment Two: Cost Estimate

**Estimate for the Court's Reuse of the Old Solano Courthouse
with Some Modifications but Minimal Renovation**

	Quantity	Unit Cost	Cost
Construction Costs			
Ramp at main entrance	1 EA	\$60,000	\$60,000
Screening station at main entrance (reconfiguration & equipment)	1 EA	\$70,000	\$70,000
Reconfigure first floor east wing (demolition, floors, walls, ceilings, lighting & mechanical - restroom & courtroom build-out additional)	2,800 SF	\$100	\$280,000
Single restrooms for judges and juries	6 EA	\$20,000	\$120,000
Courtroom bench, witness stand and associated ramps	3 EA	\$50,000	\$150,000
Courtroom electrical, lighting and mechanical (allowance)	3 EA	\$40,000	\$120,000
Courtroom fixed spectator seating	128 EA	\$325	\$41,600
Interior signage	29,900 SF	\$0.65	\$19,435
Repair/upgrade first floor restroom plumbing (allowance)			\$25,000
Upgrade sewage ejector (allowance)			\$30,000
Rebalance existing mechanical (allowance)			\$25,000
Patching of historic finishes (allowance)			\$20,000
Clean floors and paint walls	29,900 SF	\$6	\$179,400
Fire Life Safety upgrades (allowance)	29,900 SF	\$10	\$299,000
ADA upgrades - elevator controls, etc (allowance)			\$30,000
Construction Cost Total			\$1,469,435
Other Costs			
Security system (allowance)			\$50,000
Data and telecommunications (allowance to rework existing and connect to court systems)			\$20,000
Furniture for jury deliberation rooms	3 EA	\$5,000	\$15,000
Furniture, phone and computers for courtrooms	3 EA	\$8,000	\$24,000
Furniture for jury assembly room	1 EA	\$8,000	\$8,000
Architecture and Engineering		15.0%	\$220,415
Testing, Inspection, Geotechnical, Etc. (assume none)			\$0
Project Administration and Management		3.0%	\$44,083
Escalation (not included)		0.0%	\$0
Other Cost Total			\$381,498
TOTAL PROJECT COST			\$1,850,933

OLD SOLANO COURTHOUSE FEASIBILITY STUDY
Final Report December 2003

MARK CAVAGNERO ASSOCIATES
with GFDS Engineers, Flack + Kurtz, Inc.
and Davis, Langdon Adamson

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Executive Summary

Overview

The Old Solano courthouse located in Fairfield, California is owned and currently occupied by the County of Solano. The building will be vacated when the county relocates to the new County Administration Center in 2005. Both the County of Solano (the county) and the Superior Court of California, County of Solano (the court) have expressed interest in reusing the old courthouse after it is vacated. Mark Cavagnero Associates and its consultants studied two possible reuses of the old courthouse: a civil courthouse for the court and a meeting center and depository of historic artifacts for the county. This report summarizes that work.

The project followed a five-step process. The process included a site tour and preparation of base plans, development of conceptual layouts, development of conceptual, structural and mechanical recommendations, preparation of conceptual cost estimates and preparation of the report. Throughout the process, the team worked with the county and the court to develop their respective options for the Old Solano courthouse.

This project, which is jointly funded by the Administrative Office of the Courts (AOC) and the County of Solano, developed out of conversations between the AOC, the court and the county while the AOC was undertaking a statewide court facilities master plan project. As part of that statewide project Mark Cavagnero Associates and its consultants also recently completed the Superior Court of California, County of Solano Court Facilities Master Plan. The master plan incorporates the court option for the Old Solano courthouse developed in this study. The county was represented on the court master plan steering committee, but as of the writing of this report has not taken official action on the master plan.

Court Option: Civil Courthouse

The court option entails renovating the Old Solano courthouse into a civil courthouse. In this option the first floor office spaces are renovated into clerk areas; the second floor courtrooms and adjoining offices are renovated for contemporary court use and the basement is renovated into support spaces. In 2003 dollars the estimated construction cost for renovating the Old Solano courthouse for court use is \$5.8 million not including additive alternates for mechanical upgrades and upgrading the seismic resistance capacity of non-structural building components. To fulfill the courts long-term needs the Superior Court of California, County of Solano Court Facilities Master Plan also includes a 17,600 square foot addition. The estimated construction cost of the addition is \$5.3 million. The total estimated construction cost of the renovation including the alternate for upgrading the seismic resistance capacity of the non-structural building components and the addition is \$12.2 million.

County Option: Meeting Center and Depository of Historical Artifacts

The county option entails renovating the Old Solano courthouse into a meeting center and depository of historical artifacts. In this option, the first floor offices are renovated into galleries; the second floor courtrooms and adjoining offices are renovated into event and meeting rooms and the basement is renovated into support spaces. In 2003 dollars the estimated construction cost for renovating the Old Solano courthouse for county use is \$7.7 million not including additive alternates for mechanical upgrades and upgrading the seismic resistance capacity of non-structural building components. This study did not investigate alternative county options that do not require a structural vertical load upgrade. However if such an option were developed then the estimated construction cost, per the county's revised program and estimate assumptions would be \$5.8 million.

Architectural

Existing Facility

Site

The Old Solano courthouse is located at 580 Texas Street, in the heart of the Government Center in downtown Fairfield, the county seat.

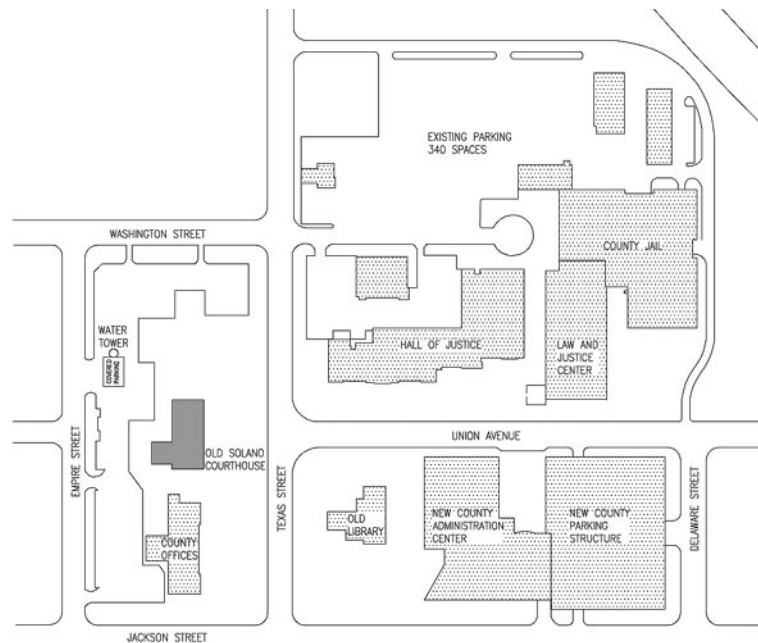
The county is building a new centralized County Administration Center half a block south of the Old Solano courthouse on the west side of Union Avenue. The 6-story facility will house approximately 800 employees in 16 departments and divisions.

The Old Solano courthouse currently houses the county board of supervisors, the county administrator's office, the county counsel and the human resources department. These departments will relocate the new County Administration Center when it is complete in 2005, leaving the Old Solano courthouse vacant.

The Hall of Justice and the Law and Justice Center are located half a block south of the Old Solano courthouse on the east side of Union Avenue, across the street from the new County Administration Center. The Hall of Justice currently houses the court, district attorney, public defender and county law library. The district attorney, public defender and county law library will relocate to the New County Administration Center when it is complete, leaving the court as the sole occupant of the Hall of Justice. The Law and Justice Center houses the court, sheriff, and jail facilities. The Hall of Justice and the north wing of the Law and Justice Center are attached. The complex is sometimes referred to collectively as the Fairfield courthouse.

Building

The Old Solano courthouse was designed by E.C. Hemmings and was completed and dedicated in 1911. It is an excellent example of classical Beaux-Arts architecture. The old courthouse has a basement, first floor, second floor and attic and a total of 29,900 gross square feet (excluding the attic). The building housed the court as well as other county functions until 1976 when the court



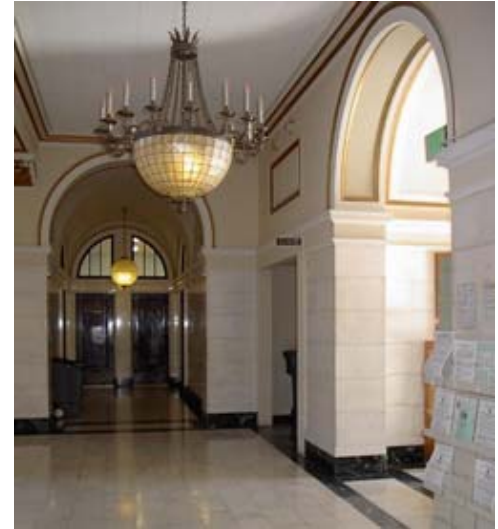
Old Solano Courthouse
Site Plan



Old Solano Courthouse
Exterior

relocated to the Hall of Justice, leaving the county as the sole occupant of the Old Solano courthouse. The old courthouse was renovated in 1985, however, many of the original finishes and fixtures in the public areas and the two original courtrooms remain today. Existing original finishes include granite cladding and metal windows at the exterior and marble flooring, marble wainscoting, plaster walls, plaster ceilings, decorative trim, and metal doors at the interior public areas and the original courtrooms. The first and second floors have tall ceilings, however, the basement has lower ceilings. The building is generally in good condition, although its systems are nearing the end of their useful lives and need some upgrades.

The building does not have an official local, state or national historic listing. It is included, however, in the 1977 Central Solano County Heritage Commission Our Lasting Heritage inventory. This commission is an add-hoc committee that has not been officially recognized by the county.



Court Option: Civil Courthouse

Concept

The court option entails renovating the Old Solano courthouse into a civil courthouse. In this option the first floor office spaces are renovated into clerk areas; the second floor original courtrooms and adjoining offices are renovated for contemporary court use and the basement is renovated into support spaces.

To fulfill the courts long-term facility needs the Superior Court of California, County of Solano Court Facilities Master Plan also includes a 17,600 square foot addition. The proposed addition, located at the rear of the old courthouse, provides needed additional courtrooms, jury deliberation rooms and offices for the court's civil department.



Code Issues

Based on the conceptual layout for the court developed in this study, the County of Solano Plan Check Engineer and Senior Building Inspector preliminarily determined that the court's reuse of the building would be a continuation of the original use of the building and therefore any seismic (earthquake resistance capacity) upgrade would be voluntary.¹ The officials noted that other improvements and any addition to the old



*Old Solano Courthouse
Lobby top, Grand Stair middle,
Courtroom bottom*

¹ Memo titled "Response to Courthouse Feasibility Study" from David Doyle and David Brandeberry, Solano County, dated 5/15/2003 included in Appendix 1.

courthouse would need to be in compliance with all other applicable current codes.² As a practical matter the state would undertake the voluntary seismic upgrade as part of a court project.

Renovation Scope

The renovation scope includes modest work at the exterior and comprehensive work at the interior. At the exterior the windows are painted, the granite cladding washed and the roof replaced. At the interior most existing finishes and fixtures at the first floor lobby, grand stair, second floor lobby and the courtrooms are retained and refurbished as needed. Likewise most finishes at the inside face of the exterior walls are retained and refurbished as needed.³ Most other existing interior partitions and finishes are replaced. Systems throughout the building are upgraded including a voluntary seismic upgrade and mechanical, plumbing, fire protection, electrical and telecommunications upgrades. The program areas and finishes are outlined in the table below. The recommended structural and mechanical work is described in subsequent sections of this report.

Program and Finishes

Use	Area	Finishes
First Floor		
Lobby	1300SF	Floor: Clean existing marble Walls: Clean existing marble. Patch and paint existing plaster Ceiling: Paint existing plaster
Small Claims Clerk	2700SF	Floor: Carpet Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls. Ceiling: Acoustic tile
Civil Clerk	3600SF	Floor: Carpet Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceiling: Acoustic tile
Second Floor		
Grand Stair and Second Floor Lobby	1400SF	Floor: Clean existing marble Walls: Clean existing marble. Patch and paint existing plaster Ceiling: paint existing plaster
Civil courtroom	1100SF	Floor: Carpet Walls: Patch and paint existing walls Ceilings: Remove acoustic tile, patch, paint and skim coat existing plaster
Civil courtroom	1300SF	Floor: Carpet Walls: Patch and paint existing walls Ceilings: Remove acoustic tile, patch skim coat and paint existing plaster

² The 2001 California Building Code, which is the current code at the time of writing this report, was used in preparing this study.

³ While determining the extent of needed refurbishing work is beyond the scope of this study, most existing finishes that are to remain appear to be in good condition and therefore the needed refurbishing is expected to be modest in scope.

Old Solano Courthouse Feasibility Study

Judges Chambers (2 at 500 SF each)	1000	SF	Floor: Carpet Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceilings: Painted gypsum board
Court Clerks/Court Reporter/Judicial Assistant (2 at 400 SF each)	800	SF	Floor: Carpet Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceilings: Painted gypsum board
Research Attorneys	1200	SF	Floor: Carpet Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceilings: Painted gypsum board
Jury Deliberation	900	SF	Floor: Carpet Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceilings: Paint new gypsum board
Basement			
Jury Break room	500	SF	Floor: Linoleum Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceiling: Paint new gypsum board
Security Locker Rooms	500	SF	Floor: Linoleum Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceiling: Paint new gypsum board
Staff Break	600	SF	Floor: Carpet Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceiling: Paint new gypsum board
Conference Room	700	SF	Floor: Carpet Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceiling: Paint new gypsum board
Storage	1700	SF	Floor: Clean and seal concrete Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceiling: Paint new gypsum board
Janitor/Maintenance	500	SF	Floor: Clean and seal concrete Walls: Patch and paint existing interior face of exterior walls. Paint new gypsum board at interior walls Ceiling: Paint new gypsum board
Mechanical	900	SF	Floor: Clean and seal concrete Walls: Patch and paint existing walls Ceiling: Paint new gypsum board
Sub-Total	20700	SF	
Core & Shell	9200	SF	
Gross Building Area	29900	SF	

County Option: Meeting Center and Depository of Historical Artifacts

Concept

The county option entails renovating the Old Solano courthouse into a meeting center and depository of historical artifacts. In this option, the first floor offices are renovated into galleries; the second floor courtrooms and adjoining offices are renovated into event and meeting rooms and the basement is renovated into support spaces.

Code Issues

Based on the conceptual layout for the county developed in this study, the County of Solano Plan Check Engineer and Senior Building Inspector preliminarily determined that the county’s reuse of the building “would constitute a more hazardous life safety risk since it would significantly increase the potential occupant load on the building at any given time.”⁴ The officials ruled that both live load (vertical load capacity) and seismic (earthquake resistance capacity) upgrades are mandatory but that seismic strengthening to 75% of the California Building Code base shear, which is the standard used in the State Historic Building Code, would be acceptable. The officials noted that other improvements to the old courthouse would need to be in compliance with all other applicable current codes.⁵ See Report Page 7 for alternative concepts.

Renovation Scope

The renovation scope includes modest work at the exterior and extensive work at the interior. At the exterior the windows are painted, the granite cladding washed and the roof replaced. At the interior the existing finishes and fixtures at the first floor lobby, grand stair, second floor lobby and the courtrooms as well as the finishes at the interior face of the exterior walls are to the greatest degree possible retained and refurbished.⁶ However, due to the extent and nature of the required structural work, cutting and patching and/or partial removal of finishes in these areas is anticipated. Most other existing interior finishes at the basement and first floor are removed to undertake the structural work and replaced with new finishes. Most other existing finishes at the second floor are replaced. Systems throughout the building are upgraded. The upgrades include mandatory live load and seismic upgrades as well as mechanical, plumbing, fire protection, electrical and telecommunications upgrades. The program areas and finishes are outlined in the table below. The recommended structural and mechanical work is described in subsequent sections of this report.

Program and Finishes

Use	Area	Finishes
First Floor		
Lobby	1300SF	Floor: Clean existing marble Walls: Clean existing marble. Patch and paint existing plaster Ceiling: Paint existing plaster

⁴ Memo titled “Response to Courthouse Feasibility Study” from David Doyle and David Brandeberry, Solano County dated 5/15/2003 included in Appendix 1.

⁵ The 2001 California Building Code is the current code and was used in preparing this study.

⁶ While determining the extent of needed refurbishing work is beyond the scope of this study, most existing finishes that are to remain appear to be in good condition and therefore the needed refurbishing is expected to be modest in scope.

Old Solano Courthouse Feasibility Study

Galleries	4700	SF	Floor: New wood Walls: Patch and paint existing interior face of exterior walls. New painted plywood backed gypsum board interior walls Ceiling: New painted gypsum board
Public Restrooms	500	SF	Floor: New thin-set porcelain ceramic tile on waterproof membrane on existing concrete slab, leveled as needed Walls: New thin set porcelain ceramic tile Ceiling: New painted gypsum board
Second Floor			
Grand Stair and Second Floor Lobby	1400	SF	Floor: Clean existing marble Walls: Clean existing marble. Patch and paint existing plaster Ceiling: Paint existing plaster
Pre-Event	700	SF	Floor: New carpet Walls: Patch and paint existing interior face of exterior walls. New painted gypsum board at interior walls Ceiling: New painted gypsum board
Event Rooms	2400	SF	Floor: New carpet Walls: Refurbish and paint Ceilings: Remove existing acoustic tile and, patch, skim coat and paint existing plaster
Divisible Meeting Rooms	1700	SF	Floor: New carpet Walls: Patch and paint existing interior face of exterior walls. New painted gypsum board at interior walls Ceilings: new painted gypsum board
Public Restrooms	500	SF	Floor: New thin-set porcelain ceramic tile on waterproof membrane on existing concrete slab, leveled as needed Walls: New thin set porcelain ceramic tile Ceiling: New painted gypsum board
Basement			
Offices	1500	SF	Floor: New carpet Walls: Patch and paint existing interior face of exterior walls. New painted gypsum board at interior walls Ceilings: New painted gypsum board
Prep Space, Furniture Storage, Collection Storage, Catering Pantries	3600	SF	Floor: New linoleum Walls: Patch and paint existing interior face of exterior walls. New painted gypsum board at interior walls Ceiling: New painted gypsum board
Mechanical and Building Storage	1400	SF	Floor: Clean and seal existing concrete Walls: Patch and paint existing walls Ceiling: New painted gypsum board
Sub-Total	19700	SF	
Core & Shell	10200	SF	
Gross Building Area	29900	SF	

Historic Considerations

Currently the Old Solano courthouse does not have an official local, state or national historic listing. As such, any proposed alteration is subject only to typical local review. This review could include environmental impact review under the California Environmental Quality Act (CEQA) because a project which “may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.”⁷

If the building becomes a listed historic building, then it would also be subject to review by the historic listing agency. Local, state and national historic listings are possible. An historic review can be more extensive and more restrictive. However, an historic listing permits the use of the State Historic Building Code, which allows historic conditions and construction that are reasonably equivalent alternatives to current regular code requirements. Also, an historic listing can provide tax benefits and eligibility for historic grants and programs.

Both the court and county concepts presented in this study were conceived to be generally consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties. These guidelines are typically used by national, state and local agencies to monitor alterations to historic buildings. Although the Secretary of the Interior’s Standards is deferential to preservation, based on the preliminary work of this feasibility study, it appears that either the court or the county option could be developed in a manner consistent with the Secretary of the Interior’s Standards and Guidelines for Rehabilitation. If the building becomes listed, either option would be subject to detailed review, possibly resulting in modifications to the scope and nature of the proposed renovations. Due to the subjective nature of historic review, the nature and extent of possible modifications and the associated changes in cost incurred by those modifications are difficult to anticipate.

If the building becomes listed and the code officials determine that the proposed use is a change of use, then seismic upgrade of non-structural features, in addition to seismic upgrade of the structure would become mandatory rather than voluntary. The estimated construction cost for upgrading the non-structural features is \$1.1 million dollars.

Alternative Concepts

Typically when a project includes a change in use, the building code requires a number of upgrades. Based on the new and more dense assembly use (meeting center and galleries) of the building included in the county option, the county building officials preliminarily determined that this option would require both vertical and lateral structural upgrades. Conversely, based on the continuation of the original and less dense use of the building included in the court option, the county building officials preliminarily determined that vertical and lateral structural upgrades were not required. However, as a practical matter, the state would undertake the voluntary lateral structural upgrade as part of any court project. Therefore, this study includes the required vertical and lateral structural upgrades in the county option and a voluntary lateral structural upgrade in the court option. Accordingly, the difference in construction cost between the court and county renovation options is primarily due to the required vertical load upgrade included in the county option.

⁷ Title 14, California Code of Regulations, Chapter 3, Article 5, Section 15064.5.

The county prepared a cost analysis including an alternative budget for a modified county concept for the Old Solano courthouse. That analysis is included in the Appendix 2 of this report. The analysis shows that if an alternative county concept for reuse of the Old Solano courthouse could be developed that the building officials determine is not a change in use, then the county and court renovation scopes and budgets would be similar. Including soft costs, the county estimates that the project cost for the court option would be \$8.5 million and the project cost for the county option would be \$8.6 million.

Structural

Existing Building Structure

The Old Solano courthouse was built circa 1911. It has a basement, first and second floor levels, as well as an attic. Original construction documents were not available for this feasibility study. Geotechnical information was not available, so specific consideration of geotechnical hazards is not included. Based on observations during a site visit, the exterior walls are of stone-clad brick masonry. There is a substantially complete steel gravity frame system, however, steel beams may be supported on masonry walls in limited locations. The floors and roof are of cast concrete supported on concrete encased steel joists and beams. Steel beams also occur at the attic level, but are not encased in concrete. Interior partitions are constructed of many materials including brick masonry and hollow clay tile. The front entry porch floor appears to be constructed of solid slabs of granite and includes a significant granite colonnade. The supporting brick structure for the entry porch can be partially observed from the basement.

Based on limited observation, there are no signs of significant deterioration or distress of the structure. There are limited signs of possible moisture intrusion in the basement, including local cracking of fireproofing at some column bases, and a slight amount of dust from wall bricks in the basement. One possible result of moisture intrusion could be corrosion of column base plates. If present, it is recommended that corrosion be addressed when other structural work in the basement is being planned.

Civil Courthouse

Structural modifications anticipated for courthouse use are shown on sheets S5 through S8. Included are modifications to stairs, elevators and ramps that have structural implications. Also included is a proposed upgrade to earthquake resistance. Based on input from the Solano County Department of Environmental Management, Building and Safety Division (letter of 05/15/03), reversion to courthouse use is not interpreted to pose a more hazardous condition than the current use, permitting any improvements to earthquake resistance to be considered voluntary. Based on a preliminary evaluation of the earthquake resistance provided by the existing structure, substantial new resisting elements are recommended. The new elements depicted in these plans are proportioned using 75% of the forces required by the 2001 California Building Code, as a suggested level for voluntary upgrade (higher or lower force levels could be considered). The depicted work addresses the primary lateral force resisting system, with the intent of safeguarding against major structural failure and loss of life. The work is not intended to limit damage or maintain function of the building. In order to best preserve existing significant finishes, the new elements are placed to the interior of the building where possible. A number of the new walls will also act to stabilize existing hollow clay tile and masonry partitions. Consistent with the feasibility level of this study, sheets S5 through S8 are only intended to point out major areas of work, and are not intended to provide a detailed or final scope. A following list identifies items beyond the primary building structure, which are suggested for investigation and possible improvement to earthquake resistance. If the Old Solano courthouse were to be designated as an historic building and revert to courthouse use in accordance with the proposed scheme, it is

anticipated that the historic designation would not significantly impact proposed structural modification.

County Meeting Center and Depository of Historical Items

Structural modifications anticipated for county meeting center use are shown on sheets S9 through S12. Included are modifications to stairs, elevators and ramps that have structural implications. Based on input from the Solano County Department of Environmental Management, Building and Safety Division, the change to meeting center use is interpreted to require mandatory improvements for both gravity load capacity and earthquake resistance.¹ Based on very limited investigation of the existing floor structure, it is suggested that reinforcing of the floor structure will be required in order to accommodate code required assembly live loads of 100 pounds per square foot. The reinforcing will also accommodate objects weighing up to, but not over, 100 pounds per square foot. Because columns and footings were not investigated, allowance should be made for possible column and footing reinforcement throughout the building. Further investigation of the floor structure, columns and foundations will be required if this building use is selected. Based on a preliminary evaluation of the earthquake resistance provided by the existing structure, it was decided that substantial new earthquake resisting elements would be required. The new elements depicted in these plans are proportioned using 75% of the forces required by the 2001 California Building Code, as agreed upon by the Building and Safety Division for mandatory upgrade. The depicted work addresses the primary lateral force resisting system, with the intent of safeguarding against major structural failure and loss of life. The work is not intended to limit damage or maintain function of the building. In order to best preserve existing significant finishes, the new elements are placed to the interior of the building where possible. A number of the new walls will also act to stabilize existing hollow clay tile and masonry partitions. Consistent with the feasibility level of this study, sheets S9 through S12 are only intended to point out major areas of work, and are not intended to provide a detailed or final scope. The following list identifies items beyond the primary building structure, which are suggested for investigation and possible improvement to earthquake resistance. If the Old Solano courthouse were to be designated as an historic building and used for a county meeting center in accordance with the proposed scheme, it is anticipated that the historic designation would not significantly impact the required structural modifications, with that investigation and strengthening of non-structural features (see list below) would be mandatory.

Earthquake Resistance Upgrade Beyond Primary Structure

The following items are recommended for further investigation and possible upgrade. The list is based on ASCE 31-02 (update to FEMA 310) "Seismic Evaluation of Existing Buildings." These items include items addressing a combination of performance objectives (safeguarding against major structural failure, loss of life and damage limitation). Upgrade consistent with the desired performance level should be considered as part of the further investigation.

1. Bracing of interior unreinforced masonry partitions including brick masonry and hollow clay tile.
2. Masonry cladding support and anchorage to the structure.

¹ Refer to the Code Issues subsections included on pages 2 and 4 of the Architectural section and the County of Solano Department of Environmental Management, Building and Safety Division Memo included in Appendix A1 for additional information.

3. Parapets, and ornamentation support and anchorage to the structure. Among items included should be the entry porch colonnade and large granite stones above the colonnade at the front of the attic.
4. Stair lateral support and ability to withstand building movement. Stairs serving as the main exit path from the building are of primary importance. This should include the main exterior stairs at the front of the building, which are anticipated to be of unreinforced masonry construction. Also included should be the central interior stairs that provide the primary exit from the second floor; type of construction is not known.
5. Any portions of elevator systems not being replaced in the course of upgrade work.
6. Ceiling systems and lighting fixture support and bracing. Partition walls independently braced rather than braced off of the ceiling system.
7. Mechanical, electrical and plumbing system bracing, including rooftop units.
8. Bracing of contents including file cabinets, bookshelves, etc.

Mechanical

Old Solano Courthouse
Fairfield, CA

**Mechanical Conceptual
Design Report**

Prepared for:
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August 27, 2003

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1. **INTRODUCTION**

A. PURPOSE

The purpose of this report is to evaluate the capacity and general condition of the existing mechanical systems serving the Old Solano Courthouse in Fairfield, California, and to assess the use of the building for the following two potential options:

Option 1 Civil Courts Use:

The existing building will be used as a civil courts building with a potential 17,600 square foot 2 story addition. The basement of the existing building is to be used for storage, jury / staff break rooms and a conference room area. The ground floor is to be used as open office space for civil clerks and the second floor is to be mainly courtrooms with judge chambers. The ground floor of the proposed addition will be civil courtrooms and the second floor will be an open office plan for civil clerks, judicial assistants and for reporters.

Option 2 County Use:

The basement will mainly be used for storage, the ground floor is to be used as a gallery and the second floor is to be used as a conference center.

This report is based on observations made during a site survey on December 18, 2002, and information provided by the Old Solano courthouse facilities staff.

This report is limited in scope, intended to define readily observable deficiencies based on information provided. The estimation of the future viability of existing systems is based solely on field observations and discussions with Facilities staff.

Exhaustive analysis of the systems has not been included as part of this report. Complete Architectural and MEP drawings for the building were not available to Flack+Kurtz for this study.

B. BUILDING DESCRIPTION

The Old Solano courthouse building is a three-story structure with a converted partially occupied attic space.

The building is currently provided with mechanical cooling and steam heating from a mechanical room located in the basement of the building. The basement and first floor and partial attic level are served by a four pipe chilled water / steam fan coil system; the northeast exterior basement zones have low pressure steam radiators. The second floor is provided with heating, ventilation and air conditioning from an existing VAV (variable air volume) air-handling unit located on the roof.

The existing building consists of approximately 29,000 square feet of floor area.

II. EXECUTIVE SUMMARY

The existing mechanical refrigeration plant consists of a single water-cooled package semi-hermetic chiller system located in a basement mechanical room. This system was originally installed in 1962; the chillers compressor section was rebuilt in 2001.

Chiller, CH-1, has an estimated capacity of 60 tons. Based on preliminary review of the building program, occupancies and equipment loads, we estimate the cooling load for the existing building to be between 55 and 60 tons. Based on this calculation, there is little or no spare cooling or heating capacity to support additional cooling / heating equipment to serve the addition as outlined in option 2 from the building's central cooling system.

The existing building controls system is a pneumatic system that appears to provide adequate functionality. If the existing controls are to be reused we recommend that diagnostics be performed on the existing controls system to identify any faults with the system. Pneumatic valve and VAV box damper actuators should be inspected and tested. It appears that there are leaks within the pneumatic tubing that may be adversely affecting controls system performance.

The existing HB Smith steam boiler and mechanical cooling equipment are nearing the end of their useful lives as defined by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE).

We recommend that a more extensive survey and performance testing of the existing systems be performed to better understand the capacity, operation and remaining useful life of the existing equipment serving the facility.

There are four system options for serving the expansion space that are presented for evaluation during the conceptual design phase of the project. They are:

Option 1 Civil Courts Use:

- a. Water Cooled Chiller Plant and Four Pipe Fan Coil Units, system to be sized to incorporate the proposed 17,600 square foot addition.
- b. New Semi-Custom / Packaged DX Rooftop VAV Air Conditioning Units, Semi custom unit to serve the existing building and the packaged unit to serve the proposed 17,600 square foot addition.

Option 2 County Use:

- a. New Water Cooled Chiller Plant and Four Pipe Fan Coil Units.
- b. New Semi-Custom DX Rooftop VAV Air Conditioning Unit to serve the existing building.

III. HVAC EXISTING CONDITIONS

A. AIR CONDITIONING

1. Roof top AC-1 is a VAV air-handling unit with an estimated cooling capacity of 15 - 20 Tons. Exact information on this system was not available at the time of the walk through. The unit appeared to be at the end of its useful life.
2. Basement, Ground and Attic levels fan coil units are at the end of their useful life and should be demolished.
3. Based on preliminary review of the building program, occupancies and equipment loads, we estimate the cooling load for the existing building to be between 55 and 60 tons, or approximately 500 - 550 square feet of program area per ton of cooling.
4. Based on this calculation, there is little or no spare capacity to support new chilled water equipment to serve the new program area from the building's central cooling system.

B. CHILLER

1. CH-1 is a Semi Hermetic Water Cooled Chiller. The exact capacity and functionality of this system are unknown due to limited available information.

For the purpose of this report it is assumed that the existing chiller capacity is 60 tons and has no additional capacity for additional new equipment. The existing chiller is:

CH-1

Model No.	Air Temp Semi-Hermetic Water Cooled Chiller
Serial No.	Not available at time of visit
Capacity	Unknown (Assumed 60 tons)
Compressors	Magnetek Model 3020 (Reconditioned in 2001)
Refrigerant	R22
Electrical	480v/3ph/60Hz
Installed In	1962

C. HEATING

1. There is one existing steam boiler currently installed in the basement boiler room.

The existing boiler is:

B-1

Model No.	HB Smith
Type	Natural Gas Steam Boiler
Input	825,000 btu/h
Output	660,000 btu/h
Installed In	1974

Recommend boiler be removed and replaced with a high efficiency natural gas direct-fired boiler.

2. The basement, first and attic floors of the building are currently heated and ventilated by a series four pipe fan coil units located in closets and above the ceilings in each space. The Second floor is currently heated and ventilated by a series of variable air volume units located above the ceiling in each space. Hot water piping is routed from the basement boiler room to heating coils local in each perimeter fan coil / VAV unit. A pneumatic hot water control valve, located at each hot water coil, is designed to modulate to maintain the space thermostat setpoint. According to facilities staff, the systems controls do not function properly to maintain the thermostat set point.

D. VENTILATION

1. AC-1 provides the second floor with minimum ventilation requirements. The basement, ground and attic levels have operable windows.

E. BUILDING CONTROLS:

1. The building is provided with a pneumatic controls system (manufacturer unknown) consisting of a control air compressor located in the basement mechanical room and pneumatic tubing extended from the control air compressor to the control valves at each fan coil unit and VAV unit.
2. The building controls system is outdated and appears to provide limited control.
3. If the existing system is to be reused we recommend that a more extensive analysis of the controls system be performed to determine the existing sequences of operation for all equipment and to evaluate the operation of individual control components, valves, actuators, thermostats, etc.

4. We recommend that all proposed new system installations be provided with an Automatic Temperature and Building Control Systems. A 100% Direct Digital Control (DDC) control system will be required to properly maintain building conditions and include operating, monitoring, and safety controls for cooling tower, pumps, fans, air handling units, heating components, chilled water loops. VAV boxes, valves, and damper actuators will be electric/DDC type.

5. All rooftop AC units and air handling systems shall be provided with DDC control systems to facilitate the maximum use of economizer cooling when the outside air conditions permit.

IV. HVAC CONCEPTUAL DESIGN

A. DESIGN CRITERIA:

The current program for the old courthouse includes providing heating and cooling to the renovated portion of the facility as well as the proposed new addition.

The outdoor design conditions in Fairfield, CA are:

Summer: 98°F Dry Bulb, 68°F Wet Bulb
Winter: 24°F Dry Bulb

There are two proposed architectural options for this project. Based on their total floor areas, we estimate that the cooling loads and heating loads to be as follows:

Option 1 Civil Court Use:

Existing Building Square Footage	29,900 sf	
Cooling Capacity Required	960 MBH =	80 Tons
Heating Capacity Required	540 MBH	

Option 1 Civil Court Use Alternate:

Additional Building Square Footage	17,600 sf	
Additional Cooling Capacity Required	400 MBH=	35 Tons
Additional Heating Capacity Required	310 MBH	
Total Combined Cooling Capacity	1360 MBH =	115 Tons
Total Combined Heating Capacity	850 MBH	

Option 2 County Use:

Existing Building Square Footage	29,900 sf	
Cooling Capacity Required	960 MBH=	80 Tons
Heating Capacity Required	540 MBH	

B. SYSTEM OPTIONS:

There are four system options that are presented for evaluation and pricing during the conceptual design phase of the project. They are:

Option 1a. New Water Cooled Chiller / Heating Hot Water Plant and Four Pipe Fan Coil Units.

Option 1a. Alt. New Water Cooled Chiller / Heating Hot Water Plant and Four Pipe Fan Coil Units. Chiller / Heating Hot Water Plant Sized for 17,600 sf building addition.

- Option 1b. New Semi-Custom DX Rooftop VAV Air Conditioning Unit to serve the entire existing building.
- Option 1b. Alt. New Semi-Custom and packaged DX Rooftop VAV Air Conditioning Units, one unit to serve the existing building and one unit to serve the proposed addition. Heating Hot Water Plant size for existing building and 17,600 sf building addition.
- Option 2a. New Water Cooled Chiller / Heating Hot Water Plant and Four Pipe Fan Coil Units.
- Option 2b. New Semi-custom DX Rooftop VAV Air Conditioning Unit to serve the entire existing building.

Option 1a: Water-Cooled Chiller and Four Pipe Fan Coil Units

Option 1a is a chilled / heating hot water scheme to provide the mechanical cooling / heating to the facility to serve the space.

A new 80-ton water-cooled chiller would be installed in the existing mechanical room and would provide chilled water for distribution to local fan coil units. A new 80-ton cooling tower would need to be installed on the roof to replace the existing 60-ton tower. We recommend that the new chiller and cooling tower be sized with 15%-25% additional capacity to accommodate future building loads.

Chilled water would be circulated from the chiller throughout the building through insulated piping installed in the ceiling space in a manner similar to that of the existing to be removed steam heating hot water distribution piping. The chilled water pump would be provided with variable frequency drives to control pump speed based on system demand and save energy.

In this option, the exterior zones would be provided with new four pipe fan coil units. The fan coil units will be either horizontal units installed in the ceiling of the spaces served, or floor mounted vertical units located in a mechanical closet / room located at the perimeter of the building with access to outside air for ventilation.

Each of the new fan coil units would be provided with a sound insulated casing, high efficiency filter section, a heating coil and associated electric control valve, a cooling coil and associated electric control valve, a mixing box and a supply fan. The supply fan would be provided with a premium efficiency motor. The fan coil units would be provided with 100% outside air capability and airside economizer controls based on outside air temperature. Each of the new fan coil units would be provided with a direct digital controller.

In this scheme, a new 750 MBH direct-fired natural gas boiler and associated pump would be located in the existing mechanical room. Heating hot water would be circulated from the boiler throughout the building to each perimeter zone fan coil unit through insulated piping installed in the ceiling space in a manner similar to that of the chilled water distribution piping. The heating hot water pump would be provided with

variable frequency drives to control pump speed based on system demand and save energy. Each fan coil units will have electric control valves tied to a new heating hot water loop to provide heating to the spaces.

Option 1b: New Semi-Custom DX Rooftop VAV Air Conditioning Units

Option 1b will use the same heating hot water solution as option 1a.

The existing 29,900 sf building will be served by an 80 Ton, 30,000 cfm semi-custom packaged rooftop variable air volume (VAV) direct expansion air conditioning systems. This alternate uses a large rooftop unit that is pre-manufactured with HVAC components specifically selected for this project. The units can use either *air-cooled condensers* or a more energy efficient *evaporative-cooled condenser* to provide cooling. This system will provide air distribution, ventilation, and cooling to all floors. Conditioned air is delivered to each floor via a supply and return airshaft. The return air riser is not ducted. The proposed approach is to utilize semi-custom rooftop equipment that contains all components and related accessories to provide a complete and self-contained system.

A pre-manufactured "box" will contain both the *airside* components and the *waterside* components pre-assembled, tested, and rigged into place in one piece. A heating hot water riser distributed from a new direct fired natural gas boiler located in the basement will be distributed to each floor for perimeter zone heating.

The rooftop AC units will have 65% efficiency filters, multiple compressors, multi-circuit direct expansion (DX) cooling coils, internal spring vibration isolation for fan and compressors, sound attenuation, base rail, motors, factory mounted Direct Digital Control (DDC) system, factory mounted variable speed drives, supply fans, return fans, fan motors and drives, outside air economizer dampers and controls. The airside components are contained in an insulated weatherproof sheet metal casing.

The waterside components consist of compressors, controls, and either an air-cooled condenser or an evaporative condenser. The waterside components are contained in an uninsulated weatherproof sheet metal casing.

The use of evaporative or air-cooled condensers eliminates the requirement for a cooling tower to supply building air conditioning.

Outside air for the rooftop air conditioning system is provided via economizer dampers. Dampers modulate to permit minimum or up to 100% outside air. Flow monitors on the outside air inlet ensure minimum ventilation rate is maintained. Return/exhaust air will be provided by variable volume fans with sound attenuation located in the equipment enclosure. Fan systems will automatically track the outside and exhaust air quantity to maintain proper building pressure and economizer operation. Static pressure sensor in the duct riser will sense fluctuating flow conditions, as the demand varies, and controls the speed of the fans accordingly. The air conditioning unit compressor will use a low ozone-depletion refrigerant (HCFC-22, HFC-134a).

The rooftop air conditioning units shall be installed within a 12-foot high screen. To conform to this space, ductwork will connect underneath the AC unit. For return air openings positioned directly on top of the shaft, a sound attenuator shall be flexibly connected in the vertical position, and tie in to the top of the shaft. For supply air ductwork and return air openings not positioned directly on top of the shaft, a sound attenuator shall be flexibly connected in the horizontal position, underneath the AC unit and tie in to the side of the shaft. All ductwork above the roof shall be acoustical lined. Provide a minimum of 25 feet of 2-inch acoustical lining for both supply and return ductwork. Supply ducts from each riser are extended out at each floor for tenant connection. An acoustically lined return air elbow shall be provided at each floor. Both floor air connections shall be installed with fire/smoke dampers, with the additional provision of a duct smoke detector in the return air duct.

The zoning of the VAV system would be similar to that as described in option 1a above. Instead of providing four pipe fan coil units, Interior zone VAV boxes and exterior zone VAV boxes with reheat coils would be used.

Option 1a Alt: Water-Cooled Chiller and Four Pipe Fan Coil Units

Option 1a Alt is the same as option 1a other than the chiller and heating hot water plant will be increased in size to accommodate the proposed 17,600 sf building addition. The chiller plant will need to be 120 Tons and the heating hot water plant will be sized for 1000 MBH.

Option 1b Alt: New Semi-Custom DX Rooftop VAV Air Conditioning Units

Option 1b Alt is the same, as option 1b other than the heating hot water plant will be increased in size to accommodate the proposed 17,600 sf building addition. The heating hot water plant will be sized for 1000 MBH. The proposed 17,600 sf building addition will be served by a 40 Ton, 15,000 cfm packaged DX Rooftop variable air volume (VAV) air handling system (not included in this scope).

Option 2a: Water-Cooled Chiller and Four Pipe Fan Coil Units

Option 2a is the same as that of Options 1a.

Option 2b: New Semi-Custom DX Rooftop VAV Air Conditioning Unit

Option 2b is the same as that of Option 1b.

Possible Option 3

Flack + Kurtz is the Mechanical engineer of record for the new Solano County Administration Center project currently under construction. For this project the Viron central plant is being expanded to facilitate the heating and cooling needs of the new CAC and Probation buildings. Viron is extending chilled water and heating hot water

pipng to these building which are located along Union Avenue, there is a potential to explore the possibility of extending this system to the Old Solano courthouse facility which would allow for the elimination of the buildings chiller plant and heating plant.

Conclusion:

Based on the assumption of lower life cycle costs and the relative ease of coordinating the installation of these systems to serve the existing and expansion space in the facility, we recommend that option 1b for the court or 2b for the county be pursued. We recommend that all options be priced to establish comparative first costs for each system.

END OF REPORT

Cost Estimate

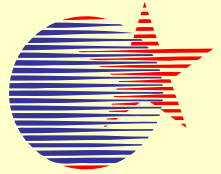
The following Feasibility Cost Plan, prepared by Davis Langdon Adamson provides the construction cost estimates for the court and county options for reusing the Old Solano courthouse. The estimates are for construction only and do not include other costs (i.e. soft costs).

Original construction drawings were not available for this study. Therefore the estimates were based only on limited field observation and the conceptual architectural, structural and mechanical materials developed in this study.

In 2003 dollars the estimated construction cost for renovating the Old Solano courthouse for court use is \$5.8 million plus additive alternates for mechanical upgrades (\$49,000 to \$72,000) and upgrading the seismic resistance capacity of non-structural building components (\$1,076,000). The Superior Court of California, County of Solano Court Facilities Master Plan also includes a 17,600 square foot addition to complete the court's civil department. The estimated construction cost of the addition and associated site improvements is \$5.3 million. The total estimated construction cost of the renovation including the alternate for upgrading the seismic resistance capacity of the non-structural building components and the addition is \$12.2 million.

In 2003 dollars the estimated construction cost for renovating the Old Solano courthouse for county use is \$7.7 million plus additive alternates for mechanical upgrades (\$58,000) and upgrading the seismic resistance capacity of non-structural building components (\$1,076,000).

DAVIS LANGDON ADAMSON



FEASIBILITY COST PLAN

for

**Old Solano Courthouse
Feasibility Study
Fairfield, California**

September 10, 2003

Project 0148-4990.110

FEASIBILITY COST PLAN

for

**Old Solano Courthouse
Feasibility Study
Fairfield, California**

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September 10, 2003

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BASIS OF COST PLAN

<u>Cost Plan Prepared From</u>	Dated	Received
Drawings issued for Old Solano Courthouse		
Architectural A1 through A12	08/27/03	08/28/03
Structural S5 through S12, "Preliminary"	08/27/03	08/28/03

Outline Specification

Discussions with the Project Architect and Structural Engineer

Conditions of Construction

The pricing is based on the following general conditions of construction

A start date of September 2003

A construction period of 12 months for the Civil Court Scheme and 18 months for the County Scheme

The general contract will be competitively bid with qualified general and main subcontractors

There will not be small business set aside requirements

The contractor will be required to pay prevailing wages

There are no phasing requirements

The general contractor will have full access to the site at all hours

INCLUSIONS

The project consists of examining the cost implications of two program options for the existing Old Solano Courthouse. The Court Scheme entails a seismic upgrade, other systems upgrades, major remodeling of most spaces, and the refurbishing of the original two courtrooms for civil court use. The County Scheme entails conversion of the courtroom functions to a county meeting center, major systems upgrades and remodeling, and more extensive structural work due to anticipated higher occupant loads. The extensive structural work increases the amount of demolition and replacement of finishes in this Scheme.

Foundations include reinforced concrete doweled to existing footings. Vertical structure includes concrete shearwalls tied to existing columns and beams, and strengthening of existing columns in the County Scheme. Horizontal structure includes steel beams, metal deck and concrete fill, and steel collector beams.

Exterior cladding includes cleaning and minor repointing to the stone cladding, new exterior doors, and new door openings at the rear of the building. Roofing includes a new built-up roof membrane.

Interior partitions includes new wood doors throughout, with new gypsumboard partitions and furred shear walls. Floor finishes includes cleaning of existing marble, linoleum, ceramic tile, carpet, and sealing of existing concrete. Wall finishes are ceramic tile wainscot in restrooms. Ceilings are gypsum board, with some acoustic tile and skim coating of existing plaster. The entire interior is painted.

Function equipment includes toilet partitions and accessories, laminate countertops and casework, mecho shades, and wood millwork in the Civil Courtrooms.

Plumbing includes sanitary fixtures, floor drains, hosebibbs, sanitary waste, vent and domestic service, gas distribution, gas-fired water heaters, surface water drainage and trade demolition.

Heating, ventilation and air conditioning includes gas-fired boiler, watercooled chiller and cooling tower, expansion tanks, air separators, circulation pumps, variable frequency drives, chilled and steam heated hot water, valves and specialties, insulation, fan coil units, air distribution and return, diffusers, registers and grilles, DDC building management controls, testing, balancing, unit ventilation and trade demolition.

Electrical includes main service and distribution, machine and equipment power, user convenience power, lighting and power specialties, telephone/data (conduit only), fire alarm system, security (conduit only) and trade demolition.

Fire protection includes automatic wet sprinkler system - complete

Site utilities allowance includes connection to street mains for domestic/fire water, sewer, normal

INCLUSIONS

BIDDING PROCESS - MARKET CONDITIONS

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this document. Unit rates have been obtained from historical records and/or discussion with contractors. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated. The mark-ups cover the costs of field overhead, home office overhead and profit and range from 15% to 25% of the cost for a particular item of work.

Pricing reflects probable construction costs obtainable in the project locality on the date of this statement of probable costs. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors and general contractors, with a minimum of 4 bidders for all items of subcontracted work and 6-7 general contractor bids. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since Davis Langdon Adamson has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market conditions at the time of bid, the statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents Davis Langdon Adamson's best judgement as professional construction consultant familiar with the construction industry. However, Davis Langdon Adamson cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

EXCLUSIONS

Earthquake resistance upgrade beyond primary structure (see alternates for allowances)

Site work except for utility connection allowance

Holding areas or hardened walls, except bullet-proof judge's bench

Owner supplied and installed furniture, fixtures and equipment

Data/telephone equipment and wiring

Loose furniture and equipment except as specifically identified

Security equipment, devices, and wiring, except allowance for scanning equipment in Civil Court option

Audio visual equipment and wiring

Hazardous material handling, disposal and abatement

Compression of schedule, premium or shift work, and restrictions on the contractor's working hours

Design, testing, inspection or construction management fees

Architectural and design fees

Scope change and post contract contingencies

Assessments, taxes, finance, legal and development charges

Environmental impact mitigation

Builder's risk, project wrap-up and other owner provided insurance program

Land and easement acquisition

Cost escalation

Site drainage and site lighting

Emergency power

OVERALL SUMMARY

	Gross Floor Area	\$ / SF	\$x1,000
Court Program	29,930 SF	183.65	5,497
County Program	29,930 SF	255.45	7,646



Costs shown are construction costs only and exclude project "soft" costs

Alternates

Option 1A-Alt: Heating/Cooling equipment sized w/ capacity for new addition	49
Option 1B-Alt: Boiler sized for new addition	14
Option 1B/2B: Packaged DX Rooftop AHU and Terminal Units	58
Alternate 4: Allowances for Additional Structural Upgrades	1,076

Please refer to the Inclusions and Exclusions sections of this report

COURT PROGRAM AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Basement Level	10,250		
First Floor	9,530		
Second Floor	9,780		
SUBTOTAL, Enclosed Area		29,560	
Covered area	740		
SUBTOTAL, Covered Area @ ½ Value		370	
TOTAL GROSS FLOOR AREA			29,930

Control Quantities

			Ratio to Gross Area
Functional Units	2	Courtrms	0.067
Number of stories (x1,000)	3	EA	0.100
Gross Area	29,930	SF	1.000
Enclosed Area	29,560	SF	0.988
Covered Area	740	SF	0.025
Footprint Area	10,250	SF	0.342
Volume	461,080	CF	15.405
Basement Volume	0	CF	0.000
Gross Wall Area	25,000	SF	0.835
Retaining Wall Area	2,450	SF	0.082
Finished Wall Area	22,550	SF	0.753
Windows or Glazing Area (approximate)	20.00%	5,000 SF	0.167
Roof Area - Flat	10,250	SF	0.342
Roof Area - Sloping	0	SF	0.000
Roof Area - Total	10,250	SF	0.342
Roof Glazing Area	0	SF	0.000
Interior Partition Length	1,735	LF	0.058
Finished Area	29,930	SF	1.000
Elevators (x10,000)	1	EA	0.334
Plumbing Fixtures (x1,000)	24	EA	0.802

COURT PROGRAM COMPONENT SUMMARY

	Gross Area: 29,930 SF		
		\$/SF	\$x1,000
1. Foundations		7.13	214
2. Vertical Structure		12.12	363
3. Floor & Roof Structures		12.74	381
4. Exterior Cladding		4.80	144
5. Roofing, Waterproofing & Skylights		2.32	70
<i>Shell (1-5)</i>		39.12	1,171
6. Interior Partitions, Doors & Glazing		7.95	238
7. Floor, Wall & Ceiling Finishes		12.94	387
<i>Interiors (6-7)</i>		20.89	625
8. Function Equipment & Specialties		8.64	259
9. Stairs & Vertical Transportation		5.73	171
<i>Equipment & Vertical Transportation (8-9)</i>		14.36	430
10. Plumbing Systems		6.15	184
11. Heating, Ventilating & Air Conditioning		26.39	790
12. Electric Lighting, Power & Communications		21.00	629
13. Fire Protection Systems		4.40	132
<i>Mechanical & Electrical (10-13)</i>		57.94	1,734
<i>Total Building Construction (1-13)</i>		132.31	3,960
14. Site Preparation & Demolition		10.78	323
15. Site Paving, Structures & Landscaping		0.00	<i>Excluded</i>
16. Utilities on Site		4.18	125
<i>Total Site Construction (14-16)</i>		14.96	448
<i>TOTAL BUILDING & SITE (1-16)</i>		147.26	4,408
General Conditions	9.00%	13.26	397
Contractor's Overhead & Profit or Fee	4.00%	6.41	192
<i>PLANNED CONSTRUCTION COST</i>	<i>September 2003</i>	166.94	4,997
Contingency for Development of Design	10.00%	16.71	500
Escalation is excluded	0.00%	0.00	0
<i>RECOMMENDED BUDGET</i>	<i>September 2003</i>	183.65	5,497

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>1. Foundations</u>				
Footings for shearwalls				
Allow for 4' wide x 3' deep reinforced concrete including excavation, doweled at 1' o.c.e.w.	460	LF	375.00	172,500
Allow for 2' wide x 3' deep reinforced concrete including excavation, doweled at 1' o.c.e.w.	110	LF	300.00	33,000
Elevator pit				
Pit for new elevator	1	LS	8,000.00	8,000
				213,500
<u>2. Vertical Structure</u>				
Columns				
Elevator hoistways	1	EA	5,000.00	5,000
Fireproof exposed steel	1	LS	10,000.00	10,000
Concrete shear walls, 12" thick				
Basement Level	2,750	SF	30.00	82,500
First Floor	3,030	SF	30.00	90,900
Second Floor	1,980	SF	30.00	59,400
Attic Level	1,200	SF	30.00	36,000
Adhesive anchors to existing masonry at 2' o.c. and welded studs to existing steel beams	1,400	EA	35.00	49,000
"Backup system" to connect shear walls to existing masonry walls where non-contiguous - assume 50% of shear walls	4,480	SF	6.00	26,880
Concrete retaining walls at exterior stairs, 4' tall	16	LF	200.00	3,200
				362,880

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>3. Floor and Roof Structure</u>				
Suspended floors				
New steel beams to support existing at floor cut-outs, 2 floors	80	SF	100.00	8,000
New beams at new elevator opening	2	LOC	5,000.00	10,000
Concrete work at new slab openings	2	LOC	1,500.00	3,000
Close existing slab opening with new steel beams and concrete fill/metal deck	150	SF	100.00	15,000
Collector beam: TS 6x6 or MC12 bolted to shear walls and welded to existing beams	1,180	LF	250.00	295,000
Reinforce existing concrete diaphragm using shotcrete or TS 6x6 cross braces	536	SF	40.00	21,440
Fireproof exposed beams	1	LS	10,000.00	10,000
Allowance to fireproof exposed steel in attic (per s.f. floor area)	9,500	SF	2.00	19,000
				381,440

4. Exterior Cladding

Wall framing, furring, and insulation				
Infill existing opening at basement level	40	SF	100.00	4,000
Cut new opening for door at existing window	60	SF	100.00	6,000
Applied exterior finishes				
Stone to match existing at infill	40	SF	75.00	3,000
Stone cladding to vertical face of new ramp	350	SF	75.00	26,250
Allowance for power wash and minor repointing of existing stone facade	22,550	SF	1.00	22,550

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Windows, glazing, and louvers				
Paint and minor repair to existing windows and grilles	93	EA	750.00	69,750
Exterior doors, frames, and hardware				
New entry doors, front	1	PR	8,000.00	8,000
Rear entry door, first floor	1	EA	2,000.00	2,000
New basement entry door	1	EA	2,000.00	2,000
				143,550

5. Roofing, Waterproofing & Skylights

Roofing				
New built-up roofing and flashing	10,250	SF	6.00	61,500
Allowance for new equipment mounts	1	LS	8,000.00	8,000
				69,500

6. Interior Partitions, Doors & Glazing

Partitions				
New partitions: metal stud, insulation, gypsum wallboard both sides				
Basement Level	2,420	SF	8.50	20,570
Second Floor	1,980	SF	8.50	16,830
Furred walls: metal stud, insulation, gypsum wallboard one side				
Basement Level	2,750	SF	6.50	17,875
First Floor	3,600	SF	6.50	23,400
Second Floor	4,320	SF	6.50	28,080
Premium for rated walls	15,070	SF	4.00	60,280
Window walls and borrowed lights				
Allowance	200	SF	45.00	9,000
Interior doors, frames, and hardware				
Wood doors, metal frames				
Single leaf	34	EA	1,200.00	40,800
Double leaf	3	PR	2,000.00	6,000

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Elevator smoke screens	3	EA	5,000.00	15,000
				237,835

7. Floor, Wall & Ceiling Finishes

Floors				
Clean existing marble	2,700	SF	2.00	5,400
Clean and seal concrete	3,100	SF	1.50	4,650
Linoleum	1,000	SF	8.00	8,000
Carpet (including corridors)	16,900	SF	3.50	59,150
Ceramic tile	770	SF	10.00	7,700
Walls				
Ceramic tile wainscot to 6'	2,040	SF	10.00	20,400
Paint all walls	70,110	SF	1.00	70,110
Allowance to patch existing surfaces	40,000	SF	1.00	40,000
Ceilings				
Basement Level				
New painted gypsum wallboard and framing system in offices and all public areas	9,000	SF	8.00	72,000
First Floor				
Patch and paint existing plaster	1,200	SF	3.00	3,600
Acoustic ceiling tile	6,300	SF	4.00	25,200
Allowance to patch existing vaulted ceilings (Assume not disturbed for structural work)	1	LS	10,000.00	10,000
Second Floor				
Skim coat plaster	2,400	SF	6.50	15,600
New gypsum wallboard and framing	4,000	SF	8.00	32,000
Paint entire ceiling	9,000	SF	1.50	13,500
				387,310

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>8. Function Equipment & Specialties</u>				
Prefabricated compartments and accessories				
Toilet partitions	6	EA	1,000.00	6,000
Toilet accessories	1	LS	4,000.00	4,000
Shelving and millwork				
Janitor shelf and mop rack	1	EA	500.00	500
Judge's Bench, Court Reporter, Witness Stand	1	LS	30,000.00	30,000
Cabinets and countertops				
Vanity tops	42	LF	110.00	4,620
Service desks, counter and lower casework	90	LF	350.00	31,500
Chalkboards, ensignia, and graphics				
Wayfinding signage	29,930	SF	0.50	14,965
Markerboard allowance	1	LS	1,500.00	1,500
Light control and vision equipment				
Mecco shades	5,000	SF	8.00	40,000
Projection screen allowance	1	LS	2,500.00	2,500
Allowance for sound system and closed circuit TV equipment and wiring	1	LS	70,000.00	70,000
Amenities and convenience items				
Fire extinguishers	9	EA	250.00	2,250
Entrance mats	4	EA	300.00	1,200
Lockers	10	EA	200.00	2,000
Courtroom fixed seating	30	EA	250.00	7,500
Special use equipment				
Small baggage scanner	1	EA	30,000.00	30,000
Body scanner	1	EA	10,000.00	10,000
				258,535

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>9. Stairs & Vertical Transportation</u>				
Steps and ramps				
Concrete steps into Basement Level at exterior	50	SF	60.00	3,000
Pipe rail	28	LF	75.00	2,100
New exterior ramp to First Floor	620	SF	40.00	24,800
Railings	210	LF	150.00	31,500
Elevators				
New 4-stop elevator	1	EA	110,000.00	110,000
				171,400
<u>10. Plumbing Systems</u>				
Sanitary fixtures and connection piping				
Waterclosets	12	EA	1,000.00	12,000
Lavatory basins	10	EA	900.00	9,000
Sinks	2	EA	850.00	1,700
Service sinks - allow	2	EA	1,200.00	2,400
Drinking fountains, handicap - allow	2	EA	2,750.00	5,500
Sanitary waste, vent and service piping				
Floor drains, 3" w/trap primer	10	EA	1,000.00	10,000
Hose bibbs, 3/4" w/vacuum breaker	1	EA	3,000.00	3,000
Fixture rough-in	24	EA	2,500.00	60,000
Condensate drainage	1	LS	10,000.00	10,000
Replace sewage ejector	1	LS	7,500.00	7,500
Water treatment, storage and circulation				
Gas-fired water heater	1	EA	3,000.00	3,000
Gas distribution	1	LS	15,000.00	15,000
Surface water drainage	29,930	SF	1.00	29,930
Trade demolition	29,930	SF	0.50	14,965
				183,995

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>11. Heating, Ventilation & Air Conditioning</u>				
<i>Option 1A: New watercooled chilled plant w/4 pipe fancoil system - w/o capacity for new addition</i>				
Heat generation and chilling				
Heating				
Replace existing steam boiler with new gas fired boiler, 750 mbh	1	EA	11,250.00	11,250
Cooling				
Replace existing water cooled chiller, 80 tons	1	EA	30,000.00	30,000
Replace existing cooling tower, 80 tons	1	EA	22,000.00	22,000
Chemical treatment	1	LS	7,500.00	7,500
Thermal storage and circulation pumps				
Air separators	1	LS	1,500.00	1,500
Expansion tanks	1	LS	1,500.00	1,500
Pumps				
Heated hot water	2	EA	2,000.00	4,000
Chilled water	2	EA	3,500.00	7,000
Condenser water	2	EA	3,000.00	6,000
Variable speed drive package	1	LS	15,000.00	15,000
Vibration isolation	1	LS	6,000.00	6,000
Piping, fittings, valves and insulation				
Including heated hot water, chilled water, valves and specialties, insulation	29,930	SF	5.50	164,615
Air handling equipment				
Fancoils units, including sound insulated casing, filters, hc, cc, sf, and mixing box	80	TONS	1,200.00	96,000
Air distribution and return				
Galvanized steel ductwork, supply and return	25,000	LB	6.00	150,000
Flexible duct	750	LF	7.50	5,625
Dampers				
Volume	150	EA	45.00	6,732
Duct insulation	18,000	SF	2.00	36,000
Acoustical lining	2,000	SF	3.50	7,000
Diffusers, registers and grilles	29,930	SF	0.75	22,448

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Controls, instrumentation and balancing Replace pneumatic with DDC controls	29,930	SF	3.75	112,238
Testing and balancing	250	HR	100.00	25,000
Unit ventilation	29,930	SF	0.75	22,448
Trade demolition	29,930	SF	1.00	29,930
				789,785

12. Electrical Lighting, Power & Communication

Main service and distribution	29,930	SF	2.00	59,860
Machine and equipment power	29,930	SF	0.50	14,965
User convenience power	29,930	SF	2.75	82,308
Lighting				
Fixtures, including conduit and wire	29,930	SF	8.00	239,440
Switches, including conduit and cable	29,930	SF	0.50	14,965
Lighting and power specialties				
Grounding	1	LS	7,500.00	7,500
Lighting controls	1	LS	5,000.00	5,000
Telephone and communications systems				
Telephone/data outlets, conduit only	29,930	SF	2.00	59,860
Audio/visual, conduit only	1	LS	10,000.00	10,000
Alarm and security systems				
Fire alarm devices, including conduit and cable	29,930	SF	3.00	89,790
Security systems, conduit only	29,930	SF	0.50	14,965
Trade demolition	29,930	SF	1.00	29,930
				628,583

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
13. Fire Protection Systems				
Fire protection				
Automatic wet fire sprinklers - complete	29,930	SF	3.75	112,238
Attic fire sprinklers	9,700	SF	2.00	19,400
				131,638

14. Site Preparation & Building Demolition

Selective demolition				
Allowance for hazardous material abatement	29,930	SF	1.00	29,930
Sawcut and remove existing concrete slab for new foundations and elevator	2,140	SF	8.00	17,120
Demolish and remove existing exterior ramp/stair	1	LS	4,000.00	4,000
Remove plaster and concrete and expose existing beams and columns for collectors and ties to shear walls	1	LS	50,000.00	50,000
Cut existing slabs and shore for continuous shear walls and new elevator	1,248	LF	60.00	74,880
Protection of existing finishes	1	LS	60,000.00	60,000
Interior partitions	17,990	SF	4.00	71,960
Remove existing concrete vaults	1,848	SF	8.00	14,784
				322,674

15. Site Paving, Structures & Landscaping

No work anticipated

0

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
16. Utilities on Site				
Site utilities Including domestic/fire water, sewer, gas, electrical power and telecommunications	1	LS	125,000.00	125,000
<hr/>				125,000

COUNTY PROGRAM AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Basement Level	10,250		
First Floor	9,530		
Second Floor	9,780		
SUBTOTAL, Enclosed Area		<u>29,560</u>	
Covered area	740		
SUBTOTAL, Covered Area @ ½ Value		<u>370</u>	
TOTAL GROSS FLOOR AREA			<u>29,930</u>

Control Quantities

			Ratio to Gross Area
Functional Units	4	Mtg rms	0.134
Number of stories (x1,000)	3	EA	0.100
Gross Area	29,930	SF	1.000
Enclosed Area	29,560	SF	0.988
Covered Area	740	SF	0.025
Footprint Area	10,250	SF	0.342
Volume	461,080	CF	15.405
Basement Volume	0	CF	0.000
Gross Wall Area	25,000	SF	0.835
Retaining Wall Area	2,450	SF	0.082
Finished Wall Area	22,550	SF	0.753
Windows or Glazing Area (approximate)	20.00%	5,000 SF	0.167
Roof Area - Flat	10,250	SF	0.342
Roof Area - Sloping	0	SF	0.000
Roof Area - Total	10,250	SF	0.342
Roof Glazing Area	0	SF	0.000
Interior Partition Length	2,093	LF	0.070
Finished Area	29,930	SF	1.000
Elevators (x10,000)	2	EA	0.668
Plumbing Fixtures (x1,000)	28	EA	0.936

COUNTY PROGRAM COMPONENT SUMMARY

	Gross Area:	29,930 SF		
			\$/SF	\$x1,000
1. Foundations			11.23	336
2. Vertical Structure			23.87	714
3. Floor & Roof Structures			27.81	832
4. Exterior Cladding			3.92	117
5. Roofing, Waterproofing & Skylights			2.32	70
<i>Shell (1-5)</i>			69.15	2,070
6. Interior Partitions, Doors & Glazing			10.53	315
7. Floor, Wall & Ceiling Finishes			15.88	475
<i>Interiors (6-7)</i>			26.41	791
8. Function Equipment & Specialties			4.13	124
9. Stairs & Vertical Transportation			11.22	336
<i>Equipment & Vertical Transportation (8-9)</i>			15.35	459
10. Plumbing Systems			6.61	198
11. Heating, Ventilating & Air Conditioning			26.39	790
12. Electric Lighting, Power & Communications			23.25	696
13. Fire Protection Systems			4.40	132
<i>Mechanical & Electrical (10-13)</i>			60.65	1,815
<i>Total Building Construction (1-13)</i>			171.56	5,135
14. Site Preparation & Demolition			20.20	605
15. Site Paving, Structures & Landscaping			0.00	<i>Excluded</i>
16. Utilities on Site			4.18	125
<i>Total Site Construction (14-16)</i>			24.38	730
<i>TOTAL BUILDING & SITE (1-16)</i>			195.94	5,865
General Conditions	9.00%		17.64	528
Contractor's Overhead & Profit or Fee	4.00%		8.55	256
<i>PLANNED CONSTRUCTION COST</i>			<i>September 2003</i>	222.14
Contingency for Development of Design	15.00%		33.31	997
Escalation is excluded	0.00%		0.00	0
<i>RECOMMENDED BUDGET</i>			<i>September 2003</i>	255.45

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>1. Foundations</u>				
Footings for shearwalls				
Allow for 4' wide x 3' deep reinforced concrete including excavation, doweled at 1' o.c.e.w.	542	LF	375.00	203,250
Allow for 2' wide x 3' deep reinforced concrete including excavation, doweled at 1' o.c.e.w.	88	LF	300.00	26,400
Allowance to strengthen all remaining column footings not impacted by new shearwall footings	52	EA	1,800.00	93,600
Exterior stairs and ramp - <i>see Section 9</i>				
Elevator pit				
Pit for new elevator	1	LS	8,000.00	8,000
Allowance to expand existing pit	1	LS	5,000.00	5,000
				336,250

2. Vertical Structure

Columns				
Allowance to strengthen existing column to beam connections between basement/first floor & between first floor/second floor	144	EA	500.00	72,000
Allowance to strengthen existing columns for entire length, to underside of second floor (e.g. add 2 plates per column, skip welded)	1,872	LF	125.00	234,000
Allowance for new columns at new interior stairs	6	EA	4,000.00	24,000
Elevator hoistways	2	EA	5,000.00	10,000

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Fireproof exposed columns (surface area of steel)	10,000	SF	2.50	25,000
Concrete shear walls, 12" thick				
Basement Level	2,860	SF	30.00	85,800
First Floor	3,390	SF	30.00	101,700
Second Floor	1,860	SF	30.00	55,800
Attic Level	816	SF	30.00	24,480
Adhesive anchors to existing masonry at 2' o.c. and welded studs to existing steel beams	1,400	EA	35.00	49,000
"Backup system" to connect shear walls to existing masonry walls where non-contiguous - assume 50% of shear walls	4,463	SF	6.00	26,778
Concrete retaining walls at exterior stairs, 4' tall	33	LF	180.00	5,940
				714,498

3. Floor and Roof Structure

Suspended floors				
New steel beams to support existing at floor cut-outs, 2 floors	570	SF	30.00	17,100
New beams at new and modified elevator openings	2	LOC	5,000.00	10,000
Concrete work at new slab openings	6	LOC	1,500.00	9,000
Steel beams and metal deck/concrete fill at new interior ramp (substructure and ramp)	220	SF	100.00	22,000
Add new floor joists at 6' o.c. (W8's)	4,000	SF	20.00	80,000
Allowance to add new floor joists at 6' o.c. (W8's) or otherwise strengthen remainder of floor area	14,960	SF	20.00	299,200

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Close existing slab opening with new steel beams and concrete fill/metal deck	50	SF	100.00	5,000
Collector beam: TS 6x6 or MC12 bolted to shear walls and welded to existing beams	1,248	LF	250.00	312,000
Reinforce existing concrete diaphragm using shotcrete or TS 6x6 cross braces	536	SF	40.00	21,440
Fireproof exposed beams (surface area of steel)	15,000	SF	2.50	37,500
Allowance to fireproof exposed steel in attic (per s.f. floor area)	9,500	SF	2.00	19,000
				832,240

4. Exterior Cladding

Wall framing, furring, and insulation				
Infill existing opening at basement level	40	SF	100.00	4,000
Cut new opening for door at existing window	60	SF	100.00	6,000
Applied exterior finishes				
Stone to match existing at infill	40	SF	75.00	3,000
Allowance for power wash and minor repointing of existing stone facade	22,550	SF	1.00	22,550
Windows, glazing, and louvers				
Paint and minor repair to existing windows and grilles	93	EA	750.00	69,750
Exterior doors, frames, and hardware				
New entry doors, front	1	PR	8,000.00	8,000
Rear entry door, first floor	1	EA	2,000.00	2,000
New basement entry door	1	EA	2,000.00	2,000
				117,300

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>5. Roofing, Waterproofing & Skylights</u>				
Roofing				
New built-up roofing and flashing	10,250	SF	6.00	61,500
Allowance for new equipment mounts	1	LS	8,000.00	8,000
				69,500
<u>6. Interior Partitions, Doors & Glazing</u>				
Partitions				
New partitions: metal stud, insulation, gypsum wallboard both sides				
Basement Level	2,840	SF	8.50	24,140
First Floor	3,500	SF	8.50	29,750
Second Floor	6,300	SF	8.50	53,550
Furred walls: metal stud, insulation, gypsum wallboard one side				
Basement Level	726	SF	6.50	4,719
First Floor	3,220	SF	6.50	20,930
Second Floor	700	SF	6.50	4,550
Premium for rated walls	5,000	SF	4.00	20,000
Moveable partitions				
15' long, 14' tall	4	EA	10,000.00	40,000
Window walls and borrowed lights				
Allowance	200	SF	45.00	9,000
Interior doors, frames, and hardware				
Wood doors, metal frames				
Single leaf	43	EA	1,200.00	51,600
Double leaf	6	PR	2,000.00	12,000
Elevator smoke screens	6	EA	5,000.00	30,000
Roll-down doors	2	EA	7,500.00	15,000
				315,239

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>7. Floor, Wall & Ceiling Finishes</u>				
Floors				
Clean existing marble	2,700	SF	2.00	5,400
Clean and seal concrete	1,400	SF	1.50	2,100
Linoleum	3,600	SF	8.00	28,800
Carpet (including corridors)	6,200	SF	3.50	21,700
Wood	7,800	SF	12.00	93,600
Ceramic tile	1,000	SF	10.00	10,000
Walls				
Ceramic tile wainscot to 6'	1,320	SF	10.00	13,200
Paint all walls	76,500	SF	1.00	76,500
Allowance to clean and patch existing surfaces	40,000	SF	1.00	40,000
Ceilings				
Basement Level				
New painted gypsum wallboard and framing system in offices and all public areas	9,000	SF	8.00	72,000
First Floor				
New painted gypsum wallboard and framing system in public areas	6,000	SF	8.00	48,000
Allowance to patch existing vaulted ceilings (Assume not disturbed for structural work)	1	LS	10,000.00	10,000
Second Floor				
Allowance to patch existing ceilings	6,300	SF	3.00	18,900
New gypsum wallboard and framing	2,700	SF	8.00	21,600
Paint entire ceiling	9,000	SF	1.50	13,500
				475,300

8. Function Equipment & Specialties

Prefabricated compartments and accessories				
Toilet partitions	10	EA	1,000.00	10,000
Urinal screens	2	EA	350.00	700

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Toilet accessories	1	LS	4,000.00	4,000
Shelving and millwork				
Janitor shelf and mop rack	2	EA	500.00	1,000
Cabinets and countertops				
Vanity tops	44	LF	110.00	4,840
Laminate tops in catering kitchens	128	LF	110.00	14,080
Reception desk, allowance	1	LS	20,000.00	20,000
Chalkboards, ensignia, and graphics				
Wayfinding signage	29,930	SF	0.50	14,965
Markerboard allowance	1	LS	3,000.00	3,000
Light control and vision equipment				
Mecco shades	5,000	SF	8.00	40,000
Projection screen allowance	1	LS	7,500.00	7,500
Amenities and convenience items				
Fire extinguishers	9	EA	250.00	2,250
Entrance mats	4	EA	300.00	1,200
				123,535

9. Stairs & Vertical Transportation

Steps and ramps				
Concrete steps into Basement Level at exterior	90	SF	60.00	5,400
Pipe rail	40	LF	75.00	3,000
New exterior stairs and ramp to First Floor	550	SF	40.00	22,000
Railings	170	LF	150.00	25,500
Stairs				
Steel stringers, metal pans, and concrete fill, including railings	4	FLT	15,000.00	60,000
Elevators				
New 4-stop elevators	2	EA	110,000.00	220,000
				335,900

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>10. Plumbing Systems</u>				
Sanitary fixtures and connection piping	28	FX)		
Waterclosets	12	EA	1,000.00	12,000
Urinals	4	EA	950.00	3,800
Lavatory basins	10	EA	900.00	9,000
Sinks	2	EA	850.00	1,700
Service sinks - allow	2	EA	1,200.00	2,400
Drinking fountains, handicap - allow	2	EA	2,750.00	5,500
Sanitary waste, vent and service piping				
Floor drains, 3" w/trap primer	10	EA	1,000.00	10,000
Hose bibbs, 3/4" w/vacuum breaker	1	EA	3,000.00	3,000
Fixture rough-in	28	EA	2,500.00	70,000
Condensate drainage	1	LS	10,000.00	10,000
Replace sewage ejector	1	LS	7,500.00	7,500
Water treatment, storage and circulation				
Gas-fired water heater	1	EA	3,000.00	3,000
Gas distribution	1	LS	15,000.00	15,000
Surface water drainage	29,930	SF	1.00	29,930
Trade demolition	29,930	SF	0.50	14,965
				197,795

11. Heating, Ventilation & Air Conditioning

Option 2A: New watercooled chilled plant w/4 pipe fancoil system - w/o capacity for new addition

Heat generation and chilling				
Heating				
Replace existing steam boiler with new gas fired boiler, 750 mbh	1	EA	11,250.00	11,250
Cooling				
Replace existing water cooled chiller, 80 tons	1	EA	30,000.00	30,000

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Replace existing cooling tower, 80 tons	1	EA	22,000.00	22,000
Chemical treatment	1	LS	7,500.00	7,500
Thermal storage and circulation pumps				
Air separators	1	LS	1,500.00	1,500
Expansion tanks	1	LS	1,500.00	1,500
Pumps				
Heated hot water	2	EA	2,000.00	4,000
Chilled water	2	EA	3,500.00	7,000
Condenser water	2	EA	3,000.00	6,000
Variable speed drive package	1	LS	15,000.00	15,000
Vibration isolation	1	LS	6,000.00	6,000
Piping, fittings, valves and insulation				
Including heated hot water, chilled water, valves and specialties, insulation	29,930	SF	5.50	164,615
Air handling equipment				
Fancoils units, including sound insulated casing, filters, hc, cc, sf, and mixing box	80	TONS	1,200.00	96,000
Air distribution and return				
Galvanized steel ductwork, supply and return	25,000	LB	6.00	150,000
Flexible duct	750	LF	7.50	5,625
Dampers				
Volume	150	EA	45.00	6,732
Duct insulation	18,000	SF	2.00	36,000
Acoustical lining	2,000	SF	3.50	7,000
Diffusers, registers and grilles	29,930	SF	0.75	22,448
Controls, instrumentation and balancing				
Replace pneumatic with DDC controls	29,930	SF	3.75	112,238
Testing and balancing	250	HR	100.00	25,000
Unit ventilation	29,930	SF	0.75	22,448
Trade demolition	29,930	SF	1.00	29,930
				789,785

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>12. Electrical Lighting, Power & Communication</u>				
Main service and distribution	29,930	SF	2.00	59,860
Machine and equipment power	29,930	SF	0.75	22,448
User convenience power	29,930	SF	3.00	89,790
Lighting				
Fixtures, including conduit and wire	29,930	SF	9.00	269,370
Switches, including conduit and cable	29,930	SF	0.50	14,965
Lighting and power specialties				
Grounding	1	LS	7,500.00	7,500
Lighting controls	1	LS	5,000.00	5,000
Telephone and communications systems				
Telephone/data outlets, conduit only	29,930	SF	2.75	82,308
Audio/visual, conduit only	1	LS	10,000.00	10,000
Alarm and security systems				
Fire alarm devices, including conduit and cable	29,930	SF	3.00	89,790
Security systems, conduit only	29,930	SF	0.50	14,965
Trade demolition	29,930	SF	1.00	29,930
				695,925
<u>13. Fire Protection Systems</u>				
Fire protection				
Automatic wet fire sprinklers - complete	29,930	SF	3.75	112,238
Attic fire sprinklers	9,700	SF	2.00	19,400
				131,638

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>14. Site Preparation & Building Demolition</u>				
Selective demolition				
Allowance for hazardous material abatement	29,930	SF	1.00	29,930
Demolish and remove existing exterior ramp/stair	1	LS	4,000.00	4,000
Sawcut and remove existing concrete slab for new foundations and elevator	2,424	SF	8.00	19,392
Remove plaster and concrete and expose existing beams for seismic strengthening	15,000	SF	5.00	75,000
Remove concrete and expose existing columns for seismic strengthening	72	EA	2,500.00	180,000
Cut existing slabs and shore for continuous shear walls, elevators, and new stairs	1,660	LF	60.00	99,600
Protection of existing finishes	1	LS	100,000.00	100,000
Interior partitions	21,540	SF	4.00	86,160
Remove existing concrete vaults	1,320	SF	8.00	10,560
				604,642

15. Site Paving, Structures & Landscaping

No work anticipated

0

<i>Item Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
16. Utilities on Site				
Site utilities Including domestic/fire water, sewer, gas, electrical power and telecommunications	1	LS	125,000.00	125,000
				<hr/> 125,000

	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>Option 1A-Alt: Heating/Cooling equipment sized w/ capacity for new addition</u>				
*Boiler and Watercooled Chiller/Tower upsized to accommodate new addition building				
*New Addition 4-pipe fancoil units is excluded and will be priced with the new addition cost estimate				
Deduct				
Heat generation and chilling				
Heating				
Replace existing steam boiler, 540 mbh	(1)	EA	10,000.00	(10,000)
Cooling				
Replace existing water cooled chiller, 80 tons	(1)	EA	30,000.00	(30,000)
Replace existing cooling tower, 80 tons	(1)	EA	22,000.00	(22,000)
Thermal storage and circulation pumps				
Pumps				
Heated hot water	(2)	EA	2,000.00	(4,000)
Chilled water	(2)	EA	3,500.00	(7,000)
Condenser water	(2)	EA	3,000.00	(6,000)
Variable speed drive package	(1)	LS	15,000.00	(15,000)
Add				
Heat generation and chilling				
Heating				
Replace existing steam boiler, 1,000 mbh	1	EA	18,500.00	18,500
Cooling				
Replace existing water cooled chiller, 120 tons	1	EA	45,000.00	45,000
Replace existing cooling tower, 120 tons	1	EA	33,000.00	33,000
Thermal storage and circulation pumps				
Pumps				
Heated hot water	2	EA	3,000.00	6,000
Chilled water	2	EA	4,000.00	8,000
Condenser water	2	EA	3,500.00	7,000
Variable speed drive package	1	LS	16,000.00	16,000
Markups	24.70	%	39,500.00	9,755
				49,255

	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>Option 1B-Alt: Boiler sized for new addition</u>				
*Boiler upsized to accommodate new addition building				
*Packaged DX Rooftop w/Terminal VAV system				
*New Addition Packaged DX Rooftop AHU is excluded and will be priced with the new addition cost estimate				
Deduct				
Heat generation and chilling				
Heating				
Replace existing steam boiler, 540 mbh	(1)	EA	10,000.00	(10,000)
Thermal storage and circulation pumps				
Pumps				
Heated hot water	(2)	EA	2,000.00	(4,000)
Variable speed drive package	(1)	LS	5,000.00	(5,000)
Add				
Heat generation and chilling				
Heating				
Replace existing steam boiler, 1,000 mbh	1	EA	18,500.00	18,500
Thermal storage and circulation pumps				
Pumps				
Heated hot water	2	EA	3,000.00	6,000
Variable speed drive package	1	LS	6,000.00	6,000
Markups	24.70	%	11,500.00	2,840
				14,340

Option 1B/2B: Packaged DX Rooftop AHU and Terminal Units

For County or Civil Court use w/o capacity for new addition

Deduct

Heating, Ventilation & Air Conditioning

Option 1a or 2a	(1)	LS	789,784.50	(789,785)
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	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Add				
<i>Heating, Ventilation & Air Conditioning</i>				
Heat generation and chilling				
Heating				
Replace existing steam boiler with new gas fired boiler, 750 mbh	1	EA	11,250.00	11,250
Chemical treatment	1	LS	2,000.00	2,000
Thermal storage and circulation pumps				
Air separators	1	LS	1,500.00	1,500
Expansion tanks	1	LS	1,500.00	1,500
Pumps				
Heated hot water	2	EA	2,000.00	4,000
Variable speed drive package	1	LS	5,000.00	5,000
Vibration isolation	1	LS	6,000.00	6,000
Piping, fittings, valves and insulation				
Including heated hot water, chilled water, valves and specialties, insulation	29,930	SF	2.50	74,825
Air handling equipment				
Packaged DX air-cooled condenser rooftop VAV air handling unit, including sf,rf,cc,hc,filters, vfds, sound attenuation	30,000	CFM	5.00	150,000
Terminal boxes – variable volume w/reheat 1/800SF	37	EA	850.00	31,790
Air distribution and return				
Galvanized steel ductwork, supply and return	39,000	LB	6.00	234,000
Flexible duct	1,000	LF	7.50	7,500
Dampers				
Volume	200	EA	45.00	9,000
Combination firesmoke dampers	1	LS	15,000.00	15,000
Duct insulation	25,000	SF	2.00	50,000
Acoustical lining	1,000	SF	3.50	3,500
Diffusers, registers and grilles	29,930	SF	1.00	29,930
Controls, instrumentation and balancing				
Replace pneumatic with DDC controls	29,930	SF	4.00	119,720
Testing and balancing	250	HR	100.00	25,000

	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
Unit ventilation	29,930	SF	0.75	22,448
Trade demolition	29,930	SF	1.00	29,930
Markups	30.36	%	44,108.00	13,393
				57,501

Alternate 4: Allowances for Additional Structural Upgrades

Brace remaining masonry partitions Presumed masonry partitions not attached to proposed new shear walls	400	LF	100.00	40,000
Exterior stone cladding support and anchorage to structure Steel pins through existing stone, 4' o.c.	22,550	SF	5.00	112,750
Steel strongback system at interior side of exterior wall	25,000	SF	10.00	250,000
Remove and replace wall finishes at exterior wall	25,000	SF	8.00	200,000
Additional support of colonnade and other large stone pieces	1	LS	100,000.00	100,000
Brace existing parapets Steel strut system anchored through roof	500	LF	125.00	62,500
Reinforce grand stairs Reinforce stringer connections	1	LS	10,000.00	10,000
Allowance to remove and replace portion of vaulted ceiling for access	500	SF	100.00	50,000
Markups	30.36	%	825,250.00	250,579
				1,075,829

Appendix 1: Code Review

The County of Solano Plan Check Engineer and Senior Building Inspector reviewed the court and county concept plans and preliminary code analysis prepared for this study and responded to questions regarding the structural criteria. Their preliminary interpretations regarding the structural criteria were provided in the 5/15/03 memo titled Response To Courthouse Feasibility Study, which is included on the following pages. These preliminary interpretations were used in preparation of this report.



Department of
Environmental Management
 470 CHADBOURNE ROAD
 FAIRFIELD, CALIFORNIA 94534

Building and Safety Division
 (707) 421-6765
 (707) 421-4805 fax

Chuck Pratt
 Building Official

**RESPONSE TO COURTHOUSE FEASIBILITY STUDY
 (Based on Mark Cavagnero Associates Transmittal of 5/7/03)**

From: David Doyle Solano County Plan Check Engineer
 David Brandeberry Solano County Senior Building Inspector

To: Laura Blake Mark Cavagnero Associates
 Kelly Cobeen Cobeen & Associates

Date: 05/15/2003

<u>Item</u>	<u>Comment</u>
Code Analysis	The allowable floor area for Type III-N construction A-3 occupancy from CBC Table 5-B would be 9100 s.f. versus 13,500 s.f. used for allowable area calculations. This difference affects the meeting center use #1 option. This table also limits the number of stories for this occupancy group / construction type combination to 1 story versus the proposed 2 story scenario shown. This issue must be addressed in any further studies for the meeting center option.
Question A	Converting the entire first floor occupancy category from B (offices) to A-3 (assembly areas) would constitute a more hazardous life safety risk since this would significantly increase the potential occupant load on the building at any given time. This is especially true since the first floor has likely never been occupied in this manner. Additionally, the fact that the minimum fire rating for Type III A-3 occupancy from Table 5-B increases to 1 hour from 0 when the number of stories goes from 1 to 2 reflects an increase in risk. Based on this determination, a complete lateral and partial vertical upgrades become mandatory. This building does in fact meet the criteria for CHBC applicability specified its preface. Therefore, the 75% base shear reduction from the UCBC is reasonable to assume for seismic design.
Question B	It appears the applicability of the UCBC is limited to the reduction to 75% of the calculated base shear. Beyond this, the UCBC does not

appear to offer specific recommendations for buildings with steel frames / infill walls. Further review / discussion of FEMA documents 310 and 356 as they relate to the actual courthouse construction are required to determine their applicability.

- Question C CBC Table 16-A does not appear to allow for any live load reduction for assembly areas without fixed seating from 100 psf to 50 psf. Perhaps if the meeting center tables were fixed reduction of the live load might be an option. Posting an occupancy limit is not a reasonable option to limit live load since this may only be monitored periodically by the fire marshal. Since overloading the floor could pose an imminent risk, the floors without fixed seating will be required to support 100 psf. Is there any indication as to what the floors are capable of supporting as is?
- Question D The courthouse option does not appear to pose a more hazardous condition. Therefore, any vertical / lateral upgrades would be voluntary.
- Question E Refer to Question A and B comments for discussion on the applicability of the UCBC / Fema 310 & 356.
- Question F The current live load assumptions would be considered adequate since this building meets the criteria for historical considerations.

Appendix 2: County Cost Estimate Review

The County of Solano prepared a cost analysis including an alternative budget for a modified county concept for the Old Solano courthouse. That analysis is included on the following pages. The analysis shows that if an alternative county concept for reuse of the Old Solano courthouse could be developed that the building officials determine is not a change in use, then the county and court renovation scopes and budgets would be similar.



**SOLANO COUNTY
GENERAL SERVICES
DIVISION OF ARCHITECTURAL SERVICES**

MEMORANDUM

Project:	Old County Courthouse – adaptive reuse	Date:	November 3, 2003
		A/E Project Number:	1271 P57
To:	Tak Kojima	From:	Steve Fust
	Kanon Artiche, Rona Rothenberg,		
CC	Laura Blake	Re:	Comments on Estimate

Per our conference call I wanted to confirm several issues related to our review of the cost associated with the Old Courthouse adaptive reuse project. In order to clarify the cost I have attached two estimates:

- 1) The 1st estimate is the County’s review of the Consultants cost estimate. Generally we feel that your estimate is reasonable for a conceptual level plan estimate – however, please note that we have added soft cost and contingency to more accurately reflect the final cost of the project. Based on these changes the cost for remodeling the building to a Courtroom facility will be \$8,179,000 – the Cost for remodeling the building to a conference center will be \$10,826,000
- 2) The 2nd estimate looks at the cost for the Conference center based on the County modifying the design assumptions and occupancy of the final building use to reduce the structural upgrade and design changes required. The following adjustments were made in the modified County plan:
 - a. Structural upgrade is similar for both uses - delete floor strengthening requirement at the Conference Center Plan.
 - b. Delete new elevator adjacent to the catering pantry - upgrade/enlarge existing elevator only
 - c. Delete new stairway at north east corner of the building (need to verify that building maintains exiting requirements)
 - d. Revised wood flooring to carpet
 - e. Revised roll down screens to regular doors
 - f. Maintain 15% contingency for both projects

Based on the modified County Conference plan, the cost for the Courts plan is \$8,487,000 (Increased contingency to 15%) and the cost for the County Conference plan is \$8,551,000

The costs associated with this conceptual review are preliminary in nature but give an order of magnitude as to the potential final cost. We believe that it is important to note that the potential cost for either facility is similar if the design assumptions and final occupancy loads are similar.

Attachments

Signed by:

Copies: _____ _____ _____ _____ _____ _____ File

Old Solano Courthouse Feasibility Study

October 29, 2003

Based Program as Designed	Court Program	County Program	Difference	% Difference from Court Program
Foundations	\$214	\$336	\$94 K to strengthen column footings	57%
Vertical Structure	\$363	\$714	\$306 K to strengthen columns to support floors	97%
Floor and roof structures	\$381	\$832	main difference is floor strengthening	118%
Exterior Cladding	\$144	\$117	Courts add new stone cladding on new ramp	-19%
Roofing/waterprg/skylights	\$70	\$70		0%
Interior Partitions / doors / glazing	\$238	\$315	Adds roll down screens into gallery areas - smoke screens / walls	32%
Floor / Wall / Ceiling finishes	\$387	\$475	adds wood flooring (\$56,000) and more finishes due to more demo work	23%
Function Equipment / Specialties	\$259	\$124	Courtroom millwork and CCTV	-52%
Stairs / Vertical Transportation	\$171	\$336	County plan adds 4 fits of stairs and 2 elevators.	96%
Fire Protection	\$132	\$132		0%
Plumbing	\$184	\$198	Fixture count increased - but greatly simplified	8%
HVAC	\$790	\$790		0%
Electrical	\$629	\$696	Added \$1.00 SF for Lighting and \$0.75 SF for telephones	11%
Site work / Demolition	\$323	\$605	Demo / Protection related to structural work	87%
Site Paving / Landscaping	\$0	\$0		
Utilities	\$125	\$125		0%
Sub Total	\$4,410	\$5,865		33%
General Conditions	9% \$397	9% \$528		33%
GC cost per month	33 k per month	29 k per month		
Overhead and fee	4% \$192	4% \$256		33%
Contingency	10% \$500	15% \$997		99%
Subtotal	\$5,499	\$7,646		39%

Old Solano Courthouse Feasibility Study

October 29, 2003

		Court Program	County Program	Difference	% Difference from Court Program
Based Program as Designed					
Add recommended HVAC upgrade (includes markups and contingency)		\$58	\$58		
Add recommended Structural upgrade (includes markups and contingency)		\$1,076	\$1,076		
Subtotal Hard Cost		\$6,633	\$8,780		
Permits and Inspections	2%	\$133	\$176		
Bonds and Insurance	2%	\$135	\$179		
Design Fees	12%	\$828	\$1,096		
Internal/Const. Management Fee	4%	\$309	\$409		
Soft Cost Contingency	10%	\$141	\$186		
Subtotal Soft Cost		\$1,546	\$2,046		
Recommended Budget		\$8,179	\$10,826		

Old Solano Courthouse Feasibility Study

October 29, 2003

Based Program as Designed	Court Program	County Program	Difference	% Difference from Court Program
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For estimating purposes - assume the following modifications to the County Program:

- Structural upgrade is similar for both uses - delete floor strengthening requirement.
- Delete new elevator adjacent to the catering pantry - upgrade/enlarge existing elevator only
- Delete new stairway at north east corner of the building (need to verify that building maintains exiting requirements)
- Revised wood flooring to carpet
- Revised roll down screens to regular doors
- Revised Plumbing and Electrical pricing
- Maintain 15% contingency for both projects

Modified County Program	Court Program	County Program	Difference	% Difference from Court Program
Foundations	\$214	\$234		9%
Vertical Structure	\$363	\$364		0%
Floor and roof structures	\$381	\$395		4%
Exterior Cladding	\$144	\$117		-19%
Roofing/waterprg/skylights	\$70	\$70		0%
Interior Partitions / doors / glazing	\$238	\$274		15%
Floor / Wall / Ceiling finishes	\$387	\$419		8%
Function Equipment / Specialties	\$259	\$124		-52%
Stairs / Vertical Transportation	\$171	\$166		-3%
Fire Protection	\$132	\$132		0%
Plumbing	\$184	\$184	Fixture count increased - but greatly simplified	0%
HVAC	\$790	\$790		0%
Electrical	\$629	\$696		11%
Site work / Demolition	\$323	\$360	Demo / Protection related to structural work	11%
Site Paving / Landscaping	\$0	\$0		
Utilities	\$125	\$125		0%

Old Solano Courthouse Feasibility Study

October 29, 2003

Based Program as Designed		Court Program		County Program	Difference	% Difference from Court Program
Sub Total		\$4,410		\$4,450		1%
General Conditions	9%	\$397	9%	\$401		1%
GC cost per month - 12 month schedule for both projects		33 k per month		33 k per month		
Overhead and fee	4%	\$192	4%	\$194		1%
Contingency	15%	\$750	15%	\$757		1%
Subtotal		\$5,749		\$5,801		1%
Add recommended HVAC upgrade (includes markups and contingency)		\$58		\$58		
Add recommended Structural upgrade (includes markups and contingency)		\$1,076		\$1,076		
Subtotal Hard Cost		\$6,883		\$6,935		
Permits and Inspections	2%	\$138		\$139		
Bonds and Insurance	2%	\$140		\$141		
Design Fees	12%	\$859		\$866		
Internal/Const. Management Fee	4%	\$321		\$323		
Soft Cost Contingency	10%	\$146		\$147		
Subtotal Soft Cost		\$1,604		\$1,616		
Recommended Budget		\$8,487		\$8,551		