

# Memorandum

To: Mr. Ramon J. Hirsig  
Executive Director

Date: October 14, 2004

From:   
David J. Gau, Deputy Director  
Property and Special Taxes Department

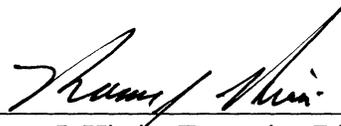
Subject: *Assessors' Handbook Section 531, Residential Building Costs  
(November 4, 2004 Administrative Consent Agenda)*

I am requesting that Assessors' Handbook Section 531, *Residential Building Costs*, be approved for publication. Revenue and Taxation Code Section 401.5 requires the Board to issue to county assessors data relating to costs of property to promote uniformity in appraisal practices and in assessed values throughout the state. Pursuant to that mandate, staff developed the January 2005 version of AH 531 that contains current cost data and locale adjustment factors for residential homes, manufactured homes, and mountain residences.

Please place this item on the Board's November 4, 2004 Administrative Consent Calendar for approval.

DJG:sk  
Attachment

cc: Ms. Deborah Pellegrini

Approved:   
Ramon J. Hirsig, Executive Director

BOARD APPROVED  
at the \_\_\_\_\_ Board Meeting

\_\_\_\_\_  
Deborah Pellegrini, Chief  
Board Proceedings

ASSESSORS' HANDBOOK  
SECTION 531

RESIDENTIAL BUILDING COSTS

JANUARY 2005

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CALIFORNIA STATE BOARD OF EQUALIZATION

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RAMON J. HIRSIG, EXECUTIVE DIRECTOR



# FOREWORD

This edition of Assessors' Handbook Section 531, *Residential Building Costs*, represents basic building costs to be utilized as of January 1, 2005.

There are increased costs throughout the cities and counties for permits and fees to construct buildings. Because of variation in charges, the appraiser must research and analyze the charges for the permits and fees. These costs include higher building permit fees, water and sewer connections, environmental studies, handicap access requirements, expanded engineering and architectural costs, etc.

The pages are printed in loose-leaf form to allow for insertion of revisions by section and page.

General instructions and pertinent information concerning the use of this handbook are contained in the *Introduction* section. Specific instructions and comments applicable to each building type will be found in the introductory pages of the section of the handbook devoted to that particular structure type.

Although diligent efforts have been made to supply accurate and reliable information, it is important to temper this data with local costs, since construction costs may vary both within and among counties.

This revision was prepared by Assessment Policy and Standards Division staff under the direction of the Property and Special Taxes Department.

David J. Gau  
Deputy Director  
Property and Special Taxes Department  
State Board of Equalization  
January 2005

# AH 531.10: INTRODUCTION

## BASIS OF COST

Costs in this handbook are based upon the cost to build on a level site in Sacramento as of the date in the lower right-hand corner of each page. They include, except for unusually high fees and permits required by governmental agencies, all necessary costs that must be incurred in placing the building or component in the hands of the ultimate consumer, including the following:

1. Excavation for foundations, piers, and other structural foundation components, considering a level site
2. Materials
3. Labor
4. Architectural fees
5. Engineering fees
6. Supervision
7. Normal permits, etc.
8. Normal utility hook-ups
9. Overhead and profit
10. Contingencies
11. Carrying charges during construction
  - Taxes
  - Interest
  - Insurance
12. Legal expenses
13. Typical sales commissions or costs and transfer fees
14. Entrepreneurial profit

Costs are in the form of square foot cost tables for basic buildings and additive or in-place costs for optional or extra components that might differ from building to building. Building components included in basic square foot costs are:

1. Foundations as required for normal soil conditions
2. Floor, wall, and roof structures
3. Interior floor, wall, and ceiling finishes
4. Exterior wall finish and roof cover
5. Interior partitions
6. Cabinet work, doors, windows, trim, etc.
7. Electrical wiring and fixtures
8. Rough and finish plumbing as described in applicable building specifications
9. Built-in appliances as described in applicable specifications

The cost of these items should be added to the basic building costs to arrive at total improvement costs:

1. Heating and cooling systems
2. Fireplaces
3. Plumbing fixtures and built-in appliances not included in basic building costs
4. Basements
5. Porches and patios
6. Garages or carports
7. Yard improvements, i.e., fences, curbs, paving, etc.
8. Site specific extraordinary permit fees
9. Extra utility hook-ups (e.g., wells, septic)
10. Driveways, walkways
11. Landscaping

### **STANDARD CLASSIFICATION SYSTEM**

The Standard Classification System is a method of estimating basic building costs by referring to square foot cost tables. Basic building costs are then augmented by in-place or square foot costs of optional or extra components. Components included in the basic square foot costs vary with different building types.

In applying the square foot method of cost estimating, a square foot cost is assigned to the building being appraised on the basis of comparison with new buildings with known costs. The premise is that the subject building would have the same square foot cost as a similar new building.

A difficulty in applying this method arises in finding new buildings, with known costs for comparison, that are similar to the building to be appraised. Few buildings are exactly alike, and therefore few have the same square foot cost. A further complication is the matter of deciding which known costs are representative or typical replacement costs.

The Standard Classification System is a means of estimating square foot costs by systematically comparing the subject structure with structures whose costs are known. Buildings are classified according to variations in physical characteristics that cause square foot cost differences. The classification of a building then serves as a reference in finding a proper square foot cost from tables catalogued according to this system.

### **COST VARIABLES**

The physical characteristics used as variables in the standard classification system are:

- Design type
- Construction type
- Quality class
- Shape class
- Area class

Descriptive words, letters, and numbers are used to designate a particular type or class for each of the five cost characteristics. They are assigned on the basis of standards or specifications set up in the Standard Classification System. This means that any one building is assigned an overall classification and is identified by designations for each of these cost variables. Here is an example.

A building is classified as a single-family residence, D6A, with 1,450 square feet. "Single-family residence" refers to its design type; "D" to its construction type; "6" to its relative level of quality or quality class; "A" to its shape; and "1,450" is its square foot size or area class. All buildings that have this classification will have approximately the same cost. To know the cost of one is to know the cost of all.

### **DESIGN TYPES**

Buildings are first classified on the basis of the use for which they were designed. Square foot costs of buildings may vary considerably for different design types. Two buildings may be alike in area, shape, quality, and type of construction but have different square foot costs because one has the design-type features of a multiple-family residence and the other those of a single-family residence.

This handbook contains square foot costs for these design types:

- Conventional single-family residences
- Modern single-family residences
- Mountain residences
- Multiple-family residences
- Manufactured housing

## **CONSTRUCTION TYPE**

Construction type refers to the structural characteristics of a building. The letters A, B, C, D, and S are used to designate five different structural types recognized by the building trades. These types may be identified by the use of the following descriptions.

### **Class A Construction Type**

*Class A* buildings have structural steel frames which are fireproofed by encasing them in concrete or by spraying them with fireproofing material. Floor and roof structures are built of reinforced concrete. Walls are filler or curtain type and may be built of brick, concrete, aluminum, glass, or any other noncombustible material. Multiple-story office or hotel buildings are typical Class A buildings.

### **Class B Construction Type**

*Class B* buildings have a framework built of reinforced concrete columns and beams. As in Class A buildings, the floor and roof structures are built of reinforced concrete and the walls are built of noncombustible materials. Typical Class B buildings are multiple-story office buildings, hotels, and stores.

### **Class C Construction Type**

*Class C* buildings have masonry-type exterior walls. Floor structures may be built of wood frame or poured concrete. Roof structures are wood frame. The walls may be either a continuous bearing wall system or a pilaster and bond beam frame with a masonry filler or curtain wall. The masonry may be brick, tile, stone, or concrete, either poured in place or tilt-up. Interior partitions are usually wood frame. Class C buildings are usually restricted in height. They are used generally as stores, supermarkets, garages, and warehouses, and sometimes as offices or residences. Structural members may be wood or steel trusses, steel girders, or laminated wood beams.

### **Class D Construction Type**

*Class D* buildings have wood-frame construction such as that generally encountered in residences. The frame is usually made of two-by-four vertical studs, spaced about sixteen inches apart, with horizontal top and bottom plates. The exterior finish or skin may be wood siding, shingle, stucco, masonry veneer, or sheet metal. Class D construction seldom exceeds three stories.

**Inyo County**

- National Forest Zone All areas within the Inyo National Forest.
- Bishop/Independence Zone All areas outside the Inyo National Forest.

**Kern County**

- Western Zone All areas west of a line following the western boundary of the Sequoia National Park in the northern portion of the county to the intersection of the Kern River, then continuing in a southerly direction east of the towns of Edison, Di Georgio, and Arvin to a point on the Ventura County border west of the town of Lebec.
- Sequoia National Forest Zone All areas within and surrounded by the Sequoia National Forest, including the towns of Lake Isabella, Bodfish, Wooford Heights, Kernville, Onyx, Weldon, and Havilah.
- Middle Zone All areas between the eastern boundary of the western zone and the Los Angeles Aqueduct, excluding the Sequoia zone.
- Eastern Zone All areas east of the Los Angeles Aqueduct.

**Los Angeles County**

- Western Zone All areas west of the San Bernardino National Forest boundary line.
- Mountain Desert Zone All areas east of the San Bernardino National Forest boundary line.

**Madera County**

- Western Zone All areas west of the western boundary of the Sierra National Forest.
- Middle Zone From the western boundary of the Sierra National Forest to the 5,000-foot elevation line.
- Eastern Zone From the 5,000-foot elevation line to the eastern boundary of the county.

**Mariposa County**

- Western Zone All areas west of the western border of the Stanislaus National Forest.
- Middle Zone From the western boundary of the Stanislaus National Forest to the 5,000-foot elevation line.

Eastern Zone From the 5,000-foot elevation line to the eastern boundary of the county.

### **Mono County**

National Forest Zone All areas within the Toiyabe and Inyo National Forests.

Bridgeport Zone All areas outside the national forest areas.

Mammoth Lakes Zone To include Mammoth Lakes, June Lake Loop, and Lake Crowley areas.

### **Nevada County**

Western Zone All areas west of the western boundary of the Tahoe National Forest.

Western Middle Zone From the western boundary of the Tahoe National Forest to the 5,000-foot elevation level.

Eastern Middle Zone From the 5,000-foot elevation level to the summit of the Sierra Mountains.

Eastern Zone From the summit of the Sierra Mountains to the Nevada border.

### **Placer County**

Western Zone All areas west of Highway 49 and excluding all towns on Highway 49.

Western Middle Zone From Highway 49 east to the Tahoe National Forest boundary and including the town of Auburn.

Eastern Middle Zone From the western boundary of the Tahoe National Forest to the summit of the Sierra Nevada Mountains.

Eastern Zone From the summit of the Sierra Mountains to the Nevada border.

### **Riverside County**

Western Zone All areas west of San Gorgonio Pass and the western border of the San Bernardino National Forest, including the towns of Beaumont and Banning.

Eastern Zone All areas east of San Gorgonio Pass and the western boundary of the San Bernardino National Forest.

### **San Bernardino County**

- San Bernardino Zone All areas west of the San Bernardino National Forest boundary line.
- Mountain Desert Zone All areas east of the San Bernardino National Forest boundary line.

### **San Diego County**

- Western Zone All areas west of the western boundary of the Cleveland National Forest.
- Eastern Zone All areas east of the western boundary of the Cleveland National Forest.

### **Santa Barbara County**

- Northern Zone All areas north of the Santa Ynez River.
- Southern Zone All areas south of the Santa Ynez River.

### **Sierra County**

- Western Zone All areas west of the 5,000-foot elevation line.
- Middle Zone From the 5,000-foot elevation line to the summit of the Sierra Mountains.
- Eastern Zone From the summit of the Sierra Mountains to the Nevada border.

### **Tulare County**

- Western Zone All areas west of western boundary of the Sequoia National Forest.
- Middle Zone From the western boundary of the Sequoia National Forest to the 5,000-foot elevation line.
- Eastern Zone From the 5,000-foot elevation line to the eastern boundary of the county.

### **Tuolumne County**

- Western Zone All areas west of the western boundary of the Stanislaus National Forest.
- Middle Zone From the western boundary of the Stanislaus National Forest to the 5,000-foot elevation line.

Eastern Zone From the 5,000-foot elevation line to the eastern boundary of the county.

**Yuba County**

Western Zone All areas west of the western boundary of the Plumas National Forest.

Eastern Zone All areas east of the eastern boundary of the Plumas National Forest.

Factors to adjust 1-1-2005 residential costs  
to all locations in the State of California

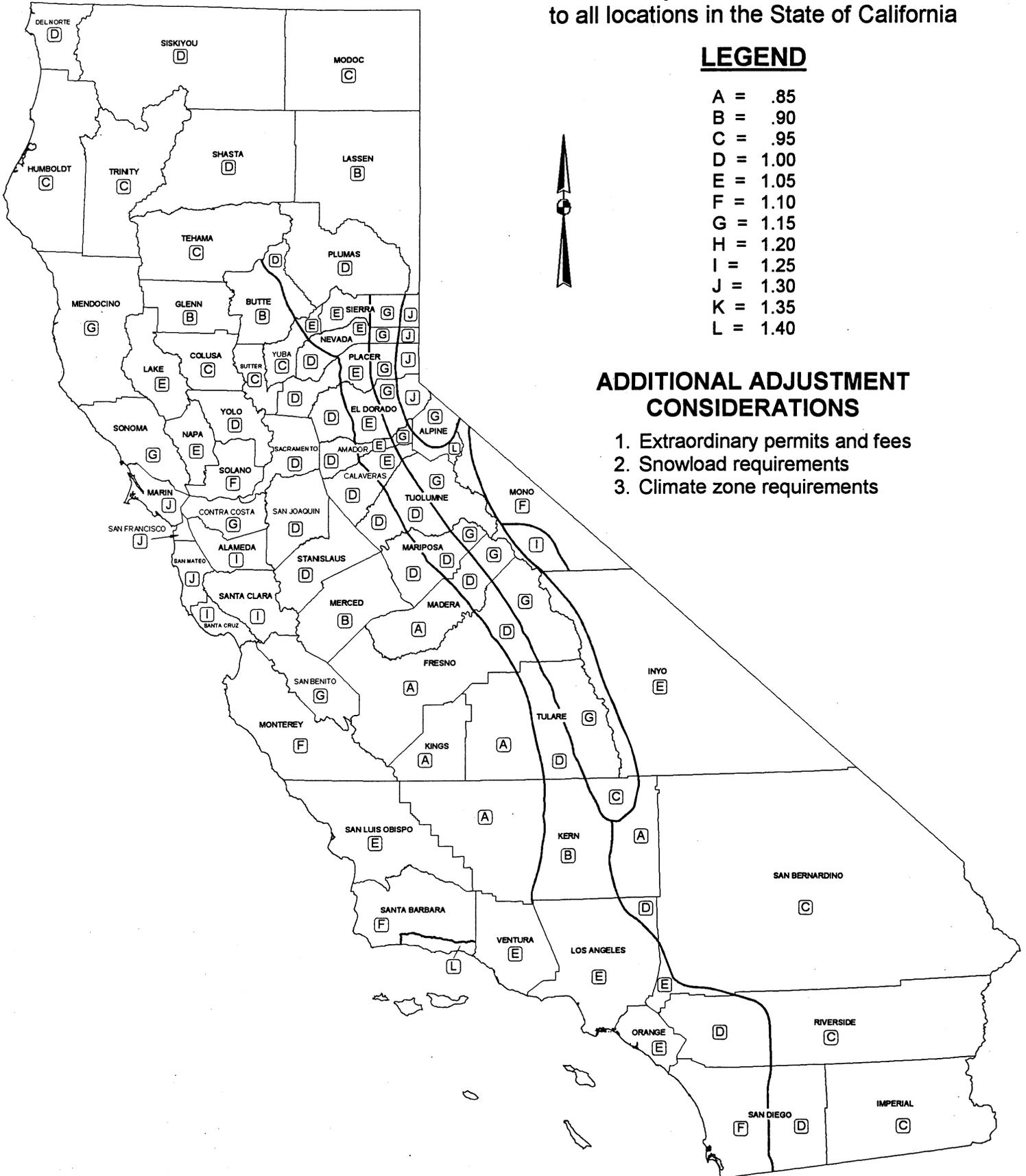
**LEGEND**

A =	.85
B =	.90
C =	.95
D =	1.00
E =	1.05
F =	1.10
G =	1.15
H =	1.20
I =	1.25
J =	1.30
K =	1.35
L =	1.40



**ADDITIONAL ADJUSTMENT CONSIDERATIONS**

1. Extraordinary permits and fees
2. Snowload requirements
3. Climate zone requirements



SINGLE-FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES

**"C" CONSTRUCTION - SHAPE A**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
C-4	73.75	70.54	68.00	65.80	63.78	62.27	60.81	59.55	58.48	57.56	56.59
C-4.5	80.34	76.85	74.08	71.71	69.55	67.84	66.27	64.93	63.76	62.69	61.66
C-5	87.55	83.87	80.80	78.12	75.80	73.91	72.20	70.77	69.54	68.36	67.30
C-5.5	95.51	91.34	88.01	85.17	82.57	80.58	78.66	77.15	75.76	74.47	73.38
C-6	109.04	104.40	100.52	97.23	94.35	92.09	89.84	88.06	86.48	85.19	83.74
C-6.5	119.97	114.84	110.60	107.01	103.82	101.25	98.89	96.96	95.15	93.66	92.10
C-7	131.95	126.26	121.67	117.77	114.18	111.45	108.82	106.70	104.75	103.02	101.42
C-7.5	151.77	145.21	139.96	135.37	131.39	128.16	125.24	122.66	120.42	118.40	116.54
C-8	174.19	166.67	160.59	155.38	150.70	147.09	143.72	140.83	138.26	135.98	133.79

**"C" CONSTRUCTION - SHAPE A**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
C-4	55.95	54.50	53.43	52.46	51.66	50.96	50.39	49.83	49.30	48.84	48.19
C-4.5	60.94	59.49	58.28	57.19	56.22	55.57	54.92	54.34	53.81	53.25	52.52
C-5	66.40	64.78	63.47	62.30	61.32	60.54	59.85	59.19	58.59	57.97	57.19
C-5.5	72.35	70.66	69.16	67.95	66.86	66.01	65.30	64.48	63.84	63.22	62.35
C-6	82.66	80.70	78.95	77.46	76.35	75.36	74.55	73.67	72.94	72.22	71.22
C-6.5	90.97	88.72	86.88	85.38	84.05	82.88	81.90	81.03	80.28	79.47	78.33
C-7	100.06	97.62	95.60	93.90	92.41	91.30	90.14	89.11	88.29	87.41	86.24
C-7.5	115.07	112.23	109.99	107.97	106.25	104.91	103.71	102.51	101.52	100.54	99.13
C-8	132.03	128.88	126.26	123.94	121.99	120.44	118.97	117.61	116.54	115.43	113.71

**"C" CONSTRUCTION - SHAPE B**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
C-4	75.85	72.76	70.09	67.84	66.01	64.39	62.94	61.66	60.64	59.55	58.82
C-4.5	82.60	79.25	76.38	73.91	71.98	70.16	68.63	67.30	66.07	64.93	64.10
C-5	90.09	86.47	83.19	80.58	78.48	76.46	74.74	73.38	72.04	70.77	69.83
C-5.5	98.29	94.13	90.71	87.91	85.54	83.44	81.48	79.94	78.53	77.15	76.15
C-6	112.14	107.57	103.52	100.29	97.62	95.15	93.09	91.21	89.70	88.06	86.94
C-6.5	123.42	118.35	114.05	110.41	107.44	104.75	102.35	100.36	98.62	96.96	95.65
C-7	135.82	130.17	125.40	121.43	118.23	115.21	112.63	110.46	108.49	106.70	105.19
C-7.5	156.11	149.67	144.30	139.67	135.92	132.50	129.59	127.03	124.86	122.66	121.07
C-8	179.20	171.83	165.58	160.28	156.03	152.08	125.49	145.82	143.28	140.83	139.00

**"C" CONSTRUCTION - SHAPE B**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
C-4	57.96	56.63	55.57	54.48	53.81	53.03	52.38	51.85	51.41	51.00	50.20
C-4.5	63.20	61.71	60.54	59.46	58.59	57.82	57.09	56.53	56.03	55.60	54.71
C-5	68.89	67.31	65.96	64.75	63.81	63.00	62.28	61.59	61.04	60.64	59.59
C-5.5	75.06	73.39	71.93	70.62	69.62	68.67	67.14	67.14	66.57	66.07	64.96
C-6	85.73	83.79	82.12	80.60	79.55	78.46	80.18	76.67	75.97	75.47	74.19
C-6.5	94.29	92.26	90.45	88.67	87.48	86.35	85.27	84.35	83.71	83.05	81.70
C-7	103.82	101.46	99.36	97.54	96.23	94.88	93.84	92.83	91.99	91.33	89.84
C-7.5	119.39	116.70	114.33	112.18	110.61	109.14	107.88	106.70	105.81	104.98	103.36
C-8	137.01	133.88	131.20	128.75	127.02	125.24	123.81	122.57	121.49	120.50	118.61

SINGLE - FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES

**"C" CONSTRUCTION - SHAPE C**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
C-4	78.12	74.93	72.34	70.16	68.14	66.49	65.15	64.00	62.81	61.74	60.96
C-4.5	85.17	81.66	78.81	76.46	74.31	72.51	71.05	69.67	68.56	67.33	66.46
C-5	92.81	89.07	85.94	83.34	80.94	79.10	77.40	75.95	74.66	73.45	72.48
C-5.5	101.17	97.03	93.69	90.83	88.27	86.17	84.34	82.80	81.36	80.01	78.98
C-6	115.52	110.86	106.89	103.71	100.73	98.43	96.37	94.54	92.93	91.45	90.16
C-6.5	127.11	121.87	117.70	114.13	110.91	108.24	106.04	104.03	102.28	100.57	99.22
C-7	139.77	134.14	129.48	125.58	121.98	119.12	116.62	114.45	112.48	110.60	109.11
C-7.5	160.75	154.30	148.90	144.42	140.39	137.01	134.12	131.65	129.34	127.22	125.52
C-8	184.60	177.09	170.92	165.78	161.02	157.29	154.03	151.04	148.51	146.00	144.11

**"C" CONSTRUCTION - SHAPE C**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
C-4	60.12	58.85	57.67	56.82	55.99	55.27	54.65	54.11	53.56	53.25	52.12
C-4.5	65.63	64.12	62.93	61.92	61.01	60.23	59.54	58.98	58.40	57.97	56.84
C-5	71.46	69.85	68.63	67.38	66.48	65.65	64.89	64.26	63.66	63.22	61.93
C-5.5	77.90	76.16	74.72	73.50	72.50	71.63	70.74	70.09	69.41	68.94	67.41
C-6	88.98	87.04	85.34	83.87	82.77	81.75	80.79	80.03	79.27	78.80	77.00
C-6.5	97.89	95.78	93.91	92.36	91.08	89.99	88.87	87.99	87.24	86.54	84.74
C-7	107.72	105.35	103.33	101.63	100.23	98.99	97.75	96.85	95.91	95.25	93.28
C-7.5	123.89	121.13	118.82	116.86	115.23	113.75	112.46	111.34	110.30	109.50	107.28
C-8	142.22	139.06	136.32	134.10	132.22	130.59	129.12	127.89	126.72	125.81	123.11

**"C" CONSTRUCTION - SHAPE D**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
C-4	80.37	77.18	74.61	72.27	70.38	68.77	67.38	66.07	65.02	64.06	63.14
C-4.5	87.62	84.21	81.33	78.80	76.81	74.93	73.50	72.04	70.85	69.76	68.83
C-5	95.57	91.70	88.65	85.89	83.62	81.66	80.04	78.53	77.28	76.08	75.03
C-5.5	104.16	100.02	96.60	93.63	91.25	89.07	87.30	85.61	84.24	82.92	81.75
C-6	118.86	114.18	110.30	106.87	104.14	101.68	99.71	97.64	96.13	94.68	93.39
C-6.5	130.84	125.58	121.35	117.59	114.57	111.88	109.68	107.46	105.78	104.18	102.70
C-7	143.95	138.16	133.53	129.38	126.05	123.05	120.66	118.28	116.37	114.59	113.03
C-7.5	165.58	158.94	153.55	148.84	144.97	141.57	138.74	136.09	133.84	131.76	129.98
C-8	190.03	182.45	176.24	170.86	166.35	162.45	159.32	156.11	153.66	151.29	149.11

**"C" CONSTRUCTION - SHAPE D**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
C-4	62.30	61.01	59.87	58.94	58.06	57.40	56.67	56.21	55.79	55.29	54.64
C-4.5	67.95	66.48	65.32	64.24	63.37	62.63	61.74	61.31	60.81	60.27	59.50
C-5	74.05	72.50	71.19	70.05	68.95	68.21	67.33	66.80	66.27	65.68	64.85
C-5.5	80.76	78.99	77.51	76.35	75.22	74.35	73.47	72.81	72.27	71.68	70.70
C-6	92.17	90.25	88.61	87.16	85.80	84.87	83.84	83.20	82.54	81.85	80.73
C-6.5	101.45	99.27	97.45	95.90	94.42	93.39	92.30	91.46	90.76	90.02	88.84
C-7	111.58	109.24	107.17	105.44	103.96	102.74	101.56	100.69	99.89	99.02	97.73
C-7.5	128.32	125.61	123.29	121.31	119.49	118.23	116.75	115.77	114.86	113.90	112.36
C-8	147.29	144.26	141.57	139.23	137.23	135.60	133.98	132.87	131.88	130.82	128.96

SINGLE - FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE A**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-1	49.51	46.01	43.33	41.34	39.62	38.26	37.15	36.17	35.32	34.70	34.03
D-1.5	54.38	50.49	47.52	45.34	43.53	42.06	40.80	39.72	38.77	38.16	37.39
D-2	59.69	55.44	52.28	49.83	47.86	46.16	44.78	43.57	42.65	41.83	41.07
D-3	65.50	60.87	57.35	54.71	52.51	50.73	49.14	47.87	46.83	45.95	45.13
D-3.5	71.93	66.80	63.01	60.09	57.66	55.66	53.98	52.59	51.42	50.44	49.51
D-4	78.98	73.39	69.14	65.92	63.26	61.04	59.24	57.72	56.47	55.44	54.38
D-4.5	86.70	80.51	75.92	72.44	69.54	67.03	65.08	63.41	62.00	60.81	59.69

**"D" CONSTRUCTION - SHAPE A**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	79.48	76.34	73.61	71.42	69.61	68.02	66.76	65.50	64.47	63.55	62.70
D-5.5	87.29	83.85	80.88	78.48	76.44	74.67	73.20	71.93	70.74	69.72	68.83
D-6	100.31	96.47	92.99	90.28	87.91	85.93	84.20	82.74	81.44	80.16	79.11
D-6.5	111.24	106.77	103.07	100.05	97.43	95.23	93.35	91.68	90.19	88.91	87.84
D-7	123.30	118.45	114.26	110.89	107.96	105.54	103.51	101.63	99.98	98.50	97.34
D-7.5	142.88	137.17	132.32	128.41	125.04	122.23	119.91	117.66	115.91	114.14	112.69

**"D" CONSTRUCTION - SHAPE A**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	62.01	60.73	59.69	58.81	57.97	57.35	56.67	56.21	55.83	55.44	54.71
D-5.5	68.09	66.71	65.50	64.64	63.72	62.94	62.27	61.71	61.32	60.87	60.09
D-6	78.29	76.67	75.36	74.24	73.22	72.38	71.61	71.01	70.54	69.99	69.12
D-6.5	86.87	84.99	83.53	82.29	81.26	80.28	79.37	78.74	78.18	77.57	76.61
D-7	96.23	94.20	92.52	91.25	89.98	88.98	88.00	87.25	86.68	85.93	84.87
D-7.5	111.46	109.15	107.28	105.78	104.25	103.04	101.89	101.06	100.36	99.58	98.35

**"D" CONSTRUCTION - SHAPE A**

Class	1300	1400	1500	1600	1700	1800	2000	2200	2400	2600	2800
D-8	145.25	142.63	140.27	138.13	136.49	135.01	132.12	129.88	128.47	126.34	124.75
D-8.5	173.98	170.81	167.93	165.43	163.47	161.54	158.21	155.55	153.77	151.18	149.41
D-9	247.56	243.04	239.06	235.50	232.66	230.00	225.14	221.20	218.91	215.25	212.67
D-9.5	367.53	360.88	354.96	349.57	345.38	341.50	334.32	328.66	325.00	319.57	315.65
D-10	437.90	429.93	422.84	416.62	411.62	406.95	398.42	391.78	387.22	380.80	376.21

**"D" CONSTRUCTION - SHAPE A**

Class	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	5000
D-8	123.45	122.43	121.54	120.58	119.76	119.28	118.73	118.22	117.96	117.36	117.19
D-8.5	147.86	146.63	145.52	144.47	143.32	142.66	142.17	141.48	141.14	140.51	140.37
D-9	210.50	208.71	207.20	205.59	203.96	202.98	202.39	201.33	200.96	200.03	199.67
D-9.5	312.52	309.87	307.61	305.19	302.91	301.43	300.44	298.97	298.33	296.99	296.57
D-10	372.39	369.24	366.54	363.79	360.96	359.23	302.20	356.37	354.30	353.91	353.45

SINGLE - FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE B**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-1	50.54	46.97	44.29	42.11	40.42	39.05	37.86	37.05	36.14	35.44	34.74
D-1.5	55.56	51.59	48.61	46.21	44.37	42.95	41.69	40.58	39.62	38.99	38.18
D-2	60.96	56.59	53.39	50.80	48.74	47.13	45.71	44.68	43.56	42.73	41.88
D-3	66.96	62.23	58.67	55.68	53.54	51.76	50.19	49.04	47.86	46.95	46.06
D-3.5	73.49	68.25	64.38	61.18	58.81	56.86	55.10	53.82	52.57	51.57	50.54
D-4	80.76	74.95	70.68	67.23	64.54	62.42	60.54	59.04	57.66	56.57	55.56
D-4.5	88.63	82.25	77.59	73.82	70.85	68.55	66.46	64.85	63.30	62.05	60.96

**"D" CONSTRUCTION - SHAPE B**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	80.93	77.75	75.20	72.89	71.19	69.54	68.13	66.91	65.96	64.94	64.09
D-5.5	88.85	85.34	82.51	80.01	78.13	76.34	74.90	73.49	72.48	71.25	70.36
D-6	102.27	98.20	94.89	92.09	89.80	87.84	86.05	84.59	83.29	82.00	80.99
D-6.5	113.31	108.88	105.17	102.03	99.65	97.27	95.36	93.70	92.37	90.86	89.72
D-7	125.58	120.66	116.62	113.14	110.38	107.82	105.78	103.83	102.35	100.72	99.36
D-7.5	145.51	139.77	135.06	131.05	127.87	124.88	122.52	120.31	112.95	111.27	109.71

**"D" CONSTRUCTION - SHAPE B**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	63.41	62.05	61.01	60.12	59.50	58.81	58.14	57.66	57.22	56.86	56.15
D-5.5	69.62	68.21	66.96	66.08	65.35	64.64	63.84	63.30	62.81	62.42	61.65
D-6	80.11	78.48	77.00	76.03	75.13	74.24	73.49	72.86	72.35	71.89	70.99
D-6.5	88.75	86.93	85.46	84.20	83.28	82.29	81.44	80.75	80.11	79.57	78.63
D-7	98.36	96.40	94.65	93.35	92.30	91.25	90.32	89.46	88.75	88.19	87.19
D-7.5	114.02	111.63	109.68	108.18	106.96	105.78	104.58	103.70	102.81	102.19	100.97

**"D" CONSTRUCTION - SHAPE B**

Class	1300	1400	1500	1600	1700	1800	2000	2200	2400	2600	2800
D-8	148.42	145.67	143.24	141.09	139.40	138.00	135.21	132.77	131.04	129.48	127.96
D-8.5	177.63	174.43	171.48	169.03	166.93	165.15	161.93	158.98	156.83	155.01	153.13
D-9	252.94	248.23	244.13	240.57	237.60	235.11	230.45	226.33	223.20	220.65	217.91
D-9.5	375.53	368.67	362.60	357.09	352.90	348.99	342.24	336.08	331.45	327.58	323.59
D-10	447.51	439.22	431.99	425.64	420.45	415.91	407.73	400.50	395.04	390.41	385.70

**"D" CONSTRUCTION - SHAPE B**

Class	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	5000
D-8	126.67	125.52	124.56	123.80	122.77	122.26	121.82	121.31	120.97	120.53	120.24
D-8.5	151.57	150.20	149.04	148.17	147.10	146.37	145.82	145.25	144.90	144.34	143.92
D-9	215.79	213.87	212.21	210.84	209.27	208.36	207.56	206.75	206.16	205.41	204.98
D-9.5	320.41	317.45	315.17	313.20	310.70	309.28	308.21	306.91	306.21	304.97	304.37
D-10	381.75	378.25	375.42	373.13	370.39	368.63	367.44	365.75	364.87	363.53	362.76

SINGLE - FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT COST TABLES

**"D" CONSTRUCTION - SHAPE C**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-1	51.74	47.99	45.26	42.75	41.15	39.86	38.67	37.75	36.86	36.17	35.60
D-1.5	56.84	52.73	49.66	46.97	45.26	43.77	42.49	41.40	40.49	39.72	39.04
D-2	62.30	57.94	54.50	51.59	49.66	47.98	46.60	45.41	44.47	43.57	42.92
D-3	68.40	63.56	59.87	56.63	54.50	52.66	51.23	49.93	48.89	47.87	47.07
D-3.5	75.20	69.82	65.80	62.23	59.86	57.88	56.15	54.82	53.64	52.59	51.74
D-4	82.52	76.61	72.19	68.25	65.68	63.55	61.65	60.12	58.95	57.72	56.82
D-4.5	90.56	84.21	79.25	74.95	72.16	69.72	67.77	66.07	64.72	63.41	62.30

**"D" CONSTRUCTION - SHAPE C**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	82.39	79.25	76.56	74.37	72.51	71.07	69.67	68.40	67.33	66.48	65.65
D-5.5	90.51	87.01	84.05	81.65	79.57	78.04	76.50	75.20	73.92	73.04	72.13
D-6	104.01	100.13	96.69	93.93	91.62	89.77	87.99	86.45	85.01	83.92	82.94
D-6.5	115.32	110.95	107.18	104.14	101.58	99.42	97.54	95.83	94.28	93.07	91.93
D-7	127.83	122.92	118.82	115.38	112.49	110.23	108.09	106.21	104.49	103.13	101.92
D-7.5	148.02	142.39	140.93	133.69	130.38	127.77	125.28	123.06	122.75	119.49	118.02

**"D" CONSTRUCTION - SHAPE C**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	64.89	63.66	62.63	61.64	60.93	60.27	59.72	59.19	58.75	58.37	57.64
D-5.5	71.24	69.85	68.69	67.72	66.90	66.24	65.60	64.94	64.48	64.09	63.26
D-6	81.97	80.45	79.06	77.91	76.98	76.13	75.41	74.72	74.19	73.72	72.76
D-6.5	90.83	89.11	87.60	86.37	85.34	84.44	83.67	82.75	82.24	81.70	80.67
D-7	100.71	98.81	97.14	95.66	94.54	93.55	92.69	91.77	91.14	90.60	89.41
D-7.5	116.66	114.41	112.49	110.88	109.49	108.30	107.31	106.25	105.63	104.91	103.58

**"D" CONSTRUCTION - SHAPE C**

Class	1300	1400	1500	1600	1700	1800	2000	2200	2400	2600	2800
D-8	151.71	148.99	146.91	144.62	142.69	141.14	138.59	136.24	134.31	132.60	131.22
D-8.5	181.71	178.41	175.81	173.09	170.90	169.05	165.91	163.17	160.82	158.79	157.16
D-9	258.60	253.90	250.24	246.35	243.34	240.63	236.18	232.20	228.93	225.96	223.71
D-9.5	384.04	377.11	371.71	365.77	361.25	357.34	350.70	344.86	339.81	335.73	332.13
D-10	457.53	449.27	442.87	435.90	430.47	425.80	417.84	410.80	405.17	400.09	395.78

**"D" CONSTRUCTION - SHAPE C**

Class	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	5000
D-8	130.03	128.79	127.96	127.13	126.11	125.56	125.04	124.56	124.20	123.76	123.45
D-8.5	155.65	154.20	153.13	152.18	151.01	150.39	149.78	149.04	148.72	148.11	147.86
D-9	221.58	219.60	217.91	216.58	214.85	214.02	213.08	212.21	211.60	210.76	210.50
D-9.5	329.12	325.94	323.59	321.54	319.10	317.63	316.37	315.17	314.31	313.02	312.52
D-10	392.17	388.29	385.70	383.21	380.21	378.65	377.07	375.42	374.43	372.98	372.39

SINGLE - FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE D**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-1	52.92	49.14	46.12	43.77	42.11	40.73	39.57	38.65	37.79	37.12	36.44
D-1.5	58.09	53.98	50.58	47.98	46.21	44.74	43.47	42.42	41.43	40.78	40.01
D-2	63.76	59.21	55.59	52.73	50.80	49.05	47.70	46.56	45.61	44.74	43.88
D-3	70.07	65.08	61.01	57.88	55.68	53.88	52.38	51.15	49.98	49.09	48.24
D-3.5	76.94	71.39	67.02	63.56	61.18	59.19	57.56	56.13	54.92	53.94	53.00
D-4	84.39	78.40	73.53	69.75	67.23	64.96	63.14	61.63	60.39	59.20	58.10
D-4.5	92.77	86.15	80.65	76.56	73.82	71.32	69.41	67.68	66.26	65.01	63.81

**"D" CONSTRUCTION - SHAPE D**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	84.01	80.93	78.26	76.11	74.31	72.67	71.32	70.13	69.10	68.21	67.31
D-5.5	92.26	88.85	85.94	83.55	81.60	79.88	78.29	77.02	75.92	74.91	73.91
D-6	106.13	102.27	98.88	96.13	93.86	91.78	90.10	88.45	87.30	86.08	85.00
D-6.5	117.59	113.31	109.54	106.56	104.01	101.72	99.81	98.16	96.70	95.53	94.27
D-7	130.32	125.58	121.43	118.02	115.23	112.70	110.61	108.71	107.25	105.79	104.47
D-7.5	151.01	145.51	140.63	136.77	133.50	130.61	128.20	126.03	124.26	122.57	120.99

**"D" CONSTRUCTION - SHAPE D**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	66.57	65.35	64.24	63.41	62.65	62.00	61.36	60.90	60.47	60.05	59.24
D-5.5	73.09	71.74	70.54	69.62	68.77	68.08	67.33	66.86	66.37	65.90	65.10
D-6	84.15	82.52	81.12	80.11	79.09	78.27	77.45	76.95	76.34	75.80	74.81
D-6.5	93.27	91.45	89.94	88.75	87.66	86.74	85.93	85.22	84.61	84.07	83.01
D-7	103.32	101.32	99.71	98.36	97.15	96.11	95.15	94.51	93.74	93.16	91.93
D-7.5	120.39	117.48	115.47	114.02	112.61	111.34	110.30	109.39	108.61	107.78	106.56

**"D" CONSTRUCTION - SHAPE D**

Class	1300	1400	1500	1600	1700	1800	2000	2200	2400	2600	2800
D-8	155.10	152.44	149.99	148.05	146.27	145.05	142.22	139.85	138.01	136.38	135.01
D-8.5	185.68	182.44	179.60	177.30	175.05	173.62	170.30	167.48	165.26	163.22	161.54
D-9	264.26	259.81	255.62	252.29	249.26	247.12	242.41	238.26	235.20	232.40	230.00
D-9.5	392.47	385.76	379.59	374.61	370.07	366.85	360.04	353.90	349.42	344.99	341.50
D-10	467.61	459.75	452.25	446.59	441.07	437.23	428.85	421.71	416.22	411.14	406.95

**"D" CONSTRUCTION - SHAPE D**

Class	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	5000
D-8	133.64	132.58	131.53	130.62	129.67	129.13	128.63	128.06	127.70	127.21	127.03
D-8.5	159.98	158.71	157.54	156.45	155.31	154.62	153.99	153.35	152.95	152.33	152.05
D-9	227.84	225.94	224.23	222.74	221.04	220.01	219.16	218.25	217.70	216.82	216.40
D-9.5	338.20	335.49	332.94	330.65	328.11	326.65	325.52	324.17	323.41	321.93	321.46
D-10	403.08	399.92	396.67	394.05	391.05	389.22	387.98	386.24	385.30	383.77	383.11

**SINGLE-FAMILY RESIDENTIAL  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**POST 1990**

**D-10 QUALITY**

**MODERN**

<b>Foundation</b> Reinforced concrete
<b>Floor Structure</b> Standard wood frame or slab on grade reinforced concrete, vapor barrier, base 4" thick
<b>Walls and Exterior</b> Framing: Standard wood or steel frame, above code Sheathing: Gypsum board or plywood fully insulated Cover: Decorative stucco or heavy wood siding with extensive or full brick veneer Windows: Excellent quality vinyl framed wood/aluminum; divided light; slide/double hung, double glaze Front Doors: Double, highest quality wood or metal; leaded glass trim; side glass panels
<b>Roof</b> Framing: Standard wood or steel frame; multiple roof pitch Cover: Heavy wood shake, adobe tile, copper, or slate Overhang: 0" to 36", unsealed, sealed, or boxed Gutters: Excellent quality at all eaves
<b>Floor Finishes</b> Terrazzo, mission, quarry, marble, granite, or slate tile in entry; highest quality hardwood, parquet, plank, or inlaid wood; fine carpeting or linoleum throughout
<b>Interior Finish</b> Gypsum board with good texture and paint; custom decorative woodwork and molding; excellent quality wallpaper, wood paneling; cloth covering; extensive masonry Ceilings: Standard 9' to 12', vaulted, coffered, boxed beamed, or cathedral; rounded corners; crown molding; arched doorways; highest quality fans
<b>Interior Detail</b> Interior Doors: Excellent quality solid wood; decorative Trim: Good detailed wood; 4' wainscot Closets: Highest quality wood and mirrored doors; walk-ins; extensive shelving
<b>Bath Detail</b> Number: One per bedroom Floors: Highest quality tile, vinyl, slate, or linoleum Walls: Gypsum board, enamel; highest quality wallpaper; highest quality quarry, terrazzo, ceramic tile Shower & Tub: Highest quality acrylic or porcelain; extensive ceramic tile or marble trim, with glass doors; glass block; jetted tubs; multiple head showers with bench Multiple basin vanities and separate dressing rooms
<b>Kitchen</b> Custom cabinetry; under cabinet lighting Drain Board: Excellent quality ceramic tile, marble, granite, or Corian; island cabinets with fixtures
<b>Plumbing</b> Galvanized, plastic, copper pipe; 15 plus excellent quality fixtures; washer outlet; 2 or more water heaters
<b>Special Features</b> Architecturally designed windows, leaded and frosted glass; multiple sliding glass or French doors; best quality built-in double oven, microwave, range, dishwasher, garbage disposer, hot water recirculator, compactor, built-in refrigerator, and wet bar; walk-in pantry; utility room with laundry sink; alarm and intercom systems; built-in vacuum; multiple fireplaces; extensive fenestration; built-in steam bath and/or sauna
<b>Electrical</b> Cable wiring; excellent fixtures; extensive stylized and recessed lighting; expensive chandeliers; special switches

SINGLE - FAMILY RESIDENTIAL  
MODERN TYPE  
SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE A**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	83.51	79.99	77.11	74.62	72.67	70.92	69.41	68.02	66.96	65.92	65.08
D-5.5	91.85	88.00	84.84	82.12	79.94	78.04	76.34	74.78	73.68	72.51	71.63
D-6	105.79	101.42	97.74	94.61	92.16	89.93	87.98	86.17	84.87	83.57	82.42
D-6.5	117.54	112.60	108.58	105.06	102.30	99.81	97.62	95.78	94.28	92.83	91.57
D-7	130.50	124.92	120.50	116.62	113.59	110.89	108.45	106.27	104.63	103.06	101.64
D-7.5	151.47	145.05	139.84	135.38	131.77	128.65	125.89	123.35	121.51	119.57	117.99
D-8	177.10	169.74	163.56	158.32	154.13	150.48	147.22	144.34	142.12	139.96	138.01
D-8.5	202.95	194.51	187.44	181.41	176.71	172.47	168.73	165.38	162.83	160.34	158.08
D-9	276.49	264.91	255.36	247.11	240.67	234.93	229.87	225.31	221.87	218.41	215.43
D-9.5	395.67	379.11	365.40	353.64	344.37	336.09	328.90	322.31	317.45	312.65	308.21
D-10	455.02	435.99	420.11	406.64	396.01	386.56	378.21	370.68	365.04	359.52	354.51

**"D" CONSTRUCTION - SHAPE A**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	64.24	62.76	61.65	60.66	59.86	59.16	58.59	58.05	57.56	57.13	56.36
D-5.5	70.68	69.07	67.90	66.78	65.84	65.01	64.47	63.84	63.26	62.81	62.01
D-6	81.44	79.58	78.22	76.95	75.89	74.87	74.24	73.59	72.93	72.44	71.45
D-6.5	90.47	88.35	86.88	85.46	84.16	83.20	82.40	81.75	80.94	80.45	79.36
D-7	100.31	98.14	96.47	94.81	93.55	92.37	91.57	90.75	89.94	89.26	88.06
D-7.5	116.53	113.95	111.95	110.07	108.57	107.25	106.23	105.28	104.41	103.70	102.26
D-8	136.32	133.22	130.94	128.70	126.91	125.41	124.26	123.21	122.07	121.23	119.54
D-8.5	156.26	152.66	150.04	147.53	145.49	143.69	142.36	141.13	139.90	138.97	137.01
D-9	212.88	207.95	204.49	200.96	198.21	195.72	193.94	192.30	190.56	189.30	186.63
D-9.5	304.49	297.61	292.50	287.53	283.57	280.05	277.53	275.22	272.70	270.84	267.05
D-10	350.22	342.25	336.29	330.66	326.11	322.05	319.17	316.49	313.59	311.48	307.11

**"D" CONSTRUCTION - SHAPE A**

Class	4200	4400	4600	5000
D-6	70.40	70.25	69.76	69.07
D-6.5	78.65	78.03	77.46	76.71
D-7	87.25	86.55	85.96	85.10
D-7.5	101.34	100.52	99.82	98.81
D-8	119.57	118.60	117.77	116.59
D-8.5	135.77	134.68	133.75	132.40
D-9	184.95	183.47	182.18	180.37
D-9.5	264.64	262.52	260.68	258.08
D-10	304.34	301.90	299.78	296.78

SINGLE - FAMILY RESIDENTIAL  
MODERN TYPE  
SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE B**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	85.16	81.60	78.53	76.15	74.07	72.34	70.92	69.55	68.40	67.38	66.49
D-5.5	93.64	89.69	86.42	83.81	81.44	79.51	78.04	76.50	75.28	74.18	73.19
D-6	107.89	103.43	99.50	96.54	93.90	91.64	89.93	88.23	86.84	85.49	84.31
D-6.5	119.85	114.84	110.46	107.18	104.24	101.78	99.81	97.84	96.37	94.88	93.66
D-7	133.02	127.44	122.69	118.98	115.76	113.03	110.89	108.68	106.88	105.35	104.01
D-7.5	154.34	147.95	142.38	138.14	134.41	131.16	128.71	126.12	124.20	122.23	120.66
D-8	180.53	172.97	166.61	161.54	157.14	153.46	150.48	147.53	145.20	143.01	141.09
D-8.5	206.89	198.25	190.91	185.15	180.02	175.84	172.47	169.05	166.32	163.90	161.70
D-9	281.88	270.08	260.08	252.24	245.28	239.59	234.93	230.29	226.61	223.26	220.29
D-9.5	403.39	386.39	372.21	360.88	350.97	342.79	336.09	329.53	324.29	319.50	315.20
D-10	463.86	444.36	428.02	415.02	403.63	394.28	386.56	378.94	372.93	367.44	362.42

**"D" CONSTRUCTION - SHAPE B**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	65.65	64.26	63.22	62.26	61.41	60.66	60.09	59.50	59.01	58.59	57.95
D-5.5	72.20	70.73	69.55	68.40	67.49	66.78	66.07	65.48	64.94	64.47	63.72
D-6	83.27	81.45	80.13	78.91	77.89	76.95	76.13	75.41	74.80	74.24	73.46
D-6.5	92.45	90.52	89.02	87.60	86.42	85.46	84.51	83.74	83.06	82.40	81.57
D-7	102.64	100.40	98.83	97.24	95.92	94.81	93.87	92.93	92.25	91.57	90.59
D-7.5	119.09	116.54	114.69	112.94	111.34	110.07	108.95	107.87	107.00	106.23	105.06
D-8	139.37	136.38	134.16	132.10	130.23	128.70	127.49	126.22	125.19	124.26	122.94
D-8.5	159.62	156.29	153.77	151.39	149.29	147.53	146.06	144.64	143.46	142.36	140.88
D-9	217.49	212.93	209.54	206.22	203.35	200.96	198.96	197.04	195.44	193.94	191.94
D-9.5	311.26	304.60	299.68	295.15	291.05	287.53	284.76	281.93	279.68	277.53	274.68
D-10	357.93	350.31	344.67	339.38	334.64	330.66	327.43	324.28	321.62	319.17	315.82

**"D" CONSTRUCTION - SHAPE B**

Class	4200	4400	4600	5000
D-6	72.81	72.22	71.73	71.00
D-6.5	80.85	80.19	79.64	78.83
D-7	89.77	89.07	88.44	87.55
D-7.5	104.11	103.28	102.56	101.53
D-8	121.84	120.87	120.03	118.82
D-8.5	139.82	138.07	137.02	136.07
D-9	190.22	188.69	187.37	185.50
D-9.5	272.19	271.25	269.35	266.65
D-10	313.00	310.48	309.51	306.42

SINGLE - FAMILY RESIDENTIAL  
MODERN TYPE  
SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE C**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	86.50	83.00	80.01	77.59	75.50	73.86	72.34	71.05	69.75	68.83	67.94
D-5.5	95.17	91.28	88.01	85.33	83.10	81.31	79.51	78.13	76.75	75.73	74.72
D-6	109.66	105.18	101.45	98.36	95.73	93.66	91.64	90.02	88.37	87.27	86.08
D-6.5	121.79	116.81	112.61	109.24	106.27	103.94	101.78	99.98	98.19	96.91	95.61
D-7	135.16	129.64	125.03	121.27	117.99	115.43	113.03	110.98	109.01	107.63	106.15
D-7.5	156.86	150.47	145.11	140.63	137.02	134.02	131.16	128.78	126.49	124.87	123.22
D-8	183.52	176.03	169.80	164.59	160.30	156.72	153.46	150.56	148.02	146.05	144.13
D-8.5	210.30	201.72	194.55	188.55	183.71	179.56	175.84	172.57	169.63	167.36	165.13
D-9	286.48	274.80	265.05	256.92	250.25	244.63	239.56	235.09	231.06	227.96	225.03
D-9.5	409.91	393.19	379.27	367.66	358.08	350.05	342.79	336.44	330.63	326.19	321.94
D-10	471.35	452.16	436.18	422.81	411.84	402.56	394.28	386.84	380.21	375.11	370.24

**"D" CONSTRUCTION - SHAPE C**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	65.54	64.32	63.23	61.93	61.48	60.92	60.36	59.83	59.29	58.91	58.27
D-5.5	73.86	72.34	71.16	69.55	69.07	68.36	67.77	67.16	66.48	66.08	65.35
D-6	85.18	83.33	81.94	80.13	79.58	78.81	78.02	77.40	76.65	76.22	75.27
D-6.5	94.51	92.51	91.02	89.02	88.35	87.47	86.73	85.97	85.01	84.61	83.57
D-7	104.95	102.74	101.02	98.83	98.14	97.14	96.23	95.52	94.51	93.89	92.78
D-7.5	121.82	119.27	117.14	114.69	113.95	112.69	111.69	110.77	109.68	109.01	107.70
D-8	142.51	139.52	137.13	134.16	133.22	131.85	130.62	129.52	128.24	127.51	125.93
D-8.5	163.28	159.88	157.16	153.77	152.66	151.09	149.68	148.45	146.94	146.12	144.34
D-9	222.38	217.79	214.07	209.54	207.95	205.83	203.99	202.22	200.12	199.00	196.60
D-9.5	318.24	311.65	306.37	299.68	297.61	294.53	291.79	289.35	286.42	284.86	281.32
D-10	365.96	358.35	352.31	351.57	342.25	338.71	335.56	332.73	329.39	327.53	323.45

**"D" CONSTRUCTION - SHAPE C**

Class	4200	4400	4600	5000
D-6	74.59	73.98	73.46	72.74
D-6.5	82.35	81.67	81.10	80.29
D-7	91.93	91.21	90.56	89.67
D-7.5	106.72	105.87	105.13	104.08
D-8	125.93	124.91	124.04	122.80
D-8.5	143.04	141.90	140.91	139.50
D-9	194.86	193.28	191.94	190.00
D-9.5	278.78	276.55	274.62	271.88
D-10	320.54	317.95	315.74	312.58

SINGLE - FAMILY RESIDENTIAL  
MODERN TYPE  
SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE D**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	87.92	84.34	81.62	79.10	77.15	75.36	73.89	72.66	71.39	70.37	69.55
D-5.5	96.65	92.81	89.71	86.99	84.87	82.92	81.33	79.90	78.56	77.44	76.50
D-6	111.45	106.89	103.44	100.25	97.81	95.60	93.70	92.09	90.59	89.24	88.23
D-6.5	123.71	118.77	114.85	111.31	108.62	106.12	104.01	102.27	100.57	99.18	97.84
D-7	137.37	131.87	127.52	123.56	120.52	117.79	115.44	113.55	111.60	110.07	108.68
D-7.5	159.41	152.95	147.96	143.39	139.96	136.67	134.03	131.71	129.50	127.71	126.12
D-8	186.42	179.02	173.01	167.72	163.65	159.91	156.76	154.09	151.55	149.39	147.53
D-8.5	213.65	205.18	198.26	192.23	187.55	183.22	179.61	176.54	173.63	171.12	169.05
D-9	291.02	279.46	270.09	261.82	255.53	249.62	244.72	240.57	236.54	233.22	230.29
D-9.5	416.45	400.02	386.53	374.64	365.62	357.18	350.14	344.25	338.46	333.63	329.56
D-10	478.91	459.99	444.46	430.88	420.45	410.71	402.67	395.84	389.22	383.76	378.94

**"D" CONSTRUCTION - SHAPE D**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	68.69	67.31	66.24	65.17	64.38	63.57	63.02	62.53	62.01	61.63	60.81
D-5.5	75.52	74.07	72.81	71.74	70.77	69.91	69.26	68.77	68.22	67.78	66.90
D-6	87.12	85.33	83.85	82.65	81.60	80.60	79.84	79.27	78.60	78.17	77.04
D-6.5	96.70	94.75	93.25	91.77	90.60	89.50	88.72	87.98	87.27	86.74	85.56
D-7	107.35	105.17	103.44	101.92	100.68	99.33	98.49	97.64	96.91	96.37	95.05
D-7.5	124.67	122.07	120.03	118.28	116.75	115.35	114.33	113.34	112.49	111.71	110.23
D-8	145.82	142.72	140.43	138.37	136.55	134.87	133.69	132.58	131.53	130.67	129.03
D-8.5	167.04	163.58	160.91	158.48	156.43	154.59	153.21	151.98	150.72	149.73	147.84
D-9	227.56	222.82	219.21	215.96	213.12	210.61	208.76	207.01	205.36	204.03	201.40
D-9.5	325.70	318.86	313.73	308.98	305.01	301.29	298.76	296.23	293.85	291.88	288.22
D-10	374.52	366.68	360.77	359.18	350.72	346.51	343.47	340.64	337.88	335.67	331.36

**"D" CONSTRUCTION - SHAPE D**

Class	4200	4400	4600	5000
D-6	76.34	75.73	75.19	74.45
D-6.5	84.79	84.11	83.54	82.69
D-7	94.20	93.10	92.15	91.23
D-7.5	109.25	108.36	107.62	106.54
D-8	127.87	126.85	125.96	124.71
D-8.5	142.06	140.93	139.93	138.54
D-9	199.59	197.97	196.60	194.63
D-9.5	284.81	282.56	280.60	277.83
D-10	328.38	325.75	323.47	320.19

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**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-9 QUALITY**

<b>Foundation</b>	Reinforced concrete or concrete block
<b>Floor Structure</b>	2" x 8" joists, 16" o.c.; with 2" tongue and groove sub-floor Alternate: 2" x 10" joists, 16" o.c.; with 2" tongue and groove sub-floor
<b>Walls and Exterior</b>	Framing: 2" x 6", 16" o.c. Siding: Good plywood, lap, board and batten, or wood shingle Fully Insulated: Minimum of R-11 standards Windows: Good quality wood or steel sash; double paned glass
<b>Roof</b>	Framing: 4" x 8", 48" o.c.; with 2" or 3" tongue and groove sheathing Alternate: 2" x 6", 12" o.c.; or 2" x 8", 16" o.c.; with 1" sheathing Insulation: To a minimum of R-30 standards Cover: Heavy shake, composition shingles, or steel Pitch: Medium steep to steep Alternate Roof: Heavy glu-lam beams 2" x 8", or 2" x 10" purlins, 3" tongue and groove deck, medium pitch with heavy shake cover
<b>Floor Finish</b>	Good quality carpet or hardwood; parquet hardwood, slate, ceramic, or garden tile in entry; good vinyl tile in kitchen and utility room
<b>Interior Finish</b>	Good quality hardwood, cherry, or redwood paneling; some wallpaper or grass cloth covering; extensive cabinetry in corners
<b>Bath Detail</b>	Number: 1-1/2 baths for each two bedrooms Floors: Vinyl or good quality linoleum; two lavatories in full baths; full ceramic tile showers; good ceramic tile vanities
<b>Kitchen</b>	Good 20' hardwood veneer base and wall cabinets; fixtures on cooking islands Drain Board: Good quality ceramic tile, granite, Corian, or marble
<b>Plumbing</b>	Ten good fixtures; two water heaters
<b>Electrical</b>	Romex or conduit wiring; very good fixtures; indirect florescent lighting in kitchen and baths; expensive chandelier in dining room
<b>Special Features</b>	Picture and leaded glass windows; best quality built-in double oven, microwave, range, dishwasher, range hood and fan, garbage disposer, compactor; breakfast bar; pantry; wet bar; frosted glass

MOUNTAIN RESIDENCES  
SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE A**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	115.10	103.29	95.50	89.23	84.63	81.05	77.91	75.60	73.31	71.63	69.99
D-4.5	124.82	112.00	103.47	96.75	91.75	87.80	84.47	81.87	79.58	77.57	75.85
D-5	135.31	121.34	112.23	104.87	99.49	95.17	91.53	88.76	86.23	84.19	82.20
D-5.5	146.71	131.54	121.60	113.75	107.86	103.22	99.22	96.28	93.38	91.21	89.17
D-6	158.99	142.59	131.84	123.20	116.92	111.83	107.53	104.36	101.29	98.92	96.61
D-6.5	173.97	156.07	144.16	134.84	127.89	122.39	117.77	114.20	110.88	108.19	105.70
D-7	190.37	170.74	157.83	147.60	139.96	133.89	128.78	124.95	121.28	118.35	115.66
D-7.5	254.05	227.90	210.61	196.97	186.69	178.71	171.83	166.80	161.79	157.92	154.33
D-8	292.79	262.58	242.68	226.99	215.26	205.97	198.13	192.11	186.56	182.09	177.82
D-8.5	333.57	299.09	276.56	258.61	245.30	234.68	225.76	218.79	212.57	207.49	202.69
D-9	379.39	340.22	314.61	294.11	279.09	266.96	256.86	248.79	241.89	235.93	230.52

**"D" CONSTRUCTION - SHAPE A**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	68.84	67.55	66.54	65.56	63.85	62.28	61.26	60.09	59.49	58.50	57.86
D-4.5	74.59	73.26	72.13	71.14	69.26	67.52	66.49	65.16	64.48	63.40	63.48
D-5	80.87	79.40	78.15	77.06	75.01	73.22	72.11	70.68	69.91	68.72	68.03
D-5.5	87.63	86.02	84.82	83.48	81.28	79.30	78.13	76.60	75.81	74.50	73.77
D-6	95.00	93.30	91.79	90.56	88.18	85.93	84.65	83.08	82.18	80.76	79.93
D-6.5	103.93	102.05	100.50	99.07	96.45	94.08	92.61	90.91	89.85	88.34	87.49
D-7	113.82	111.64	109.95	108.41	105.63	102.97	101.43	99.38	98.31	96.73	95.65
D-7.5	151.79	149.07	146.75	144.65	140.90	137.39	135.24	132.70	131.22	129.04	127.71
D-8	175.08	171.80	169.15	166.74	162.48	158.33	155.95	152.95	151.21	148.76	147.19
D-8.5	198.67	195.71	192.73	161.95	185.08	180.50	177.62	174.24	172.33	169.50	167.74
D-9	227.11	222.53	219.26	216.09	210.50	205.44	202.01	198.24	195.95	192.71	190.85

**"D" CONSTRUCTION - SHAPE B**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	117.22	105.39	97.30	91.16	86.61	82.90	79.73	77.40	75.20	73.40	71.81
D-4.5	127.01	114.26	105.47	98.83	93.89	89.80	86.40	83.93	81.55	79.59	77.88
D-5	137.64	123.83	114.32	107.10	101.71	97.35	93.63	90.94	88.35	86.30	84.38
D-5.5	149.25	134.24	123.92	116.16	110.37	105.52	101.52	98.60	95.81	93.53	91.47
D-6	161.76	145.54	134.42	125.91	119.53	114.39	110.03	106.75	103.86	101.40	99.16
D-6.5	177.04	159.24	147.06	137.74	130.81	125.25	120.45	116.85	113.59	110.89	108.53
D-7	193.74	174.28	160.85	150.74	143.12	136.97	131.73	127.91	124.38	121.33	118.71
D-7.5	258.51	232.50	214.65	201.09	190.99	182.78	175.86	170.74	165.88	161.91	158.33
D-8	297.84	267.98	247.34	231.70	220.16	210.67	202.64	196.81	191.23	186.65	182.60
D-8.5	339.41	305.33	281.80	263.96	250.82	240.03	230.87	224.24	217.90	212.73	208.06
D-9	386.01	346.07	320.37	300.24	285.22	272.94	262.60	255.01	247.93	242.08	236.81

**MOUNTAIN RESIDENCES  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE B**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	70.66	69.36	68.41	67.42	65.64	64.07	63.14	61.97	61.26	60.38	59.63
D-4.5	76.59	75.20	74.16	73.11	71.19	69.43	68.41	67.22	66.49	65.42	64.54
D-5	82.97	81.55	80.39	79.27	77.11	75.30	74.16	72.83	72.11	70.89	70.04
D-5.5	90.00	88.35	87.16	85.89	83.67	81.57	80.39	78.98	78.13	76.88	76.00
D-6	97.53	95.84	94.48	93.12	90.69	88.42	87.16	85.58	84.65	83.35	82.31
D-6.5	106.70	104.82	103.33	101.84	99.22	96.75	95.37	93.64	92.61	91.16	90.07
D-7	116.76	114.76	113.09	111.49	108.54	105.90	104.32	102.40	101.43	99.72	98.52
D-7.5	155.73	153.16	150.86	148.66	144.83	141.34	139.22	136.72	135.24	133.04	131.49
D-8	179.60	176.41	173.83	171.40	167.04	162.92	160.51	157.60	155.95	153.41	151.64
D-8.5	204.68	200.89	198.08	195.24	190.24	185.60	182.94	179.54	177.59	174.73	172.82
D-9	232.84	228.45	225.35	222.13	216.52	211.12	208.17	204.13	201.92	198.82	196.78

**"D" CONSTRUCTION - SHAPE C**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	119.07	107.34	99.26	92.99	88.76	84.65	81.57	79.27	77.06	75.30	73.66
D-4.5	129.10	116.38	107.57	100.80	96.28	91.79	88.37	85.88	83.48	81.58	79.82
D-5	139.98	126.13	116.64	109.30	104.34	99.51	95.84	93.12	90.56	88.42	86.43
D-5.5	151.73	136.75	126.48	118.43	113.11	107.89	103.87	100.91	98.19	95.90	93.82
D-6	164.44	148.26	137.11	128.40	122.65	116.96	112.63	109.34	106.35	103.89	101.60
D-6.5	179.98	162.27	149.98	140.56	134.19	127.95	123.27	119.67	116.38	113.75	111.18
D-7	196.85	177.43	164.13	153.70	146.79	140.01	134.84	130.90	127.36	124.51	121.62
D-7.5	262.78	236.82	218.99	205.17	195.86	186.82	179.91	174.67	169.95	166.09	162.30
D-8	302.86	272.91	252.45	236.46	225.76	215.31	207.35	201.45	195.85	191.44	187.09
D-8.5	345.07	310.98	287.68	269.50	257.28	245.30	236.22	229.59	223.03	218.22	213.15
D-9	392.44	353.77	327.32	306.50	292.76	278.90	268.73	261.11	253.71	248.20	242.44

**"D" CONSTRUCTION - SHAPE C**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	72.38	71.14	70.04	69.26	67.51	65.90	64.89	63.78	63.05	62.00	61.48
D-4.5	78.48	77.08	76.00	75.01	73.14	71.35	70.32	69.13	68.33	67.23	66.62
D-5	85.10	83.49	82.31	81.40	79.28	77.40	76.29	74.93	74.06	72.85	72.20
D-5.5	92.22	90.56	89.21	88.37	85.91	83.93	82.64	81.24	80.29	79.02	78.30
D-6	100.04	98.19	96.74	95.65	93.17	90.94	89.55	88.09	87.03	85.59	84.89
D-6.5	109.48	107.42	105.78	104.65	101.97	99.51	97.98	96.39	95.21	93.81	92.90
D-7	119.72	117.48	115.81	114.51	111.53	108.85	107.25	105.43	104.21	102.58	101.58
D-7.5	159.78	156.81	154.55	152.81	148.74	145.23	143.09	140.68	139.00	136.82	135.60
D-8	184.24	180.84	178.17	176.16	171.45	167.50	164.89	162.14	160.24	157.71	156.27
D-8.5	209.88	205.97	202.91	200.80	195.27	190.93	187.89	184.85	184.03	179.68	178.05
D-9	238.80	234.21	230.74	228.41	222.13	217.37	213.67	210.28	207.83	204.40	202.50

MOUNTAIN RESIDENCES (Continued)  
SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE D**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	121.21	109.30	101.22	94.94	90.30	86.61	83.43	81.14	78.98	77.11	75.52
D-4.5	131.36	118.43	109.70	102.91	97.90	93.89	90.53	87.87	85.57	83.66	81.79
D-5	142.44	128.40	118.93	111.55	106.16	101.71	98.06	95.34	92.75	90.60	88.69
D-5.5	154.36	139.24	128.94	120.95	115.02	110.37	106.29	103.29	100.52	98.27	96.14
D-6	167.24	150.88	139.75	131.13	124.68	119.53	115.32	112.00	109.00	106.51	104.24
D-6.5	183.08	165.19	152.94	143.47	136.41	130.81	126.13	122.46	119.24	116.62	114.00
D-7	200.33	180.67	167.31	156.95	149.30	143.12	137.93	134.07	130.48	127.44	124.74
D-7.5	267.28	241.02	223.28	209.44	199.19	190.99	184.08	178.85	174.06	170.09	166.53
D-8	308.10	277.83	257.28	241.40	229.63	220.16	212.27	206.20	200.74	196.16	191.95
D-8.5	350.95	316.53	293.14	275.01	261.71	250.82	241.88	234.93	228.78	223.50	218.71
D-9	399.14	360.00	333.36	312.79	297.80	285.22	275.17	267.24	260.31	254.45	248.79

**"D" CONSTRUCTION - SHAPE D**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	74.42	73.11	71.88	71.06	69.31	67.59	66.72	65.60	64.95	63.47	63.22
D-4.5	80.67	79.27	77.97	77.05	75.15	73.30	72.37	71.17	70.35	68.84	68.45
D-5	87.40	85.88	84.53	83.43	81.52	79.50	78.43	77.08	76.30	74.59	74.27
D-5.5	94.78	93.12	91.63	90.53	88.34	86.17	84.97	83.66	82.65	80.87	80.56
D-6	102.71	100.91	99.30	98.10	95.73	93.38	92.17	90.57	89.62	87.63	87.32
D-6.5	112.41	110.45	108.63	107.39	104.80	102.27	100.82	99.08	98.06	95.94	95.51
D-7	123.04	120.80	118.93	117.44	114.60	111.91	110.34	108.47	107.34	104.89	104.45
D-7.5	164.09	161.14	158.70	156.72	152.92	149.22	147.25	144.81	143.15	140.04	139.48
D-8	189.20	185.82	182.94	180.55	176.34	171.97	169.74	166.77	164.96	161.41	160.71
D-8.5	215.73	211.73	208.41	205.63	200.99	195.97	193.48	189.97	187.99	183.91	183.02
D-9	245.34	240.87	237.05	233.84	228.61	223.00	220.05	215.97	213.72	209.14	207.99

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-8 QUALITY**

**A-FRAME**

<b>Foundation</b>	Concrete block or standard concrete
<b>Floor Structure</b>	4" x 8" girders, 48" o.c.; with 2" tongue and groove sub-floor Alternate: 2" x 6" or 2" x 8", 16" o.c.; with 1" sub-floor
<b>Gable Ends</b>	Framing: 2" x 4", 16" o.c. Siding: Good plywood, lap, or board and batten; fully insulated Windows: Good wood or metal; double paned glass
<b>Roof</b>	Framing: 4" x 8", 48" o.c.; with 2" or 3" tongue and groove sheathing Cover: Heavy shakes Pitch: Steep
<b>Floor Finish</b>	Good carpet or hardwood sheet vinyl in kitchen and baths
<b>Interior Finish</b>	Good quality hardwood veneer paneling
<b>Bath Detail</b>	Two three-fixture baths, and one two-fixture bath
<b>Kitchen</b>	Base Cabinet: 15' to 18' good hardwood veneer Wall Cabinet: Good hardwood veneer Drain Board: 15' to 18' good Formica or ceramic tile
<b>Plumbing</b>	Nine good fixtures; one or two water heaters
<b>Electrical</b>	Romex wiring; good fixtures
<b>Special Features</b>	Built-in oven, range, garbage disposer, dishwasher, hood; large glass area; ornate entry doors

MOUNTAIN RESIDENCES  
 "A"-FRAME" TYPE  
 SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE A**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	119.88	108.24	100.27	94.01	89.49	85.91	82.72	80.43	78.25	76.42	74.90
D-4.5	131.45	118.58	109.86	103.10	98.14	94.14	90.69	88.06	85.68	83.80	82.04
D-5	143.93	129.97	120.37	113.06	107.48	103.13	99.42	96.53	93.97	91.80	89.87
D-5.5	157.84	142.46	132.00	123.82	117.82	113.09	108.92	105.80	103.02	100.61	98.53
D-6	173.06	156.16	144.66	135.67	129.20	123.97	119.27	115.94	112.85	110.27	107.94
D-6.5	191.44	172.74	160.05	150.14	142.89	137.11	132.01	128.26	124.87	122.00	119.50
D-7	211.78	191.06	177.01	166.08	158.08	151.70	146.06	141.93	138.10	134.91	132.15
D-7.5	285.66	257.80	238.86	224.05	213.24	204.70	197.09	191.48	186.31	182.05	178.33
D-8	329.79	297.57	275.69	258.64	246.19	236.20	227.46	220.93	215.11	210.06	205.83

**"D" CONSTRUCTION - SHAPE A**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	73.51	72.30	71.31	70.35	68.54	67.08	65.94	64.96	63.95	63.22	62.55
D-4.5	80.59	79.18	78.18	77.14	75.10	73.51	72.32	71.27	70.16	69.28	68.62
D-5	88.35	86.78	85.65	84.55	82.34	80.59	79.20	78.07	76.82	75.99	75.11
D-5.5	96.83	95.13	93.93	92.64	90.26	88.35	86.89	85.57	84.21	83.23	82.35
D-6	106.08	104.21	102.90	101.48	98.95	96.83	95.16	93.77	92.30	91.24	90.31
D-6.5	117.37	115.36	113.90	112.30	109.35	107.11	105.32	103.70	102.18	100.90	99.90
D-7	129.82	127.66	125.96	124.30	121.07	118.50	116.51	114.68	113.05	111.68	110.50
D-7.5	175.26	172.10	169.90	167.50	163.28	159.85	157.21	154.80	152.41	150.65	149.10
D-8	202.19	198.61	196.12	193.41	188.44	184.53	181.37	178.64	175.86	173.86	172.10

**"D" CONSTRUCTION - SHAPE B**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	121.74	110.09	102.12	95.93	91.34	87.76	84.63	82.20	80.18	78.26	76.62
D-4.5	133.48	120.68	111.94	105.13	100.07	96.14	92.68	90.18	87.83	85.78	84.03
D-5	146.23	132.31	122.64	115.20	109.70	105.40	101.67	98.70	96.32	94.00	92.06
D-5.5	160.32	144.92	134.42	126.26	120.26	115.52	111.44	108.24	105.48	103.05	100.90
D-6	175.69	158.85	147.30	138.37	131.80	126.51	122.10	118.62	115.64	112.93	110.58
D-6.5	194.43	175.73	163.04	153.11	145.79	140.04	135.07	131.26	127.96	124.89	122.39
D-7	215.07	194.38	180.26	169.34	161.24	154.92	149.41	149.82	141.60	138.20	135.34
D-7.5	290.18	262.35	243.25	228.55	217.56	208.98	201.61	195.86	190.97	186.50	182.65
D-8	334.86	302.71	280.74	263.66	251.11	241.17	232.67	226.07	220.46	215.20	210.71

**"D" CONSTRUCTION - SHAPE B**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	75.39	74.08	73.14	72.08	70.41	68.94	67.77	66.80	65.91	64.96	64.35
D-4.5	82.65	81.11	80.18	79.07	77.19	75.57	74.32	73.20	72.30	71.27	70.66
D-5	90.55	88.94	87.83	86.62	84.63	82.81	81.44	80.20	79.18	78.07	77.37
D-5.5	99.28	97.50	96.28	94.91	92.77	90.70	89.24	87.95	86.78	85.57	84.72
D-6	108.78	106.85	105.48	104.06	101.67	99.52	97.76	96.38	95.13	93.77	92.91
D-6.5	120.35	118.19	116.75	115.09	112.47	110.08	108.19	106.62	105.23	103.70	102.75
D-7	133.12	130.77	129.15	127.33	124.37	121.72	119.66	117.99	116.38	114.68	113.64
D-7.5	179.69	176.38	174.18	171.80	167.83	164.21	161.45	159.07	157.02	154.80	153.39
D-8	207.35	203.65	201.11	198.26	193.71	189.51	186.36	183.64	181.21	178.64	177.03

MOUNTAIN RESIDENCES  
 "A"-FRAME" TYPE  
 SQUARE FOOT AREA COST TABLES

**"D" CONSTRUCTION - SHAPE C**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	123.51	111.92	103.93	97.76	93.15	89.49	86.42	83.90	81.05	79.96	78.40
D-4.5	135.41	122.57	113.91	107.17	102.12	98.14	94.70	92.00	88.81	87.63	85.93
D-5	148.41	134.39	124.82	117.35	111.94	107.48	103.78	100.80	97.43	96.09	94.19
D-5.5	162.61	147.26	136.78	128.70	122.64	117.82	113.83	110.45	106.79	105.31	103.26
D-6	178.18	161.47	149.88	141.06	134.48	129.20	124.66	121.07	117.02	115.36	113.10
D-6.5	197.23	178.54	165.83	156.01	148.71	142.89	137.97	133.93	129.46	127.71	125.15
D-7	218.11	197.57	183.48	172.64	164.55	158.08	152.59	148.13	143.19	141.27	138.53
D-7.5	294.34	266.47	247.61	232.88	221.94	213.24	205.85	199.90	193.13	190.59	186.77
D-8	339.71	307.63	285.64	268.81	256.20	246.19	237.61	230.76	222.96	219.96	215.61

**"D" CONSTRUCTION - SHAPE C**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	77.17	75.54	74.90	73.83	72.24	70.69	69.54	68.62	67.60	66.80	66.10
D-4.5	84.59	82.73	82.04	80.93	79.15	77.44	76.18	75.11	74.11	73.20	72.42
D-5	92.66	90.69	89.87	88.73	86.69	84.78	83.56	82.35	81.29	80.20	79.35
D-5.5	101.65	97.12	98.53	97.22	95.08	93.05	91.55	90.31	88.96	87.95	86.97
D-6	111.31	108.92	107.94	106.49	104.17	101.86	100.36	98.97	97.54	96.38	95.37
D-6.5	123.15	120.57	119.50	117.79	115.28	112.70	111.06	109.48	107.89	106.62	105.48
D-7	136.26	133.33	132.15	130.39	127.45	124.81	122.85	121.14	119.32	117.99	116.75
D-7.5	183.91	179.83	178.33	175.86	172.01	168.30	165.74	163.47	161.08	159.07	157.42
D-8	212.22	207.64	205.83	203.02	198.57	194.20	191.25	188.61	185.89	183.64	181.71

**"D' CONSTRUCTION - SHAPE D**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	125.37	113.64	105.70	99.52	94.86	91.24	88.09	85.68	83.64	81.73	80.47
D-4.5	137.37	124.59	115.81	109.02	104.02	99.97	96.58	93.97	91.62	89.67	88.06
D-5	150.58	136.54	126.86	119.45	113.94	109.60	105.82	103.02	100.52	98.15	96.67
D-5.5	164.97	149.60	139.16	130.87	124.89	120.13	116.04	112.79	110.09	107.66	105.92
D-6	180.87	163.97	152.42	143.52	136.92	131.59	127.16	123.66	120.68	117.97	116.04
D-6.5	200.11	181.42	168.68	158.80	151.49	145.67	140.67	136.85	133.56	130.48	128.43
D-7	221.28	200.71	186.62	175.69	167.51	161.14	155.62	151.40	147.68	144.34	142.03
D-7.5	298.63	270.84	251.78	237.02	225.98	217.30	209.97	204.26	199.23	194.76	191.64
D-8	344.64	312.54	290.46	273.40	260.92	250.80	242.34	235.69	229.97	224.77	221.18

**"D' CONSTRUCTION - SHAPE D**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	78.76	77.68	76.60	75.57	73.99	72.42	71.30	70.32	69.36	68.62	67.90
D-4.5	86.26	85.05	83.92	82.81	81.02	79.35	78.15	77.10	76.02	75.11	74.39
D-5	94.53	93.16	92.05	90.70	88.78	86.97	85.62	84.48	83.29	82.35	81.52
D-5.5	103.60	102.19	100.88	99.52	97.32	95.37	93.84	92.56	91.34	90.31	89.32
D-6	113.54	111.96	110.56	109.02	106.64	104.55	102.80	101.44	100.10	98.97	97.89
D-6.5	125.70	123.92	122.26	120.64	118.08	115.64	113.85	112.19	110.79	109.48	108.32
D-7	138.95	137.09	135.25	133.46	130.54	127.93	125.83	124.13	122.51	121.14	119.83
D-7.5	187.52	184.92	182.48	179.98	176.13	172.51	169.81	167.47	165.30	163.47	161.71
D-8	216.41	213.46	210.65	207.77	203.32	199.19	195.99	193.35	190.74	188.61	186.51

**MOUNTAIN RESIDENCES  
ADDITIVE COSTS**

**WOOD DECKS AND PORCHES**

<u>2" wood deck with steps and railings</u>	<u>Cost Per Square Foot</u>		
1 foot above ground	15.50	-	18.00
4 to 6 feet above ground	18.00	-	23.25
6 to 9 feet above ground	18.50	-	24.50
9 to 12 feet above ground	19.50	-	25.50
12 to 15 feet above ground	20.50	-	26.50
15 to 18 feet above ground	21.00	-	28.00

**FIREPLACES**

<u>Type</u>	<u>Cost</u>		
Metal hood with concrete slab	1,700	-	2,100
Simple concrete block	3,000	-	5,000
Simple block with stone facing	4,000	-	6,000
Simple natural stone	7,000	-	10,000
Brick	5,000	-	up
Wood stove	1,854	-	4,326
Zero clearance	2,472	-	3,708

**FLATWORK**

<u>Type</u>	<u>Cost Per Square Foot</u>		
Asphalt paving	2.62	-	3.93
4" concrete	2.62	-	3.28
6" concrete	3.28	-	5.24

**GARAGES AND CARPORTS**

<u>Type</u>	<u>Cost Per Square Foot</u>		
Average carport, no slab	18.00	-	22.00
Average single garage with slab	38.00	-	45.00
Average double garage with slab	34.00	-	41.00

**HEATING**

<u>Type</u>	<u>Cost</u>		
Wall heaters			
35,000 BTU	803.86		
65,000 BTU	1018.24		
Central heating, perimeter ducts (per square foot)	4.50		
Baseboard hot water (per square foot)	3.22		
Geothermal heat pumps	6120	-	7140

**MOUNTAIN RESIDENCES  
ADDITIVE COSTS**

**HALF-STORY FRACTIONS**

**Mountain Residences**

Use suggested fractions as per AH 531.40, *Building Additives*.

**A-Frame Mountain Residences**

Type I simple platform with low-cost floor cover, minimum partitions, and minimum lighting:  
**\$55.00 to \$60.00 per square foot**

Type II average quality—average-quality carpet, average amount of partitions finished with sheetrock or plywood veneer, average lighting:  
**\$58.00 to \$64.00 per square foot**

Type III good quality—good carpet, decorative rustic partitions and ceiling beams, good lighting:  
**\$83.00 to \$93.00 per square foot**

**EXTRA PLUMBING**

<u>Type</u>	<u>Cost</u>
Lavatory	1,068 - 1,595
Water Closet	1,305 - 1,595
Tub	1,379 - 1,814
Stall Shower	1,014 - 1,450
Sink	1,089 - 1,595

**SLOPE ADJUSTMENTS**

Mountain cabins built on sloping lots will cost more than if they are built on level lots. If the land is a sloping lot, this extra cost should be included in the cost estimate of the building.

The cost of the walls of a building that are not a part of the area that square-foot costs are applied to are estimated using in-place costs. This estimate includes the in-place cost of all materials above a normal foundation (12" to 18" above ground) and the bottom of the next floor structure where square-foot costs have been applied.

The excessive cost of hillside construction called crippling should be included by adding an additional cost for the extra walls, structural members, and high foundation. This extra cost can be estimated by adding the following cost to the highest wall on the steepest side of the house.

<u>Wall Height</u>	<u>Cost Per Lineal Foot</u>
4'	\$44.34
6'	81.43
8'	125.77
10'	162.72

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**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE-UNIT AREA COST TABLES**

**"C" CONSTRUCTION - 2 or 3 UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
C-4	79.51	75.90	73.92	72.42	71.09	69.94	68.99	68.05	67.35	66.19	65.17
C-4.5	86.01	82.19	80.07	78.43	77.03	75.79	74.77	73.70	72.95	71.65	70.62
C-5	93.21	89.04	86.71	84.94	83.41	82.12	80.94	79.86	79.05	77.64	76.47
C-5.5	100.96	96.45	93.94	91.95	90.27	88.92	87.68	86.43	85.59	84.04	82.78
C-6	109.32	104.45	101.79	99.56	97.81	96.24	95.00	93.64	92.71	91.04	89.63
C-6.5	119.57	114.16	111.22	108.89	106.96	105.21	103.78	102.30	101.38	99.53	98.02
C-7	129.94	124.82	121.59	119.05	116.89	115.08	113.50	111.88	110.75	108.76	107.08
C-7.5	149.29	142.58	138.94	136.02	133.52	131.47	129.66	127.90	126.57	124.28	122.49
C-8	170.24	162.65	158.43	155.17	152.31	149.87	147.83	145.85	144.33	141.71	139.62
C-8.5	193.88	185.14	180.37	176.62	173.35	170.68	168.41	165.93	164.26	161.44	159.00

**"C" CONSTRUCTION - 2 or 3 UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
C-4	64.42	63.79	63.13	62.74	62.28	61.80	61.55	61.31	61.03	60.86	60.58
C-4.5	69.76	69.10	68.43	67.94	67.47	66.92	66.64	66.39	66.18	65.91	65.66
C-5	75.55	74.81	74.07	73.57	73.10	72.53	72.15	71.86	71.63	71.37	71.09
C-5.5	81.79	80.99	80.29	79.68	79.16	78.50	78.13	77.90	77.58	77.23	77.08
C-6	88.58	87.69	86.91	86.28	85.71	85.00	84.65	84.37	84.02	83.73	83.46
C-6.5	96.89	95.90	95.00	94.36	93.66	93.00	92.58	92.17	91.87	91.41	91.20
C-7	105.89	104.81	103.80	103.07	102.49	101.57	101.11	100.81	100.39	100.02	99.59
C-7.5	120.97	119.76	118.70	117.84	117.04	116.06	115.60	115.14	114.71	114.31	113.89
C-8	137.93	136.62	135.36	134.34	133.45	132.39	131.79	131.33	130.83	130.44	129.86
C-8.5	157.05	155.55	154.07	153.01	151.97	150.77	150.06	149.46	148.92	148.38	147.83

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**2 or 3 UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
C-4	3,125	4,603	6,510
C-5	3,819	5,990	7,379
C-6	4,428	6,684	9,289
C-7	4,863	6,338	10,418
C-8	6,510	9,463	11,978

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE-UNIT AREA COST TABLES**

**"C" CONSTRUCTION - 4 to 9 UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
C-4	74.90	71.65	69.80	68.35	66.97	65.92	65.05	64.24	63.60	62.49	61.44
C-4.5	81.15	77.59	75.61	74.01	72.58	71.45	70.40	69.62	68.92	67.72	66.60
C-5	87.82	84.03	81.81	80.18	78.67	77.38	76.21	75.35	74.65	73.31	72.14
C-5.5	95.13	91.04	88.59	86.74	85.08	83.77	82.57	81.65	80.81	79.33	78.12
C-6	103.05	98.61	95.98	94.04	92.17	90.77	89.45	88.48	87.54	85.97	84.57
C-6.5	112.67	107.83	104.90	102.80	100.83	99.15	97.73	96.69	95.68	94.00	92.50
C-7	123.13	117.82	114.75	112.31	110.17	108.46	106.87	105.66	104.69	102.77	101.03
C-7.5	140.76	134.60	131.08	128.34	125.85	123.88	122.14	120.72	119.54	117.39	115.48
C-8	160.49	153.52	149.47	146.38	143.57	141.31	139.27	137.72	136.33	133.86	131.65
C-8.5	182.72	174.81	170.22	166.67	163.47	160.84	158.59	156.76	155.24	152.36	150.01

**"C" CONSTRUCTION - 4 to 9 UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
C-4	60.72	60.10	59.67	59.18	58.80	58.38	58.04	57.94	57.61	57.38	57.21
C-4.5	65.77	65.10	64.53	64.03	63.67	63.16	62.85	62.74	62.43	62.14	61.99
C-5	71.19	70.53	69.92	69.38	68.96	68.45	68.12	67.94	67.56	67.28	67.23
C-5.5	77.15	76.44	75.75	75.23	74.75	74.19	73.70	73.59	73.20	72.75	72.70
C-6	83.49	82.63	82.04	81.34	80.88	80.31	79.86	79.68	79.27	78.82	78.72
C-6.5	91.31	90.39	89.63	88.96	88.43	87.75	87.28	87.11	86.64	86.23	86.14
C-7	99.74	98.77	98.01	97.23	96.69	95.98	95.40	95.25	94.76	94.28	94.11
C-7.5	114.00	112.95	111.97	111.17	110.45	109.64	109.02	108.86	108.15	107.70	107.53
C-8	130.08	128.76	127.72	126.72	125.96	125.03	124.35	124.11	123.35	122.87	122.57
C-8.5	148.04	146.59	145.43	144.25	143.43	142.37	141.64	141.24	140.48	139.83	139.58

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**4 to 9 UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
C-4	2,865	4,247	5,664
C-5	3,473	5,398	6,815
C-6	4,165	6,639	8,232
C-7	4,603	7,523	9,912
C-8	5,990	8,495	11,771

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE-UNIT AREA COST TABLES**

**"C" CONSTRUCTION - 10 OR MORE UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
C-4	70.76	67.72	65.92	64.53	63.41	62.36	61.44	60.72	60.04	59.04	58.07
C-4.5	76.72	73.31	71.45	69.85	68.63	67.49	66.60	65.77	65.08	63.96	62.95
C-5	83.09	79.33	77.38	75.72	74.30	73.13	72.14	71.19	70.41	69.29	68.16
C-5.5	89.97	85.97	83.77	82.04	80.46	79.18	78.12	77.15	76.31	74.99	73.85
C-6	97.39	93.16	90.77	88.85	87.18	85.77	84.57	83.49	82.61	81.24	79.93
C-6.5	106.45	101.85	99.15	97.07	95.26	93.76	92.50	91.31	90.35	88.86	87.41
C-7	116.40	111.27	108.46	106.08	104.18	102.54	101.03	99.74	98.76	97.10	95.48
C-7.5	133.02	127.16	123.88	121.19	119.04	117.11	115.48	114.00	112.89	110.90	109.22
C-8	151.69	145.10	141.31	138.25	135.78	133.59	131.65	130.08	128.72	126.58	124.44
C-8.5	172.74	165.10	160.84	157.44	154.51	152.10	150.01	148.04	146.55	144.04	141.69

**"C" CONSTRUCTION - 10 OR MORE UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
C-4	57.40	56.84	56.28	55.87	55.47	55.17	54.91	54.63	54.46	54.25	54.03
C-4.5	62.17	61.55	60.98	60.52	60.04	59.73	59.41	59.19	58.97	58.78	58.48
C-5	67.30	66.64	66.11	65.48	65.08	64.70	64.40	64.12	63.87	63.59	63.45
C-5.5	72.91	72.15	71.52	70.89	70.41	70.06	69.73	69.40	69.15	68.91	68.64
C-6	78.99	78.13	77.52	76.85	76.31	75.82	75.45	75.28	74.90	74.62	74.30
C-6.5	86.26	85.43	84.71	83.98	83.41	82.92	82.46	82.18	81.90	81.50	81.23
C-7	94.37	93.44	92.58	91.83	91.12	90.60	90.20	89.88	91.80	89.18	88.87
C-7.5	107.82	106.79	105.84	104.97	104.12	103.56	103.07	102.73	102.29	101.84	101.57
C-8	122.93	121.73	120.63	119.68	118.78	118.10	117.51	117.15	116.68	116.18	115.77
C-8.5	139.86	138.57	137.37	136.27	135.28	134.46	133.79	133.31	132.75	132.27	131.82

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**10 OR MORE UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
C-4	2,519	3,905	4,692
C-5	3,040	4,603	6,639
C-6	3,905	5,990	7,523
C-7	4,603	6,944	9,469
C-8	5,295	8,334	10,796

**MULTIPLE-FAMILY RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-4 QUALITY**

<b>Foundation</b> Light concrete
<b>Floor Structure</b> Joints: 2" x 4", 24" o.c.; or 4" concrete
<b>Walls and Exterior</b> Framing: 2" x 4" studs, 16" o.c. Sheathing: None Cover: 1/2" redwood siding painted, or light stucco Windows: Wood casements or double hung, painted
<b>Roof</b> Framing: 2" x 4" rafter, 24" o.c. Cover: 3 ply built-up 15# felt, mopped Overhang: 16", unsealed Gutters: None
<b>Floor Finish</b> 1" x 4" Douglas Fir tongue and groove; print linoleum in kitchen
<b>Interior Finish</b> Two coats of sand plaster on wood or gypsum lath glue size and calcimine
<b>Interior Detail</b> Trim: One member Douglas Fir, painted Closets: One closet per bedroom; minimum shelving
<b>Bath Detail</b> Floors: Print linoleum Walls: Plaster, painted Shower: None or metal shower in place of tub
<b>Kitchen</b> Base Cabinet: 4' Douglas Fir, painted Wall Cases: Small area; Douglas Fir, painted Drain Board: 4' wood or linoleum squares
<b>Plumbing</b> Fair quality fixtures
<b>Special Features</b> None
<b>Electrical</b> Knob and tube or Romex wiring; simple fixtures

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE-UNIT AREA COST TABLES**

**"D" CONSTRUCTION - 2 OR 3 UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
D-4	72.58	69.43	67.67	66.15	64.98	63.91	63.03	62.24	61.64	60.46	59.54
D-4.5	78.64	75.14	73.26	71.61	70.28	69.17	68.32	67.32	66.75	65.52	64.47
D-5	85.15	81.37	79.34	77.53	76.16	74.93	73.91	72.91	72.30	71.02	69.83
D-5.5	92.21	88.12	85.96	83.98	82.47	81.20	80.15	78.98	78.29	76.88	75.67
D-6	99.86	95.40	93.05	90.99	89.35	87.91	86.69	85.60	84.75	83.24	81.93
D-6.5	109.12	104.29	101.76	99.39	97.62	96.10	94.83	93.54	92.65	91.04	89.58
D-7	119.30	114.11	111.22	108.73	106.77	104.99	103.69	102.22	101.28	99.48	97.90
D-7.5	136.35	130.35	127.08	124.16	121.99	120.01	118.47	116.84	115.73	113.65	111.87
D-8	155.48	148.62	144.94	141.64	139.05	136.86	135.14	133.15	132.00	129.64	127.60
D-8.5	176.96	169.23	165.00	161.24	158.37	155.77	153.81	151.56	150.25	147.65	145.24

**"D" CONSTRUCTION - 2 OR 3 UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
D-4	58.81	58.26	57.72	57.31	56.91	56.54	56.29	56.00	55.83	55.59	55.46
D-4.5	63.75	63.09	62.56	62.00	61.67	61.28	60.95	60.74	60.42	60.26	60.05
D-5	69.06	68.32	67.68	67.18	66.77	66.37	66.01	65.72	65.45	65.25	65.04
D-5.5	74.78	73.93	73.30	72.73	72.32	71.85	71.56	71.16	70.87	70.69	70.45
D-6	80.95	80.15	79.42	78.76	78.30	77.82	77.43	77.19	76.75	76.52	76.27
D-6.5	88.55	87.51	86.88	86.15	85.61	85.09	84.65	84.35	83.92	83.68	83.38
D-7	96.71	95.75	94.90	94.19	93.61	93.02	92.56	92.13	91.75	91.40	91.18
D-7.5	110.54	109.42	108.42	107.59	106.97	106.30	105.73	105.30	104.84	104.55	104.20
D-8	126.02	124.87	123.60	122.73	121.91	121.21	120.58	120.14	119.56	119.12	118.81
D-8.5	143.60	142.04	140.76	139.72	138.82	138.01	137.30	136.68	136.08	135.63	135.21

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**2 OR 3 UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
D-4	3,076	4,406	6,232
D-5	3,739	5,734	7,064
D-6	4,406	6,399	8,892
D-7	4,904	7,729	9,972
D-8	6,232	9,306	11,467

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE-UNIT AREA COST TABLES**

**"D" CONSTRUCTION - 4 TO 9 UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
D-4	68.36	65.32	63.64	62.32	61.14	60.17	59.48	58.61	58.02	56.93	56.00
D-4.5	74.01	70.75	69.00	67.47	66.19	65.14	64.40	63.46	62.89	61.69	60.74
D-5	80.17	76.59	74.73	73.07	71.70	70.55	69.64	68.73	68.13	66.82	65.72
D-5.5	86.88	82.97	80.82	79.09	77.68	76.45	75.45	74.35	73.80	72.37	71.16
D-6	94.04	89.90	87.55	85.68	84.02	82.73	81.78	80.53	79.91	78.31	77.19
D-6.5	102.79	98.24	95.75	93.69	91.94	90.47	89.39	88.10	87.35	85.62	84.35
D-7	112.36	107.43	104.65	102.42	100.53	98.92	97.70	96.28	95.40	93.63	92.13
D-7.5	128.36	122.72	119.55	117.08	114.82	113.03	111.69	110.08	109.12	107.05	105.30
D-8	146.47	139.96	136.36	133.48	131.02	128.90	127.33	125.57	124.43	122.09	120.14
D-8.5	166.64	159.28	155.23	151.94	149.06	146.72	144.95	142.93	141.61	138.89	136.68

**"D" CONSTRUCTION - 4 TO 9 UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
D-4	55.50	54.92	54.41	53.92	53.61	53.29	53.01	52.81	52.56	52.29	52.21
D-4.5	60.08	59.48	58.92	58.40	58.02	57.70	57.39	57.18	56.87	56.66	56.52
D-5	65.06	64.40	63.80	63.29	62.89	62.47	62.24	61.94	61.64	61.38	61.23
D-5.5	70.50	69.64	69.07	68.49	68.08	67.67	67.32	67.07	66.75	66.44	66.33
D-6	76.35	75.45	74.79	74.27	73.80	73.27	72.90	72.58	72.23	72.06	71.79
D-6.5	83.45	82.54	81.78	81.10	80.68	80.17	79.72	79.37	78.94	78.67	78.51
D-7	91.21	90.25	89.44	88.68	88.12	87.57	87.16	86.73	86.34	86.04	85.81
D-7.5	104.23	103.10	102.22	101.36	100.69	100.04	99.58	99.13	98.66	98.34	98.07
D-8	118.83	117.62	116.52	115.58	114.90	114.13	113.56	113.05	112.49	112.15	111.87
D-8.5	135.32	133.85	132.65	131.59	130.77	129.89	129.24	128.71	128.07	127.61	127.33

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**4 TO 9 UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
D-4	2,660	3,987	5,318
D-5	3,324	4,406	6,399
D-6	3,987	6,232	7,729
D-7	4,655	7,064	9,306
D-8	5,569	7,978	11,053

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE-UNIT AREA COST TABLES**

**"D" CONSTRUCTION - 10 OR MORE UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
D-4	64.59	61.47	60.17	58.92	57.72	56.85	56.00	55.37	54.77	53.83	53.03
D-4.5	69.98	66.60	65.14	63.80	62.56	61.56	60.74	59.92	59.34	58.27	57.44
D-5	75.73	72.09	70.55	69.07	67.68	66.73	65.72	64.98	64.36	63.10	62.27
D-5.5	82.05	78.11	76.45	74.79	73.30	72.15	71.16	70.28	69.60	68.40	67.39
D-6	88.84	84.47	82.73	81.03	79.42	78.18	77.19	76.16	75.35	74.01	72.96
D-6.5	97.12	92.39	90.47	88.63	86.88	85.52	84.35	83.26	82.45	80.95	79.76
D-7	106.15	100.98	98.92	96.79	94.90	93.48	92.13	91.00	90.09	88.50	87.17
D-7.5	121.31	115.44	113.03	110.66	108.42	106.80	105.30	103.94	102.94	101.08	99.66
D-8	138.34	131.62	128.90	126.16	123.60	121.76	120.14	118.59	117.33	115.38	113.62
D-8.5	157.56	149.81	146.72	143.65	140.76	138.59	136.68	134.98	133.62	131.29	129.35

**"D" CONSTRUCTION - 10 OR MORE UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
D-4	52.39	51.87	51.42	51.00	50.55	50.25	50.11	49.85	49.66	49.41	49.31
D-4.5	56.77	56.26	55.69	55.22	54.76	54.43	54.23	54.02	53.74	53.55	53.38
D-5	61.47	60.84	60.26	59.76	59.32	59.01	58.71	58.42	58.25	57.94	57.85
D-5.5	66.60	65.87	65.31	64.72	64.15	63.91	63.56	63.35	63.03	62.76	62.62
D-6	72.09	71.38	70.69	70.09	69.53	69.17	68.92	68.57	68.26	68.00	67.74
D-6.5	78.85	78.01	77.28	76.65	75.94	75.62	75.33	74.93	74.64	74.30	74.12
D-7	86.13	85.27	84.47	83.74	83.05	82.70	82.30	81.94	81.52	81.20	81.03
D-7.5	98.38	97.40	96.50	95.75	94.98	94.53	94.09	93.65	93.22	92.88	92.53
D-8	112.20	111.08	110.07	109.12	108.32	107.71	107.32	106.78	106.38	105.85	105.57
D-8.5	127.75	126.48	125.25	124.30	123.31	122.65	122.16	121.55	121.04	120.49	120.23

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**10 OR MORE UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
D-4	2,660	3,739	4,406
D-5	3,076	4,406	4,619
D-6	3,739	5,569	7,064
D-7	4,655	6,647	8,892
D-8	5,318	7,562	9,972

**MANUFACTURED HOUSING  
SQUARE-FOOT AREA COST TABLE**

	321-	501-	701-	901-	1101-	1301-	1501-	1701-	1901-	2101-	2301-
Class	500	700	900	1100	1300	1500	1700	1900	2100	2300	2500
4	40.85	39.92	38.98	35.28	34.42	33.48	32.60	31.75	30.88	30.01	29.12
4.5	42.93	42.02	41.06	37.21	36.36	35.46	34.58	33.72	32.84	31.97	31.05
5	45.32	44.40	43.45	39.42	38.53	37.66	36.81	35.89	35.04	34.17	33.30
5.5	48.15	47.19	46.28	43.26	41.16	40.29	39.42	38.53	37.66	36.81	35.89
6	51.24	50.31	49.36	46.22	44.02	43.15	42.26	41.37	40.51	39.62	38.75
6.5	55.02	54.05	53.15	49.83	47.52	46.65	45.76	44.89	44.02	43.15	42.26
7	58.80	57.88	56.87	53.42	51.03	50.13	49.28	48.40	47.52	46.65	45.76
7.5	63.09	62.08	61.17	57.48	56.56	55.66	54.76	53.87	52.98	52.05	51.19
8	67.52	66.58	65.65	62.91	62.01	61.11	60.15	59.27	58.30	57.42	56.52
8.5	72.04	71.07	70.15	69.23	68.24	67.30	66.32	65.42	64.45	63.53	62.58
9	76.52	75.57	74.64	73.67	72.72	71.78	70.84	69.88	68.96	68.01	67.07

**NOTE:** The above cost factors are to be used only in the valuation of manufactured homes that are in excess of 8 feet in width or in excess of 40 feet in length, and/or in excess of 320 square feet. To compute square footage, measure the exterior perimeter of the unit(s) at the floor level. **DO NOT INCLUDE THE TOW BAR.**

**FOUNDATION**

**Single Story**

For units on permanent foundations	1,000 sq. ft. to 1,800 sq. ft.	\$9,000 to \$17,000
	1,800 sq. ft. to 3,000 sq. ft.	\$17,000 to \$28,000

**Two Story**

Use the footprint of the first story for square foot calculation of foundation.

**MANUFACTURED HOUSING  
MANUFACTURED HOUSING ACCESSORY AND COMPONENT COST**

**AIR CONDITIONING**

<u>Type</u>	<u>Cost</u>
Central Air for Ready Furnace Using Existing Ducts	
2 Ton                      Approximately 800 - 1100 sq. ft.	2,253
2 1/2 - 3 Ton            Approximately 1100 - 1600 sq. ft.	2,587
4 - 5 Ton                 Approximately 1600 - 2500 sq. ft.	2,840      -      3,342
	<u>Cost per Unit</u>
Thru-wall Small Unit (1/2 H.P. 6,000 BTU)	787
Thru-wall Large Unit (1 H.P. 1,200 BTU)	1,040
Evaporative Cooler--Roof Mounted	928      -      1,164
Wired Only for Air Conditioning	143      -      298

**BUILT-INS**

<u>Type</u>	<u>Cost Each</u>
Dishwasher (included in Class 7, 8, or 9)	591      -      732
Garbage Disposal (included in all base cost, deduct if missing)	118      -      732
Built-in Microwave Oven	467      -      933
Trash Compactor	536      -      675
Wet Bar (walk-up--if not included in class)	473      -      563
Wet Bar (walk behind--if not included in class)	1,541      -      1,687
Separate Shower Master Bath	536      -      675
One-half Bath: Toilet, Sink, and Pullman	1,064      -      1,126
Bathroom Sink or Laundry Sink	225
Fireplace (permanent--includes flue)	2,071      -      2,813
Fireplace (free standing--includes flue)	945      -      1,687
Built-in Buffet-Hutch (1 hutch included in Class 8)	715      -      900
Whirlpool Tub in Master Bath	866      -      1,058

**SKIRTING**

<u>Type</u>	<u>Cost Per Linear Foot</u>
Lightweight Aluminum Panels	6.49
Lap Aluminum Siding	12.30
Painted Masonite Panels	12.98
Flagstone-type Aluminum Panels	12.30
Concrete Composite Panels	15.88      -      19.64
Vinyl Panels	10.40
Brick or Stone - Cost per Surface Foot	17.16

**STORAGE BUILDINGS (Floor Included)**

<u>Type</u>	<u>Cost Per Square Foot</u>
Aluminum Exterior	14.56
Enameled Steel Exterior	11.45
Masonite	22.88

**TIE DOWNS**

<u>Type</u>	<u>Cost</u>
Cork Screw Anchors and Straps	66      -      100 Each

## MANUFACTURED HOUSING

### STEPS AND RAILS

	<u>Cost</u>	
Fiberglass Steps	163	- 249
Rail	35	- 55

### UPGRADED COMPONENTS

<u>Type</u>	<u>Cost</u>	
Upgraded Carpets	992	- 2,481
Upgraded Drapes	992	- 2,111

### PORCHES AND DECKS (No Roofs Included)

<u>Type</u>	<u>Cost Per Square Foot</u>	
Wooden Deck with Outdoor Carpet, Handrails, Skirting, and Steps (manufactured home floor level)	13.47	- 17.94

### CARPORT, PORCH, AND DECK ROOFS

<u>Type</u>	<u>Cost Per Square Foot</u>	
Aluminum Supports and Roof Cover - Free Standing	10.48	- 13.47
Aluminum Supports and Roof Cover - Attached to House	6.66	- 9.48
Wooden Supports and Enameled Steel Cover	11.97	- 14.96

### SCREEN WALLS FOR PORCHES AND DECKS

<u>Type</u>	<u>Cost Per Linear Foot</u>	
Wood Frame with Screen Walls and Door	47.59	
Wood or Aluminum Frame with Screen and Glass Walls and Door	82.94	

### EXTRA INSULATION PACKAGE

<u>Type</u>	<u>Cost Per Square Foot</u>	
Minimum Fiberglass	0.65	- 0.96
R-11 Floor, R-11 Sidewall, R-22 Ceiling	0.91	- 0.98
R-22 Floor, R-19 Sidewall, R-33 Ceiling	1.04	- 1.43

### ROOF SNOWLOAD CAPABILITY

<u>Pounds Per Square Foot</u>	<u>Cost Per Square Foot</u>	
30 lbs.	0.48	- 0.78
40 lbs.	0.78	- 1.41
50 lbs.	1.41	- 1.87
60 lbs.	1.87	- 2.50
80 lbs.	2.36	- 3.75
100 lbs.	3.13	- 4.31
175 lbs.	3.90	- 4.68

### MISCELLANEOUS

	<u>Cost</u>	
Hot Water Recirculating System (per unit)	489	- 515
Solar Tube Skylight	258	- 309
Foundation Ready	464	- 618

## MANUFACTURED HOUSING

### DEPRECIATION

The depreciation table in this handbook is suggested as a guide to appraisers. The percentage rates are applicable to the replacement cost estimates and no minimum percent good is intended. They are averages based upon an analysis of actual market purchase price information, and revisions to the table may be necessary as more market data become available.

The percentages only apply to manufactured housing in average condition. A separate adjustment should be considered for deferred maintenance (cost to cure). It is strongly suggested that the appraiser carefully evaluate the *effective age* of the manufactured home. This is a critical adjustment that will dramatically affect the cost approach. Investigation has shown that the condition of the manufactured home may have a greater influence on value than age.

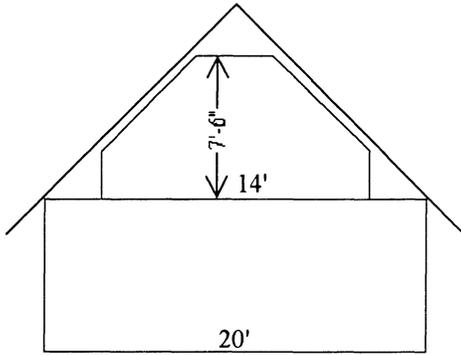
#### PERCENT GOOD TABLE

<u>Effective Age (Years)</u>	<u>Percent Good</u>
0	100%
1	100%
2	98%
3	95%
4	91%
5	87%
6	84%
7	80%
8	76%
9	71%
10	66%
11	63%
12	61%
13	59%
14	56%
15	54%
16	52%
17	51%
18	50%
19	50%
20	49%
21	48%
22	47%
23	46%
24	45%
25	44%

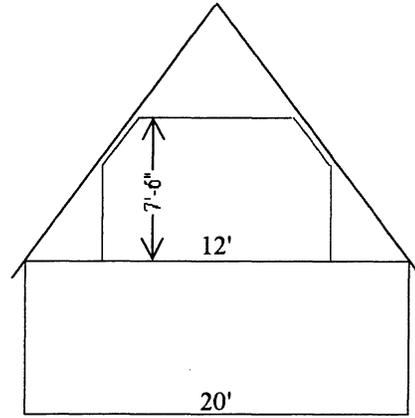
No minimum percent good is intended.

# AH 531.40: BUILDING ADDITIVES

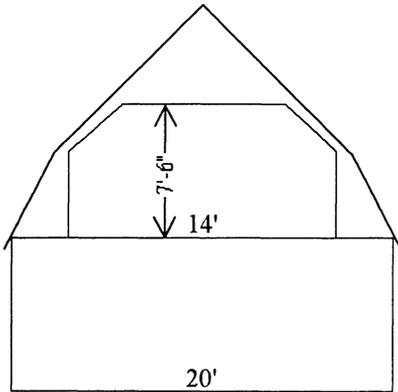
## HALF-STORY AREAS



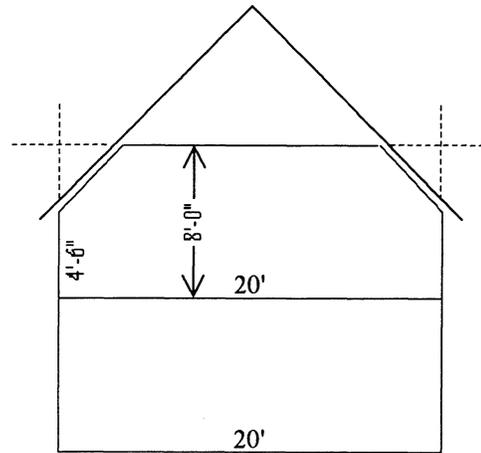
TYPE A



TYPE B



TYPE C



TYPE D

### SUGGESTED FRACTIONS FOR HALF-STORY AREAS

TYPE	SAME FINISH AS MAIN AREA	INFERIOR TO MAIN AREA
A	1/3	1/4
B	1/2	1/3
C	1/2	1/3
D	2/3	1/2

Type "D" includes cost of dormers

## BUILDING ADDITIVES

### COVERED PORCHES AND LEAN-TOS

Costs of covered porches may be estimated by application of a fraction of the main building square-foot cost.

<u>Suggestions for Fractions</u>	<u>Suggested Fraction</u>	
Low (ground level) floor (usually concrete) without banister, with unceiled shed-type roof	1/4	- 1/3
High (house floor level) floor (concrete or wood) with light banister. Unceiled shed-type roof	1/3	- 1/2
Same ceiled and with roof-like residence (most typical)		1/2
Same partially enclosed with screen or glass	1/2	- 2/3
Enclosed lean-to (sleeping porch, etc.) with lighter foundation, wall structure, interior finish or roof than that of house to which attached	1/2	- 3/4
Roofed-unenclosed-recessed porch, under the same roof as the main building and with the same type and quality foundation (includes shape costs)		3/4
Roofed-enclosed-recessed porch with the same type roof and foundation as the main building (includes shape costs)		4/4
Good arbor or pergola with floor	1/4	- 1/3

### UNCOVERED PORCHES

	<u>Cost Per Square Foot</u>				
	<u>8" High</u>	<u>1' High</u>	<u>2' High</u>	<u>3' High</u>	<u>4' High</u>
Less than 100 square feet	7.31	9.78	15.91	21.35	30.16
100 to 200 square feet	6.37	8.86	12.79	17.06	22.76
200 to 400 square feet	5.44	6.98	10.87	15.13	19.61
Over 400 square feet	5.28	6.37	9.70	12.79	16.69

### WOOD DECKS AND PORCHES

<u>2" wood deck with steps and railings</u>	<u>Cost Per Square Foot</u>	
1 foot above ground	14.80	- 17.79
4 to 6 feet above ground	17.79	- 23.75
6 to 9 feet above ground	18.63	- 24.96
9 to 12 feet above ground	19.64	- 26.17
12 to 15 feet above ground	20.63	- 27.47
15 to 18 feet above ground	21.63	- 28.72
Plastic decking or fiberglass	17.27	- 27.24

### PORCH ROOFS

<u>Type</u>	<u>Cost Per Square Foot</u>	
Unceiled shed roof with wood shingle cover	7.83	- 9.26
Ceiled shed roof with wood shingle cover	13.17	- 14.96
Unceiled gable roof with wood shingle cover	9.26	- 11.39
Ceiled gable roof with wood shingle cover	14.96	- 16.38
<u>Alternate Covers</u>	<u>Cost Difference Per Square Foot</u>	
Rolled roofing	deduct 0.64	- 0.78
Corrugated aluminum	deduct 0.72	- 0.85
Corrugated iron	deduct 0.72	- 0.85
Asphalt shingles	deduct 0.85	- 0.98
Wood shakes	add 0.98	- 1.49
Clay tile	add 5.62	- 6.78
Slate	add 6.06	- 8.20

Covered porch costs may be estimated by adding a porch cover cost to an uncovered porch cost.

## BUILDING ADDITIVES

### RESIDENTIAL BASEMENTS

<u>Size</u>	<u>Cost Per Square Foot</u>					
	<u>Unfinished Basements</u>			<u>Finished Basements</u>		
Less than 400 square feet	65.00	-	117.00	100.00	-	134.00
400 - 1,000 square feet	50.00	-	67.50	100.00	-	115.00
Over 1,000 square feet	40.60	-	50.75	55.00	-	75.00

All basement costs assume normal soil conditions, 8' ceiling height, no plumbing, partitions, or windows.

Unfinished basements are based upon reinforced concrete floors and walls, open ceilings and minimum lighting.

Finished basement costs are based upon reinforced concrete floors with vinyl asbestos tile cover, reinforced concrete walls with plywood paneled finish, acoustical tile ceiling and lighting similar to average residences.

Stair access is not included in the basement cost and should always be added.

### BALCONIES

<u>Type</u>	<u>Cost Per Square Foot</u>		
Standard wood frame supported by 4" x 4" posts, 1" wood floor, open on underside, open 2" x 4" railing.	16.43	-	18.00
Standard wood frame supported by 4" x 4" posts, 1" wood floor, sealed on underside, solid stucco or wood siding on railing.	19.57	-	21.13
Standard wood frame supported by steel columns, lightweight concrete floors, sealed on underside, solid stucco or open grillwork railing.	29.73	-	32.87
Add for balcony roofs from porch roof cost on 531.40, page 2.			

### OUTSIDE STAIRWAYS

<u>Type</u>	<u>Cost Per Square Foot</u>		
Standard wood frame, wood steps with open risers, open on underside, open 2" x 4" railing.	14.87	-	16.43
Standard wood frame with solid wood risers, sealed on underside, solid stucco or wood siding on railing.	18.00	-	21.13
Precast concrete steps with open risers, steel frame, pipe rail with ornamental grillwork	39.13	-	43.82

## BUILDING ADDITIVES

### HEATING AND COOLING SYSTEMS

<u>Type</u>	<u>Cost Per Square Foot of Floor</u>					
Central Ducted Air Systems	<u>Perimeter</u>			<u>Overhead</u>		
Single-Family Residences	<u>Outlets</u>			<u>Outlets</u>		
Forced air heating	4.50	-	5.00	3.50	-	4.00
Forced air heating and cooling	5.05	-	6.00	4.00	-	5.11
Gravity heat	2.83	-	3.35			
<hr/>						
Multiple-Family Residences						
Forced air heating	2.83	-	3.09	2.58	-	2.83
Forced air heating and cooling	3.61	-	4.38	3.61	-	3.86
<hr/>						
Hot and Chilled Water System (Water is heated or cooled in a central installation and circulated to various parts of a building. Building is heated or cooled by blowing air over coils containing hot or cold water.)				6.83	-	7.88
<hr/>						
<u>Type</u>	<u>Cost Each</u>					
Gas Floor and Wall Furnaces						
Single floor unit				788	-	840
Dual floor unit				1,365	-	1,470
Single wall unit				418	-	627
Dual wall unit				1,147	-	1,249
Thermostat control - add				107	-	168
<hr/>						
<u>Electric Baseboard Units</u>						
	<u>Wattage</u>		<u>Length</u>			<u>Cost Each</u>
	500		3'	231	-	257
	1,000		4'	315	-	341
	1,500		6'	341	-	378
	2,000		8'	410	-	467
	2,500		10'	483	-	525
	3,000		12'	578	-	630
Electric Coils Under Bathroom Tile				1,200		1,500
Includes all electrical and wiring costs.						
<hr/>						
<u>Geothermal</u>						<u>Cost Per Sq. Ft.</u>
Ground Source Heat Pump System				8.00	-	11.00

## BUILDING ADDITIVES

### HEATING AND COOLING SYSTEMS (Cont'd.)

<u>Electric Wall Heaters</u>			
<u>Wattage</u>	<u>Cost Each</u>		
1,000	315	-	368
2,000	368	-	395
3,000	378	-	500
3,500	446	-	552
4,000	525	-	578
4,500	578	-	735
Add for circulating fan	68	-	85
Add for thermostatic control	68	-	85
Cost includes wiring.			

<u>Evaporative Coolers</u>			
<u>Capacity</u>	<u>Cost Each</u>		
	<u>Window Installation</u>	<u>Roof Installation</u>	
2,200 CFM	525	-	578
4,000 CFM	630	-	683
4,500 CFM	735	-	840
5,500 CFM	788	-	894
		840	-
		946	-
		1,050	-
		1,157	-
			946
			999
			1,261
			1,366

<u>Refrigerated Room Coolers</u>			
<u>Capacity</u>	<u>Cost Each</u>		
1/3 Ton	600	-	680
1/2 Ton	730	-	780
3/4 Ton	840	-	890
1 Ton	940	-	990
1 1/2 Ton	1,180	-	1,250
2 Ton	1,300	-	1,610
Cost includes wiring and minimum duct work.			

### SPRINKLER SYSTEMS

	<u>Per Square Foot</u>	
Single Family Residential	3.00	4.70

### INSULATION

	<u>Per Square Foot</u>	
Minimum Code	0.75	1.40

## BUILDING ADDITIVES

### ELEVATORS, PASSENGER

<u>Electric</u>				
Car and Machinery Cost Per Shaft				
Base-Six Floors				
<u>Capacity</u>	<u>Speed</u>			
	<u>200 F.P.M.</u>	<u>250 F.P.M.</u>	<u>300 F.P.M.</u>	<u>350 F.P.M.</u>
2,000 lbs.	92,720	97,870	103,025	108,170
2,500 lbs.	97,870	103,025	110,230	114,350
3,000 lbs.	105,080	114,355	118,475	125,685
3,500 lbs.	114,350	121,565	128,775	133,925
4,000 lbs.	123,625	131,865	139,075	146,290
Add for deluxe cab \$7,945 per cab.				
Add for each stop for doors and door openers, \$8,475 per floor				
Baked enamel doors and frame \$2,120 per stop.				
Stainless steel doors and frame \$2,325 per stop.				
<u>Hydraulic</u>				
Car and Machinery Cost Per Shaft				
Base-Two Floors				
<u>Capacity</u>	<u>Speed</u>			
	<u>100 F.P.M.</u>	<u>200 F.P.M.</u>		
2,000 lbs.	36,055	41,210		
2,500 lbs.	39,150	46,360		
3,000 lbs.	41,210	50,480		
3,500 lbs.		53,570		
4,000 lbs.		56,660		
Add for deluxe car \$7,420 per car.				
Add for doors and door openers, \$6,365 per floor				
Baked enamel doors and frame \$2,120 per stop.				
Stainless steel doors and frame \$2,325 per stop.				

### FIRE ESCAPES

	<u>Unit</u>	<u>Cost</u>	
Second story	Each	3,500	4,635
Additional floors	Per story	2,060	3,090

### BURGLAR ALARMS

	<u>Cost</u>
Total cost in place	1,500 - 4,000

## BUILDING ADDITIVES

### FIREPLACES/INSTALLED

<u>Type</u>	<u>Cost Each</u>			
	<u>One Story</u>		<u>Two Story</u>	
Zero Clearance Metal Firebox, natural gas and/or wood burning Low Quality - Typically enclosed by painted or stuccoed wall board 36" width with 12.5' chimney pipe	1,635	-	2,040	
Medium Quality - Typically enclosed in attractive wood paneling, simulated materials, or moderate brickwork, has average wood mantel. 36" width with 15' chimney pipe	2,040	-	2,360	2,245 - 2,450
High Quality - Firebox unit has fire-brick back and floor and glass door. Unit typically enclosed by brick or stone, also has raised brick hearth. 48" width with 15' chimney pipe	2,550	-	4,000	3,060 - 5,500
Add: Insulation, gas line, mantel	850	-	1,000	
Pellet fed fireplace	1,530	-	2,040	
Free Standing Prefabricated Fireplace	1,530	-	2,040	
Masonry:				
5' base, common brick or concrete block, low cost Douglas fir or common brick mantle	4,000	-	4,500	4,500 - 5,000
6' base, common brick, used brick, or natural stone on interior face or with average wood mantle	4,500	-	5,000	5,000 - 8,000
6' base, common brick, face brick with good wood mantle	5,000	-	8,000	8,000 - 9,500
6' base, common brick, used brick, or natural stone on interior face, raised hearth	8,000	-	9,500	9,500 - 12,000
8' base, common brick, used brick, or natural stone on interior face, raised hearth	9,500	-	12,000	14,000 - 14,500
Add 25 to 40 percent to above costs for additional openings using a common chimney.				

## BUILDING ADDITIVES

### STOVES (Franklin or Buck)

<u>Type</u>			
Low Quality			
Steel body with cast iron legs and front	1,104	-	1,629
Medium Quality			
Steel body with cast iron front, doors, and legs, small glass panel in door	1,629	-	2,206
High Quality			
All cast iron with large glass panel in door with slate or rock borders	2,733	-	3,888

### BUILT-IN APPLIANCES

<u>Type</u>			<u>Cost Each</u>
Combination oven-range with single oven			
Economy	326	-	530
Good	530	-	925
Excellent	857	-	1,600
Surface Cooking Units--Ceramic Cook Top Over Oven			
Economy	454	-	694
Good	694	-	980
Excellent	908	-	1,250
Built-ins			
Single oven with broiler	454	-	510
Single convection oven	959	-	1,553
Double oven	1,489	-	1,834
Range Top			
Economy	388	-	510
Good	510	-	749
Excellent	3,000	-	5,000
Range Top With Grill	561	-	1,091
Range Hoods and Fans	138	-	291
Dishwashers			
Economy	194	-	308
Good	286	-	572
Excellent	530	-	910
Garbage Disposer	163	-	462
Wine Cooler	350	-	500
Instant Hot Water Dispenser	400	-	590
Trash Compactor	300	-	500
Hot Water Recirculator	475	-	500
Microwave Oven Stove Top	460	-	550
Miscellaneous Additives			
Intercom Systems			
Central control-per station	536	-	648
Vacuum Systems			
Power unit and three outlets	1,500	-	3,000
Additional outlets	189	-	242
Crown Molding (Per Lineal Foot)	7	-	12
Two-speaker surround sound	600	-	700
Four-speaker surround sound	1,000	-	1,200
Six-speaker surround sound	1,800	-	2,100

## BUILDING ADDITIVES

### DOMESTIC WATER SYSTEMS

Homes that are not served by a public water system usually obtain necessary water from a well. However, wells (including the hole, casing, grouting, and gravel pack) are considered land and appraised as part of the land value. The pump, motor, tank, and distribution piping are considered improvements and are appraised as part of the improvement value.

Many types of pumps are available for domestic wells, but two types are the most common. They are jet pumps and submersible pumps.

### SUBMERSIBLE PUMPS

A submersible pressure system consists of a multi-stage centrifugal pump coupled to an electric motor. The entire unit is submersed below the water level. Water enters a screened section of pipe and is pumped to the surface. This system is by far the most common as it is used in about 60 to 80 percent of all new pump installations.

#### SUBMERSIBLE PUMP COST TABLE

EXCLUDES WELL AND CASING COSTS

H.P.	<u>Depth of Setting</u>											
	<u>40'</u>	<u>60'</u>	<u>80'</u>	<u>100'</u>	<u>120'</u>	<u>140'</u>	<u>160'</u>	<u>180'</u>	<u>200'</u>	<u>220'</u>	<u>260'</u>	<u>300'</u>
1/2	2453	2534	2616	2698	2780	2863	2944					
3/4	2780	2944	3108	3270	3434	3598	3760	3925				
1	3270	3434	3598	5200	3925	4088	4253	4415	4578			
1 1/2	3925	4088	4253	4415	4578	4742	4906	5070	5233	5395		
2	4906	5070	5233	5395	5560	5723	5887	6050	6215	6378		
3	5723	6050	6378	6704	7032	7358	7523	7685	7849	8012	8177	
5	6540	6868	7195	7523	7849	8012	8177	8340	8503	8668	8830	8993

#### Submersible Pump, Installed at 100' Depth Excluding Well and Casing Typical Installation

	<u>1/2 H.P.</u>	<u>3/4 H.P.</u>	<u>1 H.P.</u>	<u>1 1/2 H.P.</u>	<u>2 H.P.</u>	<u>3 H.P.</u>	<u>5 H.P.</u>
Total Cost	2,699	3,270	3,760	4,415	5,395	6,704	6,984
Tank Size (Gal)	82	82	120	220	220	315	315

## BUILDING ADDITIVES

### JET PUMPS

Jet Pumps involve a centrifugal pump connected to an ejector consisting of a nozzle and venturi tube. Both the pump and motor are installed at ground level, and the only parts submerged are the pipes and ejector. Maximum pumping depth is 200 feet. Jet pump systems cost between 15 and 20 percent less than submersible systems.

### PRESSURE TANKS

Cost Installed				
<u>Galvanized Tanks</u>				
42 Gal.	16" Diameter x	48" Depth	50" Cir.	331
82 Gal.	20" Diameter x	60" Depth	63" Cir.	441
120 Gal.	24" Diameter x	60" Depth	75" Cir.	551
220 Gal.	30" Diameter x	72" Depth	94" Cir.	1214
315 Gal.	36" Diameter x	72" Depth	113" Cir.	1655
525 Gal.	36" Diameter x	120" Depth	113" Cir.	2206

### WELL COSTS

<u>Drilling Cost Per Linear Foot Including Casing and Gravel Pack</u>						
<u>Casing Diameter</u>	<u>Plastic Casing</u>			<u>Steel Casing</u>		
6"	33.85	-	37.08	37.08	-	40.30
8"				40.30	-	43.51

Price ranges are due largely to the area in which wells are drilled. The harder the soil, the more costly to drill. Domestic wells rarely have casing greater than 8" in diameter.

### SEPTIC TANK COST

<u>House Description</u>	<u>Tank Size</u>	<u>Cost</u>
2 bedroom house	1,000 - 1,250 gallon tank	4,438 - 5,835
3 bedroom house	1,250 - 1,500 gallon tank	5,400 - 6,726
4 bedroom house	1,500 - 2,000 gallon tank	8,500 - 10,000
5 bedroom house	2,000 - 2,400 gallon tank	9,500 - 10,500

The installed cost of septic tanks will vary greatly depending upon soil conditions and type of system. Heavy clay or rocky soil will increase the cost of the system.

**RESIDENTIAL GARAGES  
BUILDING SPECIFICATIONS (CONTD.)  
"D" CONSTRUCTION**

**POST 1990 (Contd.)**

<b>Roof Cover</b>	
D-5	Standard wood or steel frame; composition shingle; concrete shake; 0" to 12" overhang, unsealed
D-6	Standard wood or steel frame; wood shingle; light wood shake; good composition shingle; concrete shake or tile; 0" to 18" overhang, unsealed
D-7	Standard wood or steel frame; medium wood shake; concrete shake or tile; 0" to 24" overhang, unsealed
D-8	Standard wood or steel frame; heavy wood shake; concrete shake or tile; 0" to 24" overhang, sealed or unsealed
D-9	Standard wood or steel frame; heavy wood shake; concrete shake or tile; adobe tile; 0" to 36" overhang, unsealed, sealed, or boxed
D-10	Standard wood or steel frame; heavy wood shake; adobe tile; copper; slate; 0" to 36" overhang, unsealed, sealed, or boxed
<b>Lighting</b>	
D-5	One light with switch
D-6	One light with switch
D-7	One light with switch
D-8	One light with switch
D-9	Ample lighting
D-10	Ample lighting
<b>Interior Finish</b>	
D-5	Unfinished
D-6	Gypsum board
D-7	Gypsum board, painted
D-8	Gypsum board, painted
D-9	Fully finished with some cabinets and shelving
D-10	Fully finished with some cabinets and shelving

**RESIDENTIAL GARAGES**

**ATTACHED  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION**

<b>Class</b>	<b>220</b>	<b>260</b>	<b>280</b>	<b>320</b>	<b>360</b>	<b>400</b>	<b>440</b>	<b>480</b>	<b>540</b>	<b>600</b>	<b>720</b>
D-1	11.05	10.64	10.50	10.18	9.98	9.82	9.75	9.51	9.48	9.32	9.11
D-1.5	15.89	15.23	15.05	14.52	14.43	13.95	13.90	13.72	13.56	13.29	13.13
D-2	20.59	19.86	19.55	18.95	18.58	18.31	18.06	17.88	17.55	17.43	17.07
D-3	22.92	22.06	21.61	21.09	20.54	20.13	19.86	19.55	19.26	18.95	18.47
D-3.5	25.30	24.29	23.74	23.05	22.64	22.15	21.88	21.49	21.16	20.80	20.50
D-4	27.53	26.31	25.88	25.14	24.53	24.13	23.69	23.44	23.05	22.85	22.32
D-4.5	29.58	28.12	27.66	26.82	26.13	25.79	25.30	24.97	24.53	24.29	23.69
D-5	31.57	29.93	29.46	28.50	27.68	27.19	26.82	26.42	26.09	25.79	25.14
D-5.5	36.04	34.03	33.27	31.98	31.10	30.49	29.88	29.46	29.03	28.49	27.75
D-6	40.60	38.13	37.23	35.81	34.62	33.79	33.15	32.48	31.86	31.25	30.53
D-6.5	43.36	41.03	40.11	38.79	37.77	36.96	36.14	35.63	34.95	34.40	33.58
D-7	45.97	43.85	43.07	41.89	40.91	40.11	39.47	38.84	38.25	37.66	36.85
D-7.5	51.93	49.83	48.96	47.48	46.22	45.37	44.47	43.95	43.14	42.57	41.62
D-8	61.31	58.64	57.58	55.75	54.54	53.39	52.45	51.61	50.76	50.05	48.93
D-8.5	73.75	69.09	68.03	67.13	65.48	63.95	62.93	62.05	60.81	60.00	58.59
D-9	91.17	87.07	85.43	82.64	80.62	78.94	77.66	76.45	75.01	74.07	72.30
D-9.5	121.30	115.68	113.36	109.63	106.92	104.47	102.59	100.98	99.31	97.61	95.29
D-10	139.84	133.24	130.42	126.32	122.80	120.01	117.88	115.90	113.71	111.96	109.15

**DETACHED  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION**

<b>Class</b>	<b>220</b>	<b>260</b>	<b>280</b>	<b>320</b>	<b>360</b>	<b>400</b>	<b>440</b>	<b>480</b>	<b>540</b>	<b>600</b>	<b>720</b>
D-1	12.17	11.36	11.04	10.63	10.14	9.87	9.60	9.43	9.15	8.98	8.72
D-1.5	17.10	16.00	15.56	14.98	14.40	13.98	13.69	13.27	13.04	12.78	12.42
D-2	21.91	20.68	20.18	19.32	18.61	18.17	17.69	17.33	16.94	16.58	16.00
D-3	25.37	23.70	23.06	21.88	21.00	20.36	19.83	19.34	18.85	18.41	17.69
D-3.5	27.68	25.85	25.20	23.90	23.07	22.29	21.78	21.24	20.65	20.18	19.50
D-4	30.15	28.23	27.43	26.12	25.04	24.32	23.71	23.09	22.48	21.91	21.13
D-4.5	31.94	29.80	29.05	27.60	26.77	25.77	25.20	24.54	23.84	23.33	22.66
D-5	34.18	31.56	30.67	29.11	28.00	27.20	26.52	26.07	25.37	24.99	24.18
D-5.5	39.24	36.23	34.98	33.17	31.82	30.67	29.81	29.10	28.23	27.51	26.38
D-6	46.63	42.68	41.17	38.81	37.04	35.80	34.65	33.79	32.60	31.88	30.64
D-6.5	49.35	45.93	44.59	42.00	40.81	39.55	38.40	37.52	36.39	35.57	34.20
D-7	53.41	49.74	48.24	45.87	44.09	42.68	41.48	40.50	39.28	38.34	36.90
D-7.5	60.56	56.36	54.66	52.04	50.01	48.32	47.02	45.89	44.45	43.39	41.70
D-8	68.36	63.48	61.63	58.60	56.24	54.46	52.80	51.54	50.00	48.78	46.97
D-8.5	82.58	76.69	74.37	70.63	67.79	65.50	63.61	62.01	60.18	58.68	56.38
D-9	102.14	94.96	92.15	87.47	83.86	80.98	78.51	76.73	74.36	72.50	69.48
D-9.5	137.02	127.05	123.00	116.70	111.80	107.71	104.49	101.96	98.68	95.83	92.07
D-10	159.06	147.00	142.62	135.02	129.12	124.59	120.64	117.36	113.53	110.35	105.78

**RESIDENTIAL GARAGES  
BUILDING SPECIFICATIONS  
"C" CONSTRUCTION**

<b>Foundation</b>	
C-4	Light concrete
C-5	Standard concrete
C-6	Reinforced concrete
C-7	Reinforced concrete
C-8	Reinforced concrete
<b>Floor</b>	
C-4	Light concrete
C-5	Concrete
C-6	Concrete
C-7	Concrete
C-8	Concrete
<b>Walls</b>	
C-4	6" reinforced or 8" nonreinforced concrete block; painted exterior
C-5	8" reinforced concrete block; painted exterior
C-6	8" reinforced colored concrete block
C-7	8" reinforced colored detailed block
C-8	8" reinforced colored detailed block
<b>Roof Cover</b>	
C-4	Wood shingles
C-5	Wood or composition shingle
C-6	Good wood or composition shingles; light shakes
C-7	Good wood shingles; medium shakes
C-8	Heavy shakes
<b>Doors</b>	
C-4	Good hinged or light siding
C-5	Good hinged or light overhead
C-6	Plywood overhead
C-7	Plywood or metal overhead
C-8	Good wood or metal
<b>Lighting</b>	
C-4	One drop cord
C-5	One light with switch
C-6	One light with switch
C-7	One light with switch
C-8	Ample lighting
<b>Interior Finish</b>	
C-4	Unfinished
C-5	Unfinished
C-6	Unfinished
C-7	Gypsum board on walls
C-8	Gypsum board on all walls

## RESIDENTIAL GARAGES

### ATTACHED SQUARE FOOT COST TABLES

#### "C" CONSTRUCTION

Class	220	260	280	320	360	400	440	480	540	600	720
C-4	47.77	45.13	44.05	42.38	41.22	40.07	39.17	38.57	37.61	36.90	35.94
C-4.5	49.86	47.09	46.16	44.41	43.09	42.01	41.22	40.48	39.59	38.84	37.72
C-5	52.00	49.30	48.11	46.38	45.08	43.99	43.09	42.36	41.41	40.64	39.59
C-5.5	54.78	51.91	50.71	48.94	47.51	46.32	45.36	44.59	43.67	42.85	41.71
C-6	57.65	54.70	53.51	51.56	50.08	48.94	47.96	47.06	46.16	45.35	44.05
C-6.5	61.66	58.39	57.17	55.25	53.52	52.40	51.28	50.44	49.43	48.49	47.22
C-7	65.00	61.51	60.29	58.12	56.46	55.22	54.00	53.06	52.02	51.07	49.85
C-7.5	72.14	68.51	67.02	64.72	62.78	61.40	60.07	59.03	57.85	56.88	55.43
C-8	83.83	79.54	77.80	74.93	72.96	71.11	69.74	68.63	67.15	66.01	64.32

### DETACHED SQUARE FOOT COST TABLES

#### "C" CONSTRUCTION

Class	220	260	280	320	360	400	440	480	540	600	720
C-4	56.15	51.65	50.00	46.98	44.71	42.92	41.42	40.28	38.77	37.55	35.88
C-4.5	58.40	53.82	51.94	50.34	46.60	44.83	43.36	42.16	40.63	39.41	37.48
C-5	60.82	56.00	54.06	51.02	48.61	46.67	45.22	43.82	42.50	41.09	39.24
C-5.5	63.84	58.88	56.93	53.58	51.18	49.18	47.56	46.26	44.58	43.24	41.34
C-6	70.37	64.81	62.72	59.26	56.52	54.31	52.54	50.99	49.21	47.35	45.67
C-6.5	74.92	69.17	66.89	63.12	60.30	57.98	56.16	54.46	52.66	51.18	48.76
C-7	79.03	72.92	70.51	66.56	63.52	61.13	59.10	57.49	55.48	53.80	51.61
C-7.5	88.03	81.12	78.43	74.11	70.76	67.94	65.70	63.97	61.74	59.98	57.34
C-8	97.28	89.62	86.80	82.03	78.25	75.25	72.85	70.78	68.45	66.37	63.46

## RESIDENTIAL GARAGES

### MULTIPLE-FAMILY RESIDENTIAL GARAGES

Built at ground level and under a multiple-family unit.

#### SQUARE-FOOT COST TABLE

<u>Area</u>	400	800	1,200	2,000	3,000	5,000	10,000	20,000
Cost	29.10	25.94	23.30	20.57	19.21	18.37	17.93	16.99

These costs include the following components.

1. A reinforced concrete floor in all areas.
2. Exterior walls, on one long side and two short sides, made up of a standard wood frame with stucco on both sides.
3. Steel support columns for the floor above.
4. A stucco ceiling in all areas.
5. The difference between the cost of a standard wood frame floor structure at the second floor level and one at the ground level.
6. An average quality light fixture per each 600 square feet.

For multiple-family residential garages built at ground level under a multi-family residence and including all components listed above except exterior walls, use \$15.00 per square foot.

### MULTIPLE-FAMILY RESIDENTIAL GARAGES BUILT AS SEPARATE BUILDINGS

#### SQUARE-FOOT COST TABLE

<u>Area</u>	400	800	1,200	2,000	3,000	5,000	10,000	20,000
Cost	33.54	29.96	27.32	26.88	25.94	23.74	22.80	22.38

These costs include the following components:

1. Foundations.
2. A reinforced concrete floor in all areas.
3. Exterior walls, on one long side and two short sides made up of a standard wood frame with stucco on both sides.
4. Steel support columns supporting the roof.
5. An unceiled standard wood frame roof structure with composition tar and gravel, wood shingle, or light shake cover.
6. An average quality light fixture per each 600 square feet.

**Common wall: deduct \$3.50 per square foot of wall area**

### CARPORTS

Wood or steel posts, asphalt floors, built-up wood frame, or corrugated metal roof \$13.00 to \$15.00 per square foot.

## RESIDENTIAL GARAGES

### BASEMENT GARAGES

One level, five feet below grade, directly beneath 2- to 4-story apartments with perimeter walls in vertical alignment.

SQUARE-FOOT AREA COST TABLE

<u>Type</u>	5,000	7,500	10,000	15,000	20,000	30,000	40,000	60,000
Reinforced concrete exterior walls, reinforced concrete columns and flat concrete roof slab	44.26	42.02	39.22	38.08	36.98	36.53	36.00	35.58
Concrete block exterior walls, reinforced concrete columns and flat concrete roof slab	43.85	41.05	38.35	37.42	36.53	36.10	35.58	34.70
Concrete block exterior walls, steel posts and beams, light concrete/metal roof fireproofed with spray plaster	41.23	37.63	35.86	34.90	34.06	33.12	32.28	31.75
Concrete block walls, wood posts and beams, light concrete/metal roof fireproofed with spray plaster	36.71	34.90	32.69	30.46	29.53	29.10	28.68	28.18
Add for <u>each</u> security door	2.75	2.00	1.70	1.20	1.05	0.85	0.75	0.65

Basement garage costs include the following:

1. 5' excavation
2. Full wall enclosure
3. Storage facilities
4. Minimum lighting
5. Concrete floors
6. Two-car bays

Access stairways and driveway ramps outside the perimeter walls should be considered to be a part of the garage area.

# AH 531.51: YARD IMPROVEMENTS

## SWIMMING POOLS

Swimming pool costs are based on the total surface square footage of the basic pool area. To this total, additives should be added that differ for each pool. The basic square-foot costs include permits, excavation, rough plumbing, rough electrical, steel reinforcing, gunite, plaster, filter, tile work, decking, finish work, profit, and overhead.

Extra costs to be added to the basic pool include costs for the heater, whirlpool spa, pool sweep, ladders, lights, steps, diving board, slide, and swim outs. Many times extra decking, long runs for electrical, water, and gas lines are costly. Soil conditions, right-of-way access, fence, and other obstacle removal and replacement increase total pool costs.

Types of finish decorations such as rock, brick, flagstone trim, cantilevered decking, fancy or special tile, waterfalls, etc., add costs to the total pool costs. Care must be used to separate landscaping costs that are sometimes included in the total pool contract.

The typical pool includes filter, light, one set of steps, and three feet of perimeter decking. It is usually three feet to eight and one-half feet deep and will average 440 surface feet in size.

Pools can be classified into three categories: concrete, fiberglass, or in-ground liner. Concrete pools are usually built of gunite, wet pack, or poured and are the most common of the typical residential pools in use today.

Because of savings in cost, and rapid installation time, fiberglass pools are less expensive than concrete. A key cost in fiberglass pools is the distance between the manufacturer and consumer. Delivery charges can add between \$16.50 and \$20.50 per mile to the cost of the pool. In-ground liner pools are usually of concrete block or redwood base covered with a plastic liner, which in turn is sealed to the base.

### SWIMMING POOLS

	Cost Per Square Foot		
Concrete Pools	50.00	-	90.00
Fiberglass Pools	25.00	-	45.00
In-ground Liner	20.00	-	33.00

A typical 300 square foot concrete pool will cost between **\$65.00 and \$75.00** per square foot.

Swim spas are narrow lap pools with powerful jets that cause a current. The swimmer swims in place against the current—**\$35,000 to \$40,000**.

## YARD IMPROVEMENTS

### SWIMMING POOL ADDITIVES

<u>Heaters</u>		<u>Other Additives</u>	
<u>Average BTU</u>	<u>Average Price</u>		
125	999	Slides	788
250	1,300	Diving Boards	763 – 900
400	1,800	Concrete decking per square foot	7.00
		Redwood decking per square foot	16.00

NOTE: A 500 square-foot pool could be handled with 250 BTU's. Solar heating costs three to four times more than standard gas heating, average **\$3,775 to \$5,410**. See AH 531.40, page 10, for additional data on solar heated pools.

Two typical types of filters are the cartridge and the diatomaceous earth. Typically, these costs are in the basic pool. Deduct for cartridge filter **\$445**.

NOTE: Permit costs vary throughout the state ranging from **\$330 to \$1,650**.

NOTE: Pool sweeps average **\$990** but may be personal property.

### DETACHED SPAS

	<u>With Pool</u>		<u>Without Pool</u>	
Gunite	4,991	- 6,147	11,031	- 14,183
Fiberglass	3,362	- 3,887	7,880	- 8,930

### SPA ADDITIVES

Remote Control	683
Solar Control	1,339

## RESIDENTIAL HOT TUBS AND SPAS

Hot tubs are of wood construction, usually redwood or mahogany with some cedar and jarrah wood installations. They sometimes have plastic liners.

Spas are usually constructed of formed fiberglass or acrylic. More expensive, but less used, units are of ceramic tile on fiberglass backing.

Both spas and hot tubs commonly have pumps, filters, jets, blowers, and heaters that may be used in any class or size installation. Most units are gas and average about 8 percent more in cost than electric.

## YARD IMPROVEMENTS

There is little difference in spa and hot tub installed costs. Below- and aboveground have offsetting costs that are about equal. Replacement costs consider typical installations with normal access. Additions to existing residences may reflect excessive installation cost due to restricted access.

Standard sizes of spas are six, seven, and eight feet with 220 to 400 gallons capacity; wood tubs range from 500 to 800 gallons. Larger sizes are usually contracted under bid and are found primarily in health clubs, motor hotels, and apartment complexes. A large number of residential units are sold with the buyer doing the installation. Labor costs should be added to the historical cost of owner-installed units.

The following tables provide replacement costs for the most common installations, in place, and include materials, sales tax, and installation labor. Component deductions include materials, sales tax, and labor. Higher capacity components are interchangeably used in all classes. The components used will indicate where the replacement cost should fall in the table range of each class.

## YARD IMPROVEMENTS

### HOT TUBS-SPAS-ROUND-OCTAGONAL-SQUARE INSTALLED COST WITH FULL EQUIPMENT GAS (Factor .92 for Electric Units)

Installed Unit	<u>Class I 6'</u>		<u>Class II 7'</u>		<u>Class III 8'</u>	
Diameter	6'		7'		8'	
Hot Tub or Spa	4,327	-	4,894	4,533	-	5,151
Hot Tub or Spa	4,739	-	5,409			
Typical Contractors Installation, Labor (Included in Unit Cost)	1,648	-	2,163	2,163	-	2,679
Typical Contractors Installation, Labor (Included in Unit Cost)	2,421	-	2,679			
Deduct for Lack of:						
Heaters (Gas)			876	979		1,133
Heaters (Electric)			438	490		567
Filters			335	387		464
Blowers			242	273		335
Pumps			438	490		515
Jets (Spas)			335	361		387
Jets (Hot Tubs)			335	387		412
Additional Costs						
Decks 30" Around Spa up to 8' Octagon						
6" High			Brick	670	Concrete	567
12" High 2 Steps			Brick	876	Concrete	824
<u>12' x 12' Square Pattern</u>						
Flush			Brick	824	Concrete	721
6" High			Brick	1,133	Concrete	876
12" High 2 Steps			Brick	1,236	Concrete	1,133
Jarrah wood hot tub - \$622 more than redwood.						
Tile work - concrete base - see tile-in place costs.						
Tile spa - glass base installed \$2,595 more than installed acrylic spa.						
Excavation and dirt removal - sunken installation				361	-	618
Extra material above ground installation				361	-	412
Extra installation on spas 1" thick				103		
Wood decks (common in Northern California)				16	per sq. ft.	
Remote Controls				103	-	155

## YARD IMPROVEMENTS

### CURBS

<u>Type</u>	<u>Cost Per Linear Foot</u>		
Asphalt 6" high	6.67	-	9.00
Concrete Bumper Strip 6" x 6"	8.48	-	9.10
Concrete 6" wide 12" high	9.10	-	9.70
Concrete 6" wide 18" high	10.31	-	12.12
Wood bumper rail 6" x 6"	9.70	-	11.52
Vertical curb and gutter	14.54	-	16.37

### FENCES

	<u>Cost Per Linear Foot</u> <u>Six Feet High</u>		
<b>Redwood</b>			
1" x 4"	16.75	-	18.00
1" x 6"	16.75	-	18.00
1" x 8"	18.00	-	21.00
1" x 10"	18.00	-	24.00
1" x 6" Paling	16.75	-	21.00
<b>Cedar</b>			
1" x 4"	16.75	-	18.00
1" x 6"	16.75	-	18.00
<b>Douglas Fir</b>	14.28	-	20.81
<b>Tri Stake</b>	21.42	-	25.50
<b>Grape Stake</b>	19.38	-	22.44
<b>Good Neighbor</b>	14.28	-	16.32
<b>Basket Weave</b>	17.34	-	20.40
<b>Split Rail</b>	9.35	-	13.51
<b>Corral Fence</b>			
Two Rail	9.35	-	13.51
Three Rail	11.22	-	17.34
<b>Picket</b>	10.03	-	14.31
<b>Vinyl - 6' Solid (Add 10-15% for color)</b>	18.00	-	23.00

### WOOD GATES

<u>Size</u>	<u>Range</u>		
3' x 6'	76.50	-	102.00
4' x 4'	76.50	-	102.00
5' x 6'	107.10	-	122.40

### CHAIN LINK GATES

Width	Height			
	3'	4'	5'	6'
3'	149	171	194	228
5'	173	206	282	319
15'	324	421	567	615

## YARD IMPROVEMENTS

### FENCES (Cont'd)

Chain Link Fences: 11 Gauge, 2" Mesh, Top Rail	Per Linear Foot				
	<u>Height</u>				
	<u>4'</u>	<u>6'</u>	<u>8'</u>	<u>10'</u>	<u>12'</u>
	9.90	13.50	17.20	20.80	24.32

### PAVING

<u>Type</u>	<u>Cost Per Square Foot</u>			
	0 to <u>1,000</u>	1,000 to <u>10,000</u>	10,000 to <u>UP</u>	10,000 <u>UP</u>
2" asphalt on 4" rock base	2.63	2.50		1.68
2" pea gravel	0.50	0.44		0.40
4" concrete on 4" rock base	4.38	3.43		3.06
2" concrete aggregate on 4" rock base	4.99	4.24		3.70
2" concrete salt finish with color	6.84	6.00		-
Broom finish	5.40	4.86		3.90
Decorator concrete, stamped and stenciled		11.00		13.00

### UNCOVERED PATIOS

<u>Type</u>	<u>Cost Per Square Foot</u>
Brick in mortar	15.15
Brick in sand	14.00
Flagstone	16.50
Quarry tile	12.00

### GARDEN STEPS AND STAIRS

<u>Type</u>	<u>Cost Per Square Foot</u>
Concrete steps	24.50
Brick surface steps	24.50
Flagstone surface steps	24.50

### MOWING STRIP

<u>Type</u>	<u>Cost Per Lineal Foot</u>		
6" wide concrete	7.42	-	8.00
12" wide concrete	9.25	-	11.00
12" wide/3" rise	12.25	-	13.50
1 row brick on top	12.35	-	14.25

### CONCRETE BLOCK WALLS - INCLUDING FOUNDATION AND CAPPING COSTS

<u>Height</u>	<u>Cost Per Lineal Foot</u>		
	<u>4" Thick</u>	<u>6" Thick</u>	<u>8" Thick</u>
40"	27.27	31.16	36.36
48"	32.47	37.67	41.57
56"	36.36	44.16	48.04
64"	42.85	49.35	54.56
72"	48.04	61.05	59.75

## YARD IMPROVEMENTS

### LAWN SPRINKLERS

<u>Type</u>	<u>Cost</u>
Lawn - shrubbery and bubbler heads	0.62 per sq. ft.
Rotary pop-up rainbirds	0.66 per sq. ft.
Rainbird heads	0.66 per sq. ft.
Skinner lines	3.64 l. f.
Automatic Valve -	Add 0.59 per sq. ft.

### PATIOS

<p><b>Minimum Quality Wood</b>                      Concrete slab with footings under posts, 4" x 4" posts, 4" x 6" beam, 2" x 4" rafters, 1" x 6" sheathing, and 12" overhang all around. Composition with gravel or aluminum roof cover. Wood painted or stained.</p>		
12.60	to	14.00 sq. ft.
<p><b>Good Quality Wood</b>                      Concrete slab with continuous footing. 6" x 6" posts, 6" x 8" beam, 2" x 6" or 4" x 6" rafters with 2" x 6" fascia. 1" x 8" vee groove shiplap sheathing, and 18" overhang all around. Composition with rock roof cover. Wood painted or stained.</p>		
16.50	to	22.50 square foot
<p><b>Additions</b></p>		
Shingle roof		2.32 per square foot
Shake roof		2.65 per square foot
Screen walls (includes door)	28.69	- 40.82 per lineal foot
Lights	58.46	- 69.49 each
<p><b>Deduct for Lack of</b></p>		
Concrete slab		5.60 per square foot
Continuous footing		7.00 per lineal foot
<p><b>Aluminum Patios</b></p>		
Concrete slab, aluminum framework and enameled aluminum roof cover	11.85	- 15.00 per square foot
Additions - Screen walls (includes door)		37.24 per lineal foot
Screen walls - removable plastic panels	76.64	- 98.13 per lineal foot
Styrofoam insulated ceilings		3.31 per square foot
Lights		92.72 - 115.89 each
Deduct - for lack of slab	4.00	- 6.50 per square foot
Sun rooms	65.00	85.00 per square foot
Lattice sun screen, fiberglass or aluminum	11.25	12.50 per square foot
Barbeque islands	3,500	10,000 each

## AH 531.60: IN-PLACE COSTS

In-place costs are the total cost per unit, such as a square foot or cubic foot, of individual components or parts of a building. These individual costs can be used to build up square-foot costs or total costs of items or surfaces not included in the basic square-foot costs.

Costs in this section may be used for additions and construction-in-progress appraisals, as well as the unit-in-place cost estimating method. *Unit-in-place* is a cost estimating method in which the total building cost is estimated by adding together the unit costs for the various building components as installed. This method is also called the *segregated cost method*.

A replacement cost estimate is made by the unit-in-place method by first estimating the in-place costs per square foot of all flat surfaces such as floors, walls, ceilings, or roofs and multiplying them by the areas of the respective surfaces. The next step consists of computing the volume of other components such as foundations or footings and multiplying it by an in-place cost per unit of volume. The total cost is the sum of these costs plus the in-place cost of components such as plumbing systems, electrical systems, cabinets, doors, etc. The in-place costs used should include all elements of cost, e.g., a pro rata share of general costs such as overhead, profit, and financing fees as well as labor and material costs. This method of estimating replacement costs is particularly applicable to certain *shell type* commercial and industrial improvements.

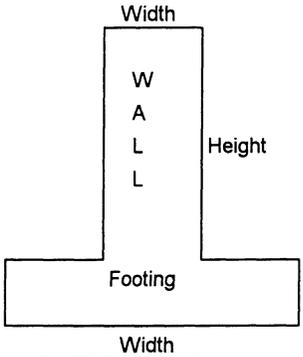
## IN-PLACE COSTS

### FOUNDATIONS - REINFORCED CONCRETE

<u>Type</u>	<u>Cost Per Cubic Foot</u>		
Footings	14.50	-	16.25
Walls	17.30	-	19.00

Foundation cost per linear foot - including footing.



	<u>Footing</u>		<u>Wall</u>		<u>Cost per Linear Foot</u>		
	<u>Width</u>	<u>Height</u>	<u>Width</u>	<u>Height</u>		-	
	12"	6"	6"	6"	13.18	-	17.09
	12	6	6	12	17.09	-	19.68
	12	6	6	18	19.68	-	22.50
	12	6	6	24	22.50	-	26.52
	16	8	8	12	25.66	-	30.29
	16	8	8	24	35.57	-	39.17
	16	8	8	36	39.17	-	42.67

### HILLSIDE FOUNDATIONS

	<u>Cost</u>		
Retaining walls	21.60	-	30.60 per cubic foot
Reinforced concrete columns 16" circular	43.20	-	60.00 per linear foot
Steel columns: 6" diameter	48.00	-	72.00 per linear foot
8" diameter	60.00	-	96.00 per linear foot
10" diameter	78.00	-	120.00 per linear foot
Pipe columns: 4" diameter	39.60	-	60.00 per linear foot
6" diameter	55.20	-	68.40 per linear foot
8" diameter	72.00	-	91.20 per linear foot
Wood poles: 10" diameter	39.60	-	60.00 per linear foot
12" diameter	48.00	-	68.40 per linear foot
14" diameter	50.40	-	78.00 per linear foot
Caissons: 24" diameter (depending on depth to bedrock)	4,800	-	14,400 each

For Class 8 and above on 35% to 40% slope, add 30% to 40% to total building costs.

### FLOORS - REINFORCED CONCRETE

<u>Size and Type</u>	<u>Cost Per Square Foot</u>		
4" slab only	3.60	-	4.10
6" slab only	4.27	-	4.63
8" slab only	4.63	-	5.57
4" with 4" rockfill and waterproof membrane	3.96	-	4.63
6" with 6" rockfill and waterproof membrane	5.18	-	5.52
8" with 8" rockfill and waterproof membrane	5.52	-	6.48

### MUDSILLS

<u>Size and Type</u>	<u>Cost Per Linear Foot</u>		
2" x 4" redwood	2.83	-	3.15
2" x 6" redwood	3.15	-	3.82

Cost includes treating, boring, and bedding.

## IN-PLACE COSTS

### GIRDERS

<u>Size and Type</u>	<u>Cost Per Linear Foot</u>		
4" x 6" Douglas Fir	3.13	-	4.09
4" x 8" Douglas Fir	3.64	-	4.25
4" x 10" Douglas Fir	4.25	-	4.61
4" x 12" Douglas Fir	5.21	-	6.70
6" x 6" Douglas Fir	4.25	-	5.21
6" x 8" Douglas Fir	4.61	-	5.57
6" x 10" Douglas Fir	4.25	-	6.07
6" x 12" Douglas Fir	5.89	-	6.68
8" x 8" Douglas Fir	6.68	-	7.12

### FLOOR JOISTS

<u>Size and Type</u>	<u>Cost Per Square Foot of Floor Area</u>		
2" x 4" - 16" on center	1.78	-	2.28
2" x 4" - 24" on center	1.61	-	2.14
2" x 6" - 16" on center	2.28	-	2.69
2" x 6" - 24" on center	1.87	-	2.33
2" x 8" - 16" on center	2.86	-	3.14
2" x 8" - 24" on center	2.66	-	2.93
2" x 10" - 16" on center	2.93	-	3.39
2" x 10" - 24" on center	2.75	-	3.14
2" x 12" - 16" on center	3.38	-	3.73
2" x 12" - 24" on center	2.75	-	3.14

### WALLS - CONCRETE OR MASONRY

<u>Size and Type</u>	<u>Cost Per Square Foot of Wall Area</u>		
<b>Brick</b>			
8" common brick	23.35	-	27.19
12" common brick	29.09	-	32.84
8" common brick, 1 side face brick	27.19	-	29.09
12" common brick, 1 side face brick	30.88	-	35.15
<b>Concrete block reinforced</b>			
8" gray	13.33	-	14.30
8" colored	14.30	-	15.24
8" detailed blocks, gray	14.30	-	15.24
8" detailed blocks, colored	14.30	-	15.24
8" sandblasted	13.33	-	14.30
8" splitface, gray	24.71	-	26.62
8" splitface, colored	23.60	-	25.66
8" slumpstone, gray	23.60	-	25.66
8" slumpstone, colored	24.71	-	26.62
12" gray	14.30	-	15.24
4" screen block	13.33	-	15.24

## IN-PLACE COSTS

### SUB FLOORING

<u>Size and Type</u>	<u>Cost Per Square Foot of Floor Area</u>		
1" x 6" or 8"	2.51	-	2.58
2" T & G	3.47	-	4.09
5/8" plywood	2.62	-	2.99
3/4" plywood	2.88	-	3.30
1 1/8" plywood	3.07	-	3.38
1/2" particle board	1.78	-	2.25
3/8" particle board	1.53	-	2.06

### WOOD FRAME WALL FRAMING

<u>Size and Type</u>	<u>Cost Per Square Foot of Wall Area</u>		
2" x 3" - 16" on center	2.43	-	2.98
2" x 3" - 24" on center	2.19	-	2.61
2" x 4" - 16" on center	2.61	-	3.15
2" x 4" - 24" on center	2.43	-	2.98
2" x 6" - 16" on center	3.15	-	3.60
2" x 6" - 24" on center	2.98	-	3.34

### WOOD POSTS

<u>Size and Type</u>	<u>Cost Per Linear Foot of Height</u>		
4" x 4" Douglas Fir	4.95	-	5.59
4" x 6" Douglas Fir	5.21	-	5.87
6" x 6" Douglas Fir	5.59	-	6.01
8" x 8" Douglas Fir	6.66	-	7.57
10" x 10" Douglas Fir	9.03	-	9.90
12" x 12" Douglas Fir	13.49	-	16.19

### WALL SHEATHING

<u>Size and Type</u>	<u>Cost Per Square Foot of Wall Area</u>		
#15 felt	0.54	-	0.63
Line wire	0.46	-	0.53
1/2" asphalt impregnated gypsum board	1.58	-	1.64
1/2" fibre board	1.61	-	1.69
3/8" plywood	2.10	-	2.62
1" boards solid	2.32	-	3.01
1" x 4" or 6" spaced	1.61	-	1.85

### CEILING JOISTS

<u>Size and Type</u>	<u>Cost Per Square Foot of Floor Area</u>		
2" x 4" - 16" on center	2.60	-	2.75
2" x 4" - 24" on center	2.38	-	2.51
2" x 6" - 16" on center	2.76	-	2.93
2" x 6" - 24" on center	2.51	-	2.60
2" x 8" - 16" on center	2.86	-	3.02
2" x 8" - 24" on center	2.60	-	2.76
2" x 10" - 16" on center	2.93	-	3.12
2" x 10" - 24" on center	2.69	-	2.86
2" x 12" - 16" on center	3.02	-	3.21
2" x 12" - 24" on center	2.76	-	2.93

## IN-PLACE COSTS

### ROOF RAFTERS

<u>Size and Type</u>	<u>Cost Per Square Foot of Floor Area</u>		
	<u>Flat-roof</u>	<u>5 in 12 Rise</u>	<u>12 in 12 Rise</u>
2" x 4" - 16" on center	2.74	3.19	3.69
2" x 4" - 24" on center	2.37	3.00	3.54
2" x 4" - 30" on center	2.28	2.92	3.35
2" x 6" - 16" on center	3.00	3.45	3.97
2" x 6" - 24" on center	2.65	3.27	3.81
2" x 8" - 16" on center	3.27	3.69	4.24
2" x 8" - 24" on center	2.92	3.54	4.05

Includes ridge boards, collar ties, purlins, bracing, and typical overhang.

### ROOF SHEATHING & DECKING

<u>Size and Type</u>	<u>Cost Per Square Foot of Floor Area</u>		
	<u>Flat-roof</u>	<u>5 in 12 Rise</u>	<u>12 in 12 Rise</u>
3/4" cellular concrete	1.72		
2" gypsum poured	2.10		
1 1/2" insulation board	4.56	4.75	6.23
2" insulation board	5.20	5.58	7.26
1" solid wood boards	1.96	2.15	2.99
1" x 4" or 6" spaced wood board	1.13	1.24	1.58
3/8" plywood	1.70	1.80	2.71
1/2" plywood	2.18	2.30	3.06
5/8" plywood	2.30	2.38	3.25
2" T & G	4.45	4.84	6.70

### ROOFING

<u>Size and Type</u>	<u>Cost Per Square Foot of Floor Area</u>	
	<u>Flat-roof to 3 in 12 Rise</u>	<u>6 in 12 Rise</u>
Built-up roofing		
3 layers 15 lb. felt hot mopped with pea gravel	1.90	2.63
4 layers 15 lb. felt hot mopped with pea gravel	2.35	2.25
1 layer 30 lb. felt with a 90 lb. cap sheet	1.69	2.06
1 layer 30 lb. felt, 2 layers 15 lb. felt hot mopped with pea gravel	1.90	2.46
1 layer 30 lb. felt, 3 layers 15 lb. felt hot mopped with pea gravel	2.35	2.66

## IN-PLACE COSTS

### ROOFING (Contd.)

<u>Size and Type</u>	<u>Cost Per Square Foot of Floor Area</u>		
	<u>3 in 12 Rise</u>	<u>5 in 12 Rise</u>	<u>12 in 12 Rise</u>
Asphalt composition shingles			
168 lb. hex. strip with 15 lb. felt		1.92	2.50
235 lb. square strip with 15 lb. felt		2.50	3.84
Wood shingles			
16" #1 red cedar 4 1/2" exposure		3.55	4.36
24" royals 7 1/2" exposure		3.74	4.78
Natural shakes			
1/2" to 3/4" red cedar		3.58	4.36
3/4" to 1 1/4" red cedar		4.75	5.38
Asbestos shingles with 38 lb. felt		4.40	5.64
Clay tile			
Red mission tile with 2 layers			
40 lb. felt and 1 layer of			
30 lb. felt hot mopped		5.55	6.95
Red shingle tile with 2 layers			
40 lb. felt with 1 layer			
30 lb. felt hot mopped		4.67	5.44
Concrete tile/shake	2.78	3.16	4.39
Slate			
Pennsylvania black 30 lb. felt	10.81	12.14	17.62
Metal			
Aluminum interlock shingles		5.65	7.04
Aluminum corrugated 24 gauge	2.90	3.34	3.22
Galvanized iron corrugated 26 gauge	3.73	3.80	4.36
Copper standing seam 10 oz.	13.36	13.75	17.15
Copper flat lock 10 oz.	13.91	14.62	18.17

Cost includes typical overhangs.

### LIGHTS

	<u>Cost</u>	
Sky lights	1,400 -	1,700 each
Light tube	360 -	400 each
Extra tubing		25.00 per linear foot

### GUTTERS

<u>Size and Type</u>	<u>Cost Per Linear Foot</u>	
O.G. galvanized gutters - painted	6.96 -	7.63
6" deep galvanized gutters - painted	9.24 -	10.03
8" deep galvanized gutters - painted	10.03 -	10.78
Downspouts, galvanized - painted	5.44 -	6.19

## IN-PLACE COSTS

### WALL COVER - EXTERIOR

<u>Size and Type</u>	<u>Cost Per Square Foot of Wall Area</u>		
Aluminum siding			
Horizontal, colored	4.42	-	4.80
Horizontal, colored, insulated	4.61	-	4.99
Vertical, colored	4.80	-	5.08
Vertical, colored, insulated	4.99	-	5.16
Masonry veneer - Brick			
Select common	14.23	-	17.08
Red jumbo	13.66	-	15.62
Roman	22.08	-	23.96
Norman	18.19	-	20.12
Glazed	29.64	-	31.63
Rock facia	17.30		19.78
Concrete block			
4" gray	11.72	-	12.71
4" colored	12.24	-	13.20
4" splitface, gray	19.37	-	21.31
4" splitface, colored	21.31	-	23.50
4" slumpstone, gray	21.31	-	22.50
4" slumpstone, colored	19.37	-	21.31
Imitation stone	21.60	-	26.17
Natural stone	25.22	-	28.06
Shingles and shakes			
Aluminum	6.30	-	6.84
Asbestos	4.17	-	4.62
Asphalt	2.21	-	2.38
Natural shakes	6.33	-	6.77
Wood shingles	5.45	-	5.90
Shake panels	5.90	-	6.33
Stucco			
1" on masonry	3.43	-	4.30
1" on wire	3.43	-	4.30
Wood siding			
1/4" hardboard prime painted	2.93	-	3.27
7/16" hardboard prime painted	3.66	-	4.09
3/8" plywood prime painted	3.35	-	3.62
3/8" plywood plastic coated	4.53	-	4.80
3/8" plywood rough cedar	3.00	-	3.20
5/8" plywood texture III	3.20	-	3.62
5/8" plywood redwood textured	4.07	-	4.26
1/2" bevel siding	2.92	-	3.27
3/4" bevel siding	3.62	-	3.82
3/4" bevel siding, mitered corners	3.82	-	4.19
1" rustic or lap siding (cedar)	3.62	-	3.82
1" rustic or lap siding (redwood)	4.45	-	4.70

## IN-PLACE COSTS

### FLOOR COVERING

<u>Size and Type</u>	<u>Cost Per Square Foot</u>		
Asphalt tile	1.02	-	1.25
Carpet			
Low cost cotton, nylon, or acrylic	2.21	-	2.54
Medium price wool, nylon, or acrylic	2.98	-	3.37
High price wool, nylon, or acrylic	4.23	-	Up
Ceramic tile (mosaic including base)	9.38	-	12.71
Cork tile	3.35	-	4.00
Cork tile, vinyl coated	3.85	-	5.46
Leather	26.53	-	43.71
Linoleum	2.97	-	3.81
Epoxy-type floor only (Torginol, etc.)	5.06	-	6.77
Quarry tile			
Regular grout	12.97	-	14.70
Epoxy grout	15.53	-	16.38
Rubber tile	4.47	-	5.92
Terrazzo	13.25	-	16.56
Vinyl asbestos tile	1.99	-	2.32
Vinyl sheeting	3.55	-	4.15
Vinyl tile - solid	3.63	-	4.97
Wood flooring			
Douglas fir			
1" x 4" flat grain T & G	6.56	-	6.96
1" x 4" vertical grain T & G	6.96	-	7.73
Oak			
5/16" x 1 1/2" square edge #. 2 common	8.70	-	9.20
5/16" x 1 1/2" square edge #. 1 common	9.34	-	10.00
1/2" x 2" T & G #. 2 common	9.34	-	10.00
1/2" x 2" T & G #. 1 common	10.77	-	11.27
1/2" x 2" T & G select	11.00	-	11.53
1/2" x 2" T & G clear	11.00	-	11.53
13/16" x 2 1/4" T & G #. 2 common	11.33	-	11.57
13/16" x 2 1/4" T & G #. 1 common	11.33	-	11.57
13/16" x 2 1/4" T & G select	11.27	-	11.75
13/16" x 2 1/4" T & G clear	11.75	-	12.50
13/16" x 2 1/4" T & G select quartered	12.00	-	13.00
Oak parquetry			
5/16" #. 1 common set in mastic	9.92	-	10.50
3/16" clear plain	10.36	-	11.04
Oak random plank			
5/16" beveled edge	9.41	-	9.95
3/16" T & G	11.06	-	11.62
Maple			
13/16" x 2 1/4" T & G	11.81	-	15.01

## IN-PLACE COSTS

### FLOOR BASE

<u>Size and Type</u>	<u>Cost Per Linear Foot</u>		
Epoxy cover base (2 1/2" to 6")	12.05	-	13.96
Rubber (4" to 6")	4.63	-	5.60
Wood (pine) (2 1/2" to 6")	5.18	-	6.46
Wood (hardwood) (2" to 6")	8.15	-	8.56
Terrazzo	14.33	-	17.68
Vinyl (2 1/2" to 4")	2.62	-	3.46

### INTERIOR WALL LINING

<u>Size and Type</u>	<u>Cost Per Square Foot of Wall Area</u>		
Gypsum board			
1/2" taped and sanded	1.32	-	1.51
5/8" taped and sanded	1.40	-	1.58
1/2" taped, textured and painted	1.84	-	2.20
5/8" taped, textured and painted	2.01	-	2.36
1/2" taped, stippled and enameled	2.36	-	2.71
5/8" taped, stippled and enameled	2.54	-	2.89
Hardboard			
1/8"	2.14	-	2.48
1/4"	2.48	-	2.66
1/8" plastic coated with metal trim	5.75	-	7.51
1/4" plastic coated with metal trim	6.61	-	8.44
1/4" wood grain finish	2.93	-	4.45
Lath			
Gypsum lath	1.12	-	1.43
Metal lath	1.51	-	1.74
Plaster			
2 coats, no lath	3.58	-	4.47
3 coats, no lath	4.47	-	5.36
Plywood paneling (hardwood)			
1/4" prefinished	4.23	-	6.58
1/4" unfinished	3.63	-	6.18
7/16" prefinished	6.18	-	9.92
3/4" unfinished	6.58	-	8.41
Tile			
Ceramic	9.88	-	12.85
Plastic	7.33	-	9.17
Tile board or marlite, metal trim	6.93	-	8.63
Terrazzo	17.42	-	21.88
Torginol	5.80	-	6.80
Wood Paneling			
Knotty Pine	3.96	-	4.38
Red Cedar	4.55	-	5.57
Redwood	4.55	-	5.57

## IN-PLACE COSTS

### CEILING FINISH

<u>Size and Type</u>	<u>Cost Per Square Foot</u>		
<b>Gypsum board</b>			
1/2" taped and sanded	1.36	-	1.51
5/8" taped and sanded	1.45	-	1.71
1/2" taped, textured and painted	1.90	-	2.12
5/8" taped, textured and painted	2.09	-	2.66
1/2" taped, stippled and enameled	2.44	-	2.71
5/8" taped, stippled and enameled	2.61	-	2.81
1/2" taped with acoustical texture	1.79	-	2.20
5/8" taped with acoustical texture	1.92	-	2.35
<b>Lath</b>			
Gypsum lath	1.04	-	1.16
Metal lath	1.27	-	1.44
<b>Plaster</b>			
2 coats, no lath	3.44	-	4.05
3 coats, no lath	3.60	-	4.43
3 coats, suspended on metal lath	6.06	-	6.45
1/2" acoustical plaster, no lath	5.35	-	5.69
<b>Acoustical tile</b>			
Stapled to furring strips (not including strips)			
3/4" x 12" x 12"	2.71	-	3.58
Suspended in "T" bar grid (including cost of grid)			
1/2" x 24" x 48"	2.78	-	3.66
1/2" x 24" x 24"	2.91	-	4.01
1/2" x 24" x 24" vinyl coated	3.89	-	4.75
Suspended in concealed "Z" bar-type grid (including cost of grid)			
3/4" x 12" x 12"	3.96	-	4.96
3/4" x 12" x 12" vinyl coated	4.37	-	5.26
Suspended on 1/2" gypsum board (including grid and gypsum board)			
3/4" x 12" x 12"	4.96	-	5.69

### EXTERIOR PAINTING

<u>Type</u>	<u>Cost Per Square Foot of Residence</u>		
Latex, 1 coat	1.01	-	1.18
Oil base, 2 coats	1.69	-	1.90
Oil base, 3 coats	2.10	-	2.25
Spray painting, 2 coats	1.90	-	2.10
Stain, 1 coat and sealer	1.24	-	1.43
Stucco wash, 1 coat	0.98	-	1.16
Stucco wash, 2 coats	1.16	-	1.36
Vinyl on stucco, 2 coats	1.60	-	1.84

## IN-PLACE COSTS

### INTERIOR DECORATING

<u>Type</u>	<u>Cost Per Square Foot of Residence</u>		
<b>Painting</b>			
On gypsum board or plaster			
Primer and 1 coat flat	3.27	-	3.66
Primer and 2 coats flat	4.66	-	5.46
Primer and 1 coat enamel	3.27	-	3.66
Primer and 2 coats enamel	4.66	-	5.46
<b>Wood work</b>			
Primer and 1 coat enamel	4.66	-	5.46
Primer and 2 coats enamel	5.46	-	6.52
<b>Masonry</b>			
Primer and 1 coat latex	4.20	-	4.66
Primer and 2 coats latex	4.99	-	5.46
<b>Wall covering</b>			
Aluminum foil	15.51	-	17.64
Paper	11.72	-	13.25
Vinyl wall cover	8.99	-	11.91

### TRIM PAINTING

<u>Type</u>	<u>Cost Per Linear Foot</u>		
Exterior trim to 6", 2 coats	1.04	-	1.18
<b>Interior trim</b>			
Primer and 1 coat enamel	0.63	-	0.79
Primer and 2 coats enamel	0.94	-	1.12

### DOORS

<u>Size and Type</u>	<u>Cost Per Door</u>		
<b>Exterior doors</b>			
Colonial 1 3/4" fir	284	-	329
Dutch door 1 3/4" fir	413	-	484
French doors	369	-	413
Solid core slab single door	314	-	329
Solid core slab double door	284	-	314
Hardwood door	484	-	Up
Includes frame, trim, threshold, and hardware			
<b>Garage doors - Overhead type</b>			
8' x 7' all aluminum	834	-	978
16' x 7' all aluminum	1035	-	1,380
8' x 7' aluminum - wood frame	386	-	477
16' x 7' aluminum - wood frame	735	-	827
8' x 7' plywood	477	-	514
16' x 7' plywood	876	-	1026
18' x 7' plywood	791	-	863

## IN-PLACE COSTS

### DOORS (Contd.)

<u>Size and Type</u>	<u>Cost Per Door</u>		
Sectional roll up			
8' x 7' aluminum	2,300	-	2,450
16' x 7' aluminum	2,600	-	2,700
8' x 7' fiberglass on aluminum frame	2,300	-	2,410
16' x 7' fiberglass on aluminum frame	2,440	-	2,580
8' x 7' steel	2,100	-	2,300
16' x 7' steel	2,700	-	2,800
Interior doors			
Hollow core slab doors	277	-	313
Solid core slab doors	313	-	352
Panel doors - flat panel	277	-	313
Panel doors - raised panel	313	-	352
Includes frame, trim, and hardware			
Sliding glass doors			
6' x 6'8" aluminum	449	-	510
8' x 6'8" aluminum	504	-	651
12' x 6'8" aluminum	929	-	991
Mirrored wardrobe closet doors	213	-	249
French pantry door	444	-	504

### WINDOWS

<u>Type</u>	<u>Cost Per Window</u>		
Aluminum	524	-	780
Steel	574	-	820
Wood	451	-	656
Decorative glass block (Per square foot)	56	-	72

### CABINETS

<u>Type</u>	<u>Cost Per Linear Foot</u>								
	<u>Painted Fir</u>		<u>Low Cost Veneer</u>			<u>Good Hard-wood Veneer</u>			
Base cabinet	76.96	-	82.67	69.83	-	79.83	79.83	-	99.77
Upper cabinet	55.59	-	69.83	51.31	-	59.86	69.83	-	79.83
Full height	119.72	-	142.53	106.90	-	133.97	128.27	-	155.35
Bath pullman	58.43	-	82.67						
Open shelving	3.70	-	4.99						
Melamine Interiors							58.05	-	77.40
							<u>Cost Each</u>		
Wood entertainment center						1,328	-		3,018
							<u>Counter Tops Including Splash</u>		
							<u>Cost Per Linear Foot</u>		
Ceramic tile						63.22	-		71.02
Formica						44.28	-		38.28
Imitation marble						58.12	-		70.66
Granite						181.13	-		241.50
Concrete						75.00			200.00
Kitchen Corian						138.86	-		169.05
Butcher block						72.46	-		120.75

## IN-PLACE COSTS

### ELECTRICAL

<u>Type</u>	<u>Cost Per Outlet</u>	
110 volt average romex	71	89
110 volt average conduit	104	133
220 volt wiring for range and oven	444	526
220 volt wiring for dryer	444	526

### PLUMBING

<u>Type</u>	<u>Cost Per Fixture</u>	
Bathtubs	724	1,674
Laundry trays	1147	1,207
Lavatories	380	826
Service sinks	686	913
Shower (Stall)	761	1,066
Tile shower stall	2,208	4,140
Urinals	571	686
Water closets	533	1,217

All fixture costs include the cost of rough plumbing.

### LIGHTING

	<u>Cost Per Fixture</u>	
Track lights, 4 foot	316	403
Track lights, 8 foot	431	546
Recessed can	115	144
Recessed mini can	144	173
Eyeball spot light	144	173

### FAN

	<u>Cost Per Fixture</u>	
Ceiling fans	345	1,150

### ENERGY REQUIREMENTS MANDATED BY AB 970 (2001)

	<u>Cost</u>	<u>Climate Zones *</u>
Radiant barrier	355	2, 4, 7-15
Spectrally selective glass	474	2, 4, 8-15
Duct sealing with testing	207 - 355	All
Thermostatic expansion valves (TXV)	60	2, 8-15

Adds approximately **\$1,400** for a typical 2,000 square foot residence for Climate Zones 2 and 8-15.  
Climate zones 1,3, 5, and 6 only require duct sealing.

\* See section AH 531.80, *Useful Information*, following in this handbook for Climate Zone Map.

# **AH 531.90: COMPACT COSTS**

## **GENERAL**

This is a method of cost estimating intended to speed up the residential cost estimating process without reducing accuracy. Square-foot costs include the cost of typical additive items such as porches, yard improvements, fireplaces, and heating systems. Time is saved by eliminating the need for measuring and computing the cost of a number of items that comprise only a small part of the total cost.

## **COMPOSITION OF COMPACT COSTS**

Compact costs include the following items as a part of the basic square-foot cost:

- Basic building costs
- Typical heating costs when applicable
- Typical fireplace costs when applicable
- Typical porch costs
- Typical yard improvement costs

Shape classification is not a consideration in this method. It is assumed that in a proper replacement cost the shape class will be relative to the quality class and size of the building. Small buildings of lower-quality class will tend to be "A" or "B" shape; larger, higher-quality class houses will tend to be of "C" or "D" shape. Basic square-foot costs will reflect what is a typical shape class for the quality and size of the building.

## **PROCEDURE**

Cost estimates are made by selecting a proper square-foot cost from a table and multiplying it by the living area of the building. If the building has air conditioning, a square-foot cost is added to the basic square-foot cost. If a garage is present, a lump sum amount for a single, double, triple, etc., garage is added.

Following is an example of a cost estimate made using the standard cost tables and a cost estimate using compact costs.

**STANDARD COST TABLES**

Residence D7C (Modern Type)	2,298 sq. ft.	x	99.95	=	229,685
Concrete Covered Porch (1/2)	56 sq. ft.	x	49.97	=	2,798
HVAC	2,298 sq. ft.	x	4.00	=	9,192
Fireplace				=	2,550
Garage (Attached)	546 sq. ft.	x	38.19	=	20,852
Concrete Patio	300 sq. ft.	x	16.50	=	4,950
Fence (1" x 4" Redwood)	130 lin. ft.	x	16.75	=	2,178
Concrete Flatwork	1,000 sq. ft.	x	3.78	=	<u>3,780</u>
RCN					275,985

**COMPACT COST METHOD**

Residence D7			109.79		
A-C (cool only)			<u>2.75</u>		
Residence	2,298 sq. ft.	x	112.54	=	258,617
Garage, Double					<u>17,500</u>
RCN					276,117

Extra items such as swimming pools, septic systems, or pressure systems should be added to the cost estimate.

**LOCATION ADJUSTMENTS**

Compact costs are based upon the cost to build in Sacramento just as all other residential buildings costs. The map in Section AH 531.10, page 25, gives location adjustments for all locations in the State of California. These factors adjust for location only and reflect the typical adjustments necessary for the 2005 period. This map should not be confused with similar maps that contain factors for time as well as location.

**ADDITIONS**

Additions can be cost estimated using a compact square foot cost based upon the quality class of the addition and the total area of the original house plus the addition. The square foot cost is applied to the addition area only.

If the addition has built-ins, plumbing fixtures, cabinets, or other additives that were not included in the original structure, the cost of the additives should be added by appropriately increasing the quality class of the addition.

The cost of the addition is then adjusted for location by using the locale map in Section 531.10, page 25.

**Example**

Assume an original 1,200 square foot, D6.5, air conditioned residence with a two-car garage in Santa Clara County was last sold in 1996.

On January 1, 2004 a 400 square foot addition with a quality class of D6.5 is built. The RCN of the addition is computed as follows:

Total Area for Modification			
Original Residence	=	1,200 sq. ft.	
Addition	=	400 sq. ft.	
Total Square Feet	=	1,600 sq. ft.	

**COMPACT COSTS**

Addition	400 sq. ft.	x	103.97	=	41,589
Air Conditioning	400 sq. ft.	x	2.75	=	<u>1,100</u>
Total RCN January 1, 2004					42,689
Location Adjustment					<u>1.25</u>
RCN Addition					53,361

**COMPACT COSTS  
SINGLE-FAMILY RESIDENCES**

All square-foot costs include typical porches, yard improvements, fireplaces, and heating systems. Air conditioning systems and garages are to be added. Built-ins and plumbing fixtures are included as per building quality class specifications.

	<u>Residence</u>	<u>Garage</u>
D1	38.25 S.F.	10.75 S.F.
D1.5	41.84 S.F.	14.85 S.F.
D2	49.66 S.F.	19.27 S.F.
D3	53.57 S.F.	22.29 S.F.
D3.5	57.63 S.F.	25.59 S.F.

	<u>Square-Foot Area</u>									
<u>Class</u>	<u>500</u>	<u>600</u>	<u>700</u>	<u>800</u>	<u>900</u>	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>	<u>1,300</u>	<u>1,400</u>
D4	79.64	75.12	73.03	68.53	66.24	64.35	62.77	61.57	60.17	58.77
D4.5	87.81	82.60	78.95	75.47	72.86	71.30	68.53	67.83	65.75	64.50

Add: \$2.40 per square foot for central air conditioning, \$23.75 per square foot for garage area, or \$5,300 single, \$10,300 double, or \$16,700 triple garage.  
Fireplace not included.

	<u>Square-Foot Area</u>									
<u>Class</u>	<u>800</u>	<u>900</u>	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>	<u>1,300</u>	<u>1,400</u>	<u>1,500</u>	<u>1,600</u>	<u>1,700</u>
D5	88.34	85.03	82.77	80.51	77.90	76.87	75.47	73.74	73.03	72.17
D5.5	96.86	93.73	90.79	88.16	86.08	84.35	82.94	81.57	80.01	78.95

Add: \$2.40 per square foot for central air conditioning, \$25.75 per square foot for garage area, or \$6,000 single, \$11,800 double, or \$18,000 triple garage.  
Fireplace not included.

	<u>Square-Foot Area</u>										
<u>Class</u>	<u>900</u>	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>	<u>1,300</u>	<u>1,400</u>	<u>1,500</u>	<u>1,600</u>	<u>1,700</u>	<u>1,800</u>	
D6	109.03	105.72	102.76	100.34	98.77	96.35	95.29	93.55	92.52	90.95	
D6.5	120.35	102.07	114.25	111.30	108.86	106.95	105.55	103.97	102.60	100.17	

<u>Class</u>	<u>2,000</u>	<u>2,200</u>	<u>2,400</u>	<u>2,600</u>	<u>2,800</u>	<u>3,000</u>	<u>3,200</u>	<u>3,400</u>	<u>3,800</u>	<u>4,200</u>
D6	87.02	85.15	83.71	82.27	80.86					
D6.5	95.63	93.84	92.18	90.41	88.85	87.11	85.19	83.73	81.31	78.02

Add: \$2.75 per square foot for central air conditioning, \$29.75 per square foot for garage area, or \$6,800 single, \$13,650 double, or \$20,500 triple garage.

## COMPACT COSTS

### SINGLE-FAMILY RESIDENCES (CONTD)

	Square-Foot Area									
<u>Class</u>	<u>1,500</u>	<u>1,600</u>	<u>1,700</u>	<u>1,800</u>	<u>2,000</u>	<u>2,200</u>	<u>2,400</u>	<u>2,600</u>	<u>2,800</u>	<u>3,000</u>
D7	118.70	116.97	115.41	114.03	112.14	110.76	108.79	107.23	105.69	104.65
D7.5	141.39	138.75	135.94	133.66	131.55	129.59	128.02	126.79	125.90	125.20
<u>Class</u>	<u>3,400</u>	<u>3,800</u>	<u>4,200</u>	<u>4,600</u>	<u>5,000</u>					
D7	102.43	99.15	95.14	91.15	87.10					
D7.5	121.95	118.04	113.26	108.51	103.70					
Add:	\$2.75 per square foot for central air conditioning, \$39.77 per square foot for garage area, or \$9,100 single, \$17,500 double, or \$26,425 triple garage.									

	Square-Foot Area									
<u>Class</u>	<u>1,800</u>	<u>2,000</u>	<u>2,200</u>	<u>2,400</u>	<u>2,600</u>	<u>2,800</u>	<u>3,000</u>	<u>3,200</u>	<u>3,600</u>	<u>4,000</u>
D8	160.01	157.21	154.59	152.85	150.41	148.83	147.10	145.69	144.30	142.92
D8.5	209.88	202.32	195.70	192.37	189.80	187.42	185.40	183.17	181.70	180.42
<u>Class</u>	<u>4,400</u>	<u>4,800</u>	<u>5,200</u>	<u>5,600</u>	<u>6,000</u>					
D8	142.40	139.51	135.65	130.82	125.18					
D8.5	178.01	174.39	169.56	163.53	156.47					
Add:	\$3.25 per square foot for central air conditioning, \$46.00 per square foot for garage area, or \$12,500 single, \$23,625 double, or \$37,233 triple garage.									