

Cost Factors for Residential Buildings

Series 150



Cost Factors For Residential Buildings

Series 150

FOREWORD

This manual provides Oregon assessors with cost data on residential buildings. Information is arranged for quick and easy reference to save time calculating cost estimates.

The Oregon Department of Revenue publishes this manual to help achieve uniform assessment according to Oregon's ad valorem tax laws (ORS 306.120(1)).

If you have questions on information in this manual or need additional assistance, contact the Property Tax Division's Assessment and Taxation Standards Section in Salem at (503) 945-8278.

For additional copies of this manual, write: Oregon Department of Revenue, Special Services, 955 Center St. NE, Salem, OR 97301, or call (503) 945-8636.

**Oregon Department of Revenue
Assessment and Taxation Standards Section
Property Tax Division
955 Center St. NE
Salem, OR 97301**

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Series 150

Manufactured Structures (150-303-419-1 Rev.5-04) is now a separate guide. To order copies write: Oregon Department of Revenue, Special Services, 955 Center St. NE, Salem, OR 97301 or call 503-945-8638

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Cost estimating process

Section 100

General Instructions

The cost approach

The cost approach is one of several methods used to estimate value. This method assumes an informed purchaser would pay no more for a building than the cost of replacing it.

One advantage of the cost approach is that it can be applied to most residential properties. Also, cost data can be adjusted to reflect current market trends. This makes the cost approach a useful tool for mass appraising. This manual will help in applying the cost approach quickly and accurately.

Cost estimating methods

Base cost method

The base cost method estimates replacement cost—the cost to build a similar structure using currently accepted materials and construction methods. The replacement structure must have similar construction quality, usable space, and other significant features. This method is fast and simple. Instructions for the base cost method begin on page 5.

Composition of costs

Cost factors in this manual are developed from actual market data. Besides direct costs such as labor, materials, and contractor's profit and overhead, cost factors include indirect costs necessary for a finished product such as:

Plans and specifications	Temporary facilities
Building permits	Insurance coverage
Advertising	Construction financing
Sales commissions	Developer's fees

Include the indirect costs typical for your market area when comparing cost factors in this manual to local building costs.

Base location

Cost factors in this manual are based on market data from the Portland metropolitan area. So, the base location is listed as: PORTLAND, OREGON.

Issue date

The issue date for different parts of this manual may vary due to revisions made after the publication date. Check the bottom inside corner of each page to ensure you have the latest revisions.

General Instructions (cont.)

Local cost modifiers

Because costs are constantly changing, local cost modifiers (LCM) are used to adjust cost factors for localities and appraisal dates. A market area LCM is a vital part of any cost estimate.

To develop a LCM, follow these steps:

1. Select a representative sample of recent new home sales from the local market area. These should be time adjusted, typical of the current market, and not include any abnormal discounts, unusual financing, or other non-typical influences.
2. Determine the sales price of the improvements. The total sales price, less the estimated land value and on-site development (OSD) costs, equals the sales price of the improvements.
3. Develop a cost estimate for the improvements of each sale using the cost factors in this manual.
4. Divide the total improvements sale prices by the total cost estimates in this manual. The result is the LCM.

Example

Sale #	Time adjusted sales price	Estimated land value	Adjusted sales price of improvements	Cost factor estimate
1	\$ 147,500	\$ 65,000	\$ 82,500	\$ 78,370
2	142,950	62,500	80,450	83,660
3	163,900	69,450	94,450	88,780
4	251,850	105,000	146,850	149,670
5	278,500	115,250	163,250	156,720
6	<u>269,950</u>	<u>110,500</u>	<u>159,450</u>	<u>155,200</u>
TOTALS	\$1,254,650	\$527,700	\$726,950	\$712,400

$$\frac{\$726,950 \text{ (sales price of improvements)}}{\$712,400 \text{ (cost factor estimates)}} = 1.02 \text{ Local Cost Modifier (LCM)}$$

Develop a LCM for each residential building type and class in this manual. For example, a LCM for conventional single family houses may not apply to multifamily dwellings.

Compare the local construction material and labor costs to the cost data in this manual. For more information on using this approach, contact the nearest DOR Regional Field Office.

For more information on developing LCMs, refer to *Appraisal Methods for Real Property* (150-303-415 Rev.7-03). To order copies write: Oregon Department of Revenue, Special Services, 955 Center St. NE, Salem, OR 97301, or call (503) 945-8636.

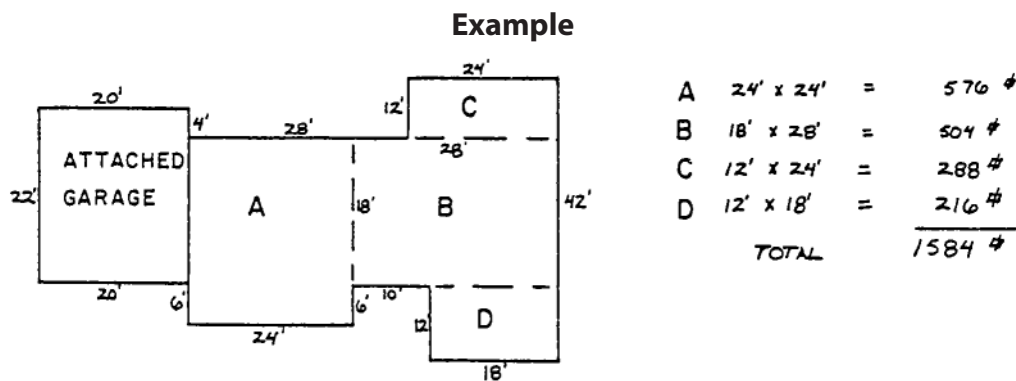
General Instructions (cont.)

Building inspection

Inspection of the appraisal subject must be objective and comprehensive. Observe and note elements of quality in the building's materials and workmanship. List the building components and construction features on the appropriate appraisal form. During the inspection, note:

1. Building components such as foundation, exterior wall, roof, floors, and partitions.
2. Equipment and fixtures such as built-in appliances, lighting, plumbing, and heating.
3. Other improvements such as garages, driveways, and fences.

Cost factors in this manual are based on total floor area. Measure the exterior of the building, including stairways and entryways, to determine the square foot floor area. Include basement or second floor measurements plus stairways to determine the square foot floor area. Round measurements to the nearest whole foot. Draw a diagram of the buildings' exterior walls with measurements on the appraisal form.



Before leaving the property, check the building measurements to make sure they balance. The total front measurements should equal the total back measurements; side measurements should also be equal.

Uniformity and equity

Uniformity and equity are important in mass appraising. Appraisers should be consistent in selecting appropriate building class and adjustment factors. Inconsistency produces an unacceptable range of values for buildings that should be valued similarly.

Establish reference buildings, or "benchmarks," for uniform appraisal. Benchmarks give appraisal staff standards and guidelines for estimating cost on similar structures. Procedures for setting up benchmarks is in *Appraisal Methods for Real Property*, published by the Department of Revenue. Benchmarks ensure uniform cost estimates for residential buildings.

Base costs

Section 200

Instructions

Base cost method

This section explains how to estimate replacement costs of typical residential buildings, and get reliable cost estimates with minimum building notations and calculations.

Analyze construction components and features before segregating the subject residence into three basic categories—"group," "type," and "class."

"Group"

"Group" is an overall category for buildings based on general use characteristics. Group categories in this section are single family and multifamily residential structures.

"Type"

This is a subdivision of the "group" category and is based on design characteristics. For example, the type categories used in the single family residential group are conventional and manufactured structures, which are now in a separate guide (150-303-419-1 Rev.5-04). To order copies of *Manufactured Structures 2004* write: Oregon Department of Revenue, Special Services, 955 Center St. NE, Salem, OR 97301, or call (503) 945-8636.

"Class"

"Class" categories describe quality variations within each type. Each class is related directly to the quality of construction described in the class features, class illustrations, and base specifications.

Class features are brief narratives to be used as a general guide for class selection.

Class illustrations show examples of quality features in each class. The photographs illustrate the range of structural designs and architectural styles. However, the buildings are alike in overall quality and functional utility, so replacement costs are similar. Emphasis is on construction features and livability according to market standards.

Base specifications describe the building components of a replacement structure typical to each class. This helps place the subject building into the proper class. The main consideration in selecting a class most like the building should be the difference between the base specification and locally developed classification benchmark books.

Base factors

Base factors are the square foot costs for each building class. Base factors contain only the costs of base specification components. If an item or component isn't in the base specifications, it isn't in the base factors either.

Instructions (cont.)

Adjustment factors

A table of adjustment factors is included to modify the base factor according to the features of the appraisal subject. Keep in mind that the adjustment factor may represent either the full cost of the item or just the difference between the base specification component and a replacement for that component.

Plus or minus signs (+ or -) indicate an increase or decrease in the adjustment factors. Some adjustment factors may be applied to the base factor if they're listed in the same unit of measure and apply to the same area. Other adjustments are applied to the overall building cost in a lump sum.

If the required adjustment factor isn't listed, refer to the Component Costs, Section 400, for the appropriate cost information, or develop local area factors instead.

Accessory improvements

For cost factors on garden sheds and other yard and site improvements, refer to the Accessory Improvements section 300, on page 111.

Single Family Residential

Conventional

Special Instructions

This section contains classification and cost data for estimating the replacement cost of a conventional single-family home. The conventional house is sometimes referred to as “site-built” because of the on-site construction methods used.

Classification

There are eight quality classes (1–8) for the conventional house. Each class is represented by a set of base specifications, class features, class illustrations, square foot base factors, and adjustment factors for common structural variations.

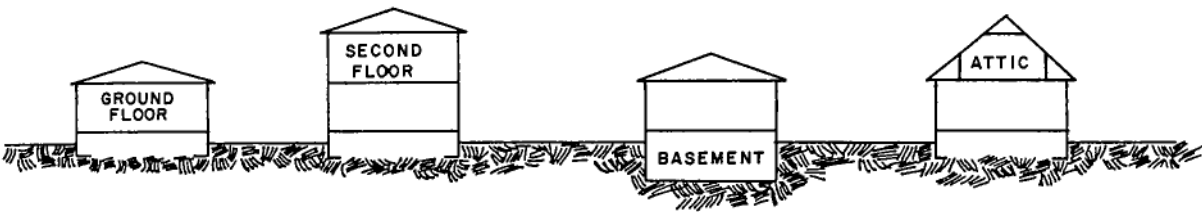
To determine the class for the subject house, compare construction features to the base specification schedules in this section. This will help determine which base specification schedule best describes the overall construction features of the house being appraised.

It’s vital to compare the base specifications to the construction features of the house being appraised. Improper classification may impact the replacement cost estimate more than any subsequent cost adjustment. An example of this classification process is shown in *Appraisal Methods for Real Property*. Use the class features and class illustrations only as a general guide in classifying a residence. It’s helpful to develop a class benchmark manual illustrating class 1 through class 8 residences in your county. This manual should be put together by knowledgeable appraiser(s), and reviewed by both a supervisor and a DOR regional representative. This is a great classification resource to help appraisers maintain uniform classification from year to year.

Base factors

The base factors tables list square foot costs for one story, second floor, basement, and attic floor levels, as illustrated below.

Diagram



Special Instructions (cont.)

Use these steps to select the base factor for the residence being appraised:

1. Select the applicable group, type and class.
2. Compute the total area of each floor level.
3. Using factor tables for the residence's group, type, and class, select the cost factor listed for the area of each floor level.

Example: The appraisal subject is a class 5, conventional, single family residence. The ground floor has 1,270 square feet. The second floor has 1,310 square feet. The square foot cost factors are in the table to the right. The one story cost is \$83.37 per square foot, and the second floor cost is \$62.34 per square foot.

Each cost factor is applied to the total square footage of its respective floor level. Compute the costs for each floor level separately, and add the costs together in a lump sum.

Because the one story and second floor factors are given in 10 square foot increments, no interpolation is necessary. Simply select the factor for the square footage nearest the subject's floor area.

Determining floor levels

Examine the use and construction characteristics of each floor level to determine:

1. The total square footage, and
2. The proper cost factor to apply.

Conventional

Class—5

Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

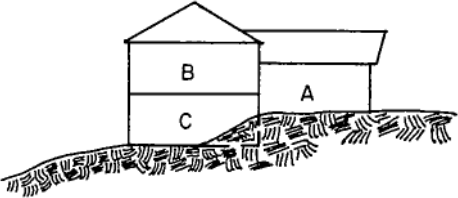
	800	900	1,000	1,100	1,200	1,300	1,400	1,500
0	96.68	92.68	89.49	86.87	84.69	82.84	81.26	79.89
10	96.24	92.33	89.20	86.63	84.49	82.67	81.12	79.76
20	95.80	91.99	88.92	86.40	84.30	82.51	80.97	79.64
30	95.38	91.65	88.65	86.17	84.10	82.34	80.83	79.51
40	94.97	91.32	88.38	85.95	83.91	82.18	80.69	79.39
50	94.57	91.00	88.12	85.73	83.73	82.02	80.55	79.27
60	94.17	90.69	87.86	85.52	83.55	81.87	80.42	79.15
70	93.79	90.38	87.60	85.30	83.37	81.71	80.28	79.04
80	93.41	90.07	87.35	85.09	83.19	81.56	80.15	78.92
90	93.04	89.78	87.11	84.89	83.01	81.41	80.02	78.80

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100
0	88.74	81.14	76.07	72.45	69.74	67.62	65.93	64.55
10	87.81	80.54	75.65	72.14	69.50	67.44	65.78	64.43
20	86.93	79.97	75.25	71.85	69.27	67.26	65.64	64.31
30	86.09	79.42	74.86	71.56	69.05	67.08	65.49	64.18
40	85.28	78.89	74.49	71.28	68.83	66.90	65.35	64.07
50	84.52	78.37	74.12	71.00	68.62	66.73	65.21	63.95
60	83.78	77.88	73.77	70.74	68.41	66.57	65.07	63.84
70	83.08	77.40	73.42	70.48	68.21	66.40	64.94	63.72
80	82.41	76.94	73.09	70.22	68.01	66.24	64.81	63.61
90	81.76	76.50	72.76	69.98	67.81	66.09	64.68	63.51

Special Instructions (cont.)

A floor level that is characteristic of a ground floor should be considered as such. This also applies to the second floor, basement, and attic floor levels. For example, the split level house shown below has three insert schematic floor levels. Level A is clearly a ground floor level. However, levels B and C require some judgment to determine which is the ground floor level. If level C has characteristics of a basement, then level B should be considered the ground floor level. But if level C is more like a ground floor than a basement, level B should be considered a second floor level. Level C cannot be considered as basement if level B is considered second floor. Either level B or level C must be considered the ground floor level and added to level A for the total ground floor area.



Partially finished basements or attics

For a partially finished basement or attic, compute the floor level costs from the column of the total floor area. For example, a class 5 basement of 1,200 square feet, of which 800 square feet is finished per class specifications, is figured as follows:

1,200 s/f @ \$ 44.55	=	\$ 53,460		or	400 s/f @ \$ 44.55	=	\$ 17,820
800 s/f @ \$ 30.27	=	<u>\$ 24,220</u>			800 s/f @ \$ 74.82	=	<u>59,860</u>
(\$74.82 – \$44.55)		\$77,680					\$ 77,680

Adjustment factors

Adjustment factors for each class are included in this manual. The quality of items and components in the adjustment factors are typical for their class. If the quality of an item is better or poorer than what is typically found in the overall class of the appraisal subject, use an adjustment factor from a better or poorer class for that item. For example, the fireplace in a class 5 house is of a quality typically found in class 6 homes. An adjustment factor from the class 6 schedule can be used to estimate the cost of the fireplace.

Apply the heating-cooling adjustment factors to the total floor area that is heated and/or cooled. The square foot area of all floor levels must be included when using the heating-cooling factor. Sometimes the second floor, basement, and attic floor levels will share the main duct with the first floor. In that case, use one-half of the area of the floor levels to select the heating-cooling factor. For example, the total area heated in a class 5 house with a one-story area of 1,500 square feet and a basement area of 1,200 square feet is determined as follows:

One-story area	1,500 square feet
Basement (1,200 s/f ÷ 2)	<u>600 square feet</u>
Total area heated	2,100 square feet

Plumbing costs for rough in are handled separately from fixture costs. Costs for rough-in plumbing installation are included in the base cost factors for each building class.

Special Instructions (cont.)

Plumbing fixture costs are included in the adjustment factors for each building class. Fixtures must be inventoried by number and quality, and their costs determined using the appropriate adjustment factor. The quality of a fixture can be determined to be either better or poorer than what is typically found in the class of the appraisal subject. In this case, use an adjustment factor from the appropriate better or poorer class for each fixture. If a fixture is unusual and not included in the adjustment factor schedules, compare prices to similar items in your local market area.

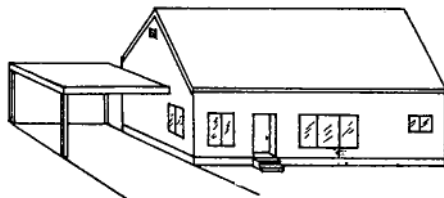
Garages and carports

Garage and carport specifications, base factors, and adjustment factors are included in cost data for conventional class 2, 3, 4, 5, and 6 dwellings. Overall construction quality for residences also applies to garages and carports in the same class. Compare the construction of the garage or carport to the residence to ensure it is of the same construction quality. If the quality is different, adjust the class for the garage or carport accordingly.

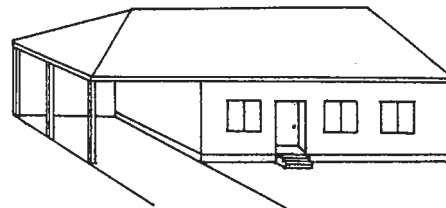
Attached carports are separated into two categories, “flat or shed” and “same as house”:

“Flat or shed” carports have a light roof frame with a built-up, corrugated metal or fiberglass cover. The roof usually has a flat or low pitch shed design.

“Same as house” carports have a roof structure that is the same as the house roof.



Flat or Shed



Same as House

Example cost estimate

Here is an example using the steps to compute a cost estimate. The subject is a class 5 house with a one-story area of 2,400 square feet. It has a medium weight architectural composition roof, drop-in range, hood fan, dishwasher, microwave, and garbage disposal. The plumbing includes two and one-half baths. The house has forced-air heating and a single fireplace with a ceiling high brick face, raised hearth, and an outside bricked chimney. Under the house is an 800 square foot basement of which 400 square feet is finished as per the class specifications. An unfinished garage with 500 square feet is attached to the house. Yard improvements include a 4-inch thick concrete driveway of 820 square feet and a concrete slab patio of 150 square feet.

Example

	Sq.Ft.	Lump Sum
Class 5 one-story factor @ 2,400 s/f	\$83.18	
Adjustment factor: roof, medium weight architectural composition	<u>.15</u>	
	\$83.33	
One story: 2400 s/f @ \$83.33=		\$199,992
Additional adjustment factors		
Appliances:		
Drop-in range	\$ 900	
Hood-fan	410	
Dishwasher	720	
Microwave, built-in	520	
Garbage disposer	<u>190</u>	
	+	\$ 2,740
Plumbing:		
Lavatories, 4 @ \$ 500 ea.	\$ 2,000	
Toilets, 3 @ \$ 450	1,350	
Jet tub	3,900	
Fiberglass stall shower with door	1,600	
Fiberglass tub with shower over	1,400	
Kitchen sink, enameled steel, double	600	
Laundry tub, fiberglass, single	550	
Water heater	<u>450</u>	
	+	11,850
Heating: forced air		
Area heated: one-story	2,400 s/f	
finished bsmt.	<u>400</u>	
	2,800 s/f @ \$1.70 =	
	+	4,760
Masonry fireplace \$ 4,140+ \$ 840 for outside brick chimney =	+	4,980
Basement: 800 square feet total		
400 s/f finished @ \$ 81.93 =	\$ 32,772	
400 s/f unfinished @ \$ 51.01 =	<u>20,404</u>	
	+	<u>53,176</u>
Total house replacement costs		\$ 277,498
Garage: attached 500 s/f unfinished factor		
Adjustment factor; roof, medium weight architectural composition	\$ 63.53	
	<u>.15</u>	
	\$ 63.68	
Total garage replacement cost 500 s/f @ \$ 63.68 =		31,840
Yard improvements:		
Driveway (concrete) 820 s/f @ \$ 3.25 =	\$ 2,665	
Patio (concrete) 150 s/f @ \$ 3.25 =	487	
Total Yard Improvements		<u><u>3,152</u></u>
LCM: 100%		
Total replacement cost (house, garage, and yard improvements)		\$ 312,490

Conventional

Class 1

Class features

Structures in this class are built in a simple design with low-cost, modest construction . Emphasis is on basic shelter—these houses do not meet sound minimum building standards. The structures often lack a planned design. Building additions are common and may contain materials not compatible with the original construction, resulting in a poor plan and/or appearance. Undersized or over-spaced structural members are common, leading to sagging and buckling. Some desirable service features are either lacking or of minimal quality. Interior components may consist of one small bedroom, one small bath, and a combination kitchen, dining room, and living room.

These dwellings are usually in older, deteriorating, urban neighborhoods remote recreation areas, or areas that lacked building code requirements when the structure was built.

Class Illustrations



Conventional Class 1 (cont.)

Item	Base Specifications
Foundation	Minimal excavation for pier footings; frame foundation; enclosed sidewalls to grade; masonry piers.
Exterior Wall	Over-spaced stud or comparable frame construction; painted single siding; slab panel exterior doors; few small windows.
Roof	Gable or shed design; wood frame construction; undersized or over-spaced ceiling joists and rafters; poor quality solid sheathing; composition roll cover; open rafter ends.
Floor	Undersized or over-spaced wood joist construction; light underpinning; single softwood flooring; print linoleum in kitchen and bath.
Partitions	Undersized or over-spaced wood frame construction; sealed walls, papered or painted; similar material for ceiling cover and interior cover of exterior wall; minimal trim; very few low-cost doors.
Interior Components	Minimum cupboards; rough storage shelving.
Electrical	Entry service; minimum capacity, low-quality wiring; very few wall switches and outlets; low quality light fixtures.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Minimal open entry porch; wood steps and floor; small attached unsealed roof projection slightly wider than entry door.

Conventional

Class 1

Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
0	53.54	48.18	44.60	42.05	40.13	38.64	37.45	36.47	35.66	34.97	34.38	33.87	33.43
10	52.89	47.76	44.31	41.83	39.97	38.51	37.34	36.39	35.59	34.91	34.33	33.83	33.38
20	52.27	47.35	44.02	41.62	39.80	38.38	37.24	36.30	35.51	34.85	34.28	33.78	33.34
30	51.67	46.96	43.75	41.42	39.65	38.26	37.14	36.21	35.44	34.79	34.22	33.73	33.30
40	51.10	46.59	43.48	41.22	39.49	38.13	37.04	36.13	35.37	34.73	34.17	33.69	33.26
50	50.56	46.23	43.23	41.03	39.34	38.01	36.94	36.05	35.30	34.67	34.12	33.64	33.22
60	50.04	45.88	42.98	40.84	39.20	37.90	36.84	35.97	35.24	34.61	34.07	33.60	33.18
70	49.55	45.54	42.73	40.65	39.05	37.78	36.75	35.89	35.17	34.55	34.02	33.55	33.14
80	49.07	45.22	42.50	40.48	38.91	37.67	36.65	35.81	35.10	34.49	33.97	33.51	33.11
90	48.62	44.90	42.27	40.30	38.78	37.56	36.56	35.74	35.04	34.44	33.92	33.47	33.07

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
0	34.96	32.39	30.67	29.45	28.53	27.82	27.25	26.78	26.39	26.06	25.78	25.54	25.32
10	34.64	32.18	30.53	29.35	28.45	27.76	27.20	26.74	26.36	26.03	25.75	25.51	25.30
20	34.34	31.99	30.40	29.25	28.38	27.69	27.15	26.70	26.32	26.00	25.73	25.49	25.28
30	34.06	31.80	30.27	29.15	28.30	27.63	27.10	26.66	26.29	25.97	25.70	25.47	25.26
40	33.79	31.62	30.14	29.05	28.23	27.58	27.05	26.62	26.25	25.94	25.68	25.45	25.24
50	33.53	31.45	30.01	28.96	28.15	27.52	27.00	26.58	26.22	25.92	25.65	25.42	25.22
60	33.28	31.29	29.89	28.87	28.08	27.46	26.96	26.54	26.19	25.89	25.63	25.40	25.21
70	33.04	31.12	29.78	28.78	28.02	27.41	26.91	26.50	26.16	25.86	25.61	25.38	25.19
80	32.81	30.97	29.67	28.70	27.95	27.35	26.87	26.46	26.12	25.83	25.58	25.36	25.17
90	32.60	30.82	29.56	28.61	27.88	27.30	26.82	26.43	26.09	25.81	25.56	25.34	25.15

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	35.40	32.58	30.70	29.36	28.35	27.57	26.94	26.43	26.01	25.64	25.33
Finished	51.78	48.42	46.18	44.58	43.38	42.44	41.70	41.09	40.58	40.15	39.78

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	28.18	21.70	18.47	16.53	15.23	14.31	13.61	13.07	12.64	12.29	12.00
Finished	44.54	37.16	33.47	31.26	29.79	28.73	27.94	27.33	26.84	26.43	26.10

Conventional

Class 1 (cont.)

Adjustment Factors

Foundation

Apply cost to ground floor area	SQ. FT.	
Masonry footing and wall	+ \$ 1.05	

Roof

Apply costs to ground floor area	SQ. FT.		SQ. FT.
Comp. shingle, light weight 3 tab	+ \$.45	Cedar shake, medium weight	+ \$ 1.30
Baked enamel, metal	+ 2.65	Cedar shingle	+ 1.75

Plumbing

	EACH		EACH
FIXTURES			
Full bath: tub or shower stall, lavatory, toilet	+ \$ 950	Toilet, standard	+ \$ 150
Bathtub - enameled steel or fiberglass	+ 350	Kitchen sink: Stainless steel, single	+ 300
Stall shower, metal	+ 650	Laundry tub, single fiberglass	+ 200
Lavatory, enameled steel	+ 150	Water heater	+ 250
		Laundry hookup	+ 150

Heating — Cooling

Area Heated/Cooled SQ. FT.:	400	600	800	1,000	1,200	1,400	1,600	1,800
Electric baseboard, wall units, or ceiling cable	2.65	2.35	2.10	1.95	1.80	1.65	1.55	1.50
Forced air wall unit, gas	3.60	3.15	2.85	2.65	2.45	2.25	2.10	2.05

Conventional

Class 2

Class features

Buildings in this class provide modest low-cost housing. These structures fall below current building code requirements for construction. Emphasis is on shelter instead of style, design, appeal, or functional utility.

The design is usually a simple rectangle with very plain features. Many dwellings have poorly-adapted additions or enclosed porch areas. Interior and exterior cover materials are plain and inexpensive. One bathroom with low-grade fixtures is standard. The quality of workmanship and materials is generally not done by skilled labor.

Class Illustrations



Class 2

Interior Features



Conventional Class 2 (cont.)

Item	Base Specifications
Item	Base specifications
Foundation	Minimal crawl space excavation: continuous perimeter footing and walls; interior piers; minimal backfill and grading.
Exterior Wall	Stud frame construction; painted single siding; slab panel exterior doors; minimal windows.
Roof	Gable design; wood frame construction; ceiling joists; inexpensive solid sheathing; light weight 3-tab composition shingle cover; eave drains.
Floor	Wood joist construction with underpinning and subflooring; softwood flooring or inexpensive resilient cover.
Partitions	Wood frame construction; sealed with painted wallboard, wood and paper or equivalent material; similar material for ceiling cover and interior cover of exterior wall; inexpensive painted trim; few modest doors.
Interior Components	Number of cabinets proportionate to overall house size; cabinets of low-quality paint grade material; low-quality plastic or linoleum countertops; wardrobe closet with minimal shelving.
Electrical	Entry service; low capacity sheathed cable wiring; few convenience outlets and wall switches; low-cost light fixtures.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Low-quality open front entry porch; concrete or wood steps and floor; small projecting roof structure slightly wider than entry door with adequate support.

Conventional

Class 2

Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
0	60.94	56.27	52.93	50.42	48.47	46.92	45.64	44.58	43.68	42.91	42.24	41.66	41.14
10	60.39	55.88	52.64	50.21	48.30	46.78	45.53	44.48	43.60	42.84	42.18	41.60	41.09
20	59.86	55.51	52.37	49.99	48.14	46.64	45.41	44.39	43.52	42.77	42.12	41.55	41.04
30	59.35	55.15	52.10	49.79	47.97	46.51	45.30	44.29	43.44	42.70	42.06	41.49	41.00
40	58.86	54.81	51.84	49.59	47.81	46.38	45.19	44.20	43.36	42.63	42.00	41.44	40.95
50	58.39	54.47	51.59	49.39	47.65	46.25	45.09	44.11	43.28	42.56	41.94	41.39	40.90
60	57.94	54.14	51.35	49.20	47.50	46.12	44.98	44.02	43.20	42.50	41.88	41.34	40.86
70	57.50	53.82	51.11	49.01	47.35	46.00	44.88	43.93	43.13	42.43	41.82	41.29	40.81
80	57.07	53.52	50.87	48.83	47.20	45.88	44.78	43.85	43.05	42.37	41.77	41.24	40.77
90	56.66	53.22	50.64	48.65	47.06	45.76	44.68	43.76	42.98	42.30	41.71	41.19	40.73

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
0	44.01	40.72	38.53	36.96	35.79	34.88	34.15	33.55	33.05	32.63	32.27	31.95	31.68
10	43.61	40.46	38.35	36.83	35.69	34.80	34.08	33.49	33.00	32.59	32.23	31.92	31.65
20	43.23	40.22	38.18	36.70	35.59	34.72	34.02	33.44	32.96	32.55	32.20	31.90	31.63
30	42.86	39.98	38.01	36.58	35.49	34.64	33.95	33.39	32.92	32.51	32.17	31.87	31.60
40	42.52	39.75	37.85	36.46	35.40	34.57	33.89	33.34	32.87	32.48	32.14	31.84	31.58
50	42.18	39.53	37.69	36.34	35.31	34.49	33.83	33.29	32.83	32.44	32.11	31.81	31.56
60	41.87	39.31	37.53	36.22	35.22	34.42	33.77	33.24	32.79	32.41	32.07	31.79	31.53
70	41.56	39.11	37.38	36.11	35.13	34.35	33.72	33.19	32.75	32.37	32.04	31.76	31.51
80	41.27	38.91	37.24	36.00	35.04	34.28	33.66	33.14	32.71	32.34	32.01	31.73	31.48
90	40.99	38.72	37.10	35.89	34.96	34.21	33.60	33.10	32.67	32.30	31.98	31.71	31.46

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	38.56	35.38	33.26	31.75	30.61	29.73	29.03	28.45	27.97	27.56	27.21
Low Cost	48.31	44.81	42.49	40.82	39.58	38.61	37.83	37.20	36.67	36.22	35.84
Finished	57.34	53.57	51.06	49.27	47.93	46.88	46.05	45.36	44.79	44.31	43.90

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	35.09	26.94	22.87	20.42	18.80	17.63	16.76	16.08	15.54	15.09	14.72
Low Cost	44.77	36.15	31.84	29.25	27.53	26.30	25.37	24.66	24.08	23.61	23.22
Finished	53.76	44.57	39.97	37.21	35.37	34.06	33.08	32.31	31.70	31.19	30.78

Conventional Class 2 (cont.) Adjustment Factors

Foundation

Apply cost to ground floor area	SQ. FT.
Wood frame on masonry piers	– \$ 1.20

Roof

Apply costs to ground floor area	SQ. FT.		SQ. FT.
Composition roll cover	– \$.45	Cedar shake, medium weight	+ \$.85
Baked enamel, metal	+ 2.20	Cedar shingle	+ 1.30

Plumbing

	EACH		EACH
FIXTURES			
Full bath: tub or shower stall, lavatory, toilet	+ \$ 1150	Toilet, standard	+ \$ 200
Bathtub, enameled steel or fiberglass	+ 400	Kitchen sink: Stainless steel, single	+ 350
Stall shower, metal	+ 750	Laundry tub, single fiberglass	+ 250
Lavatory, enameled steel	+ 200	Water heater	+ 300
		Laundry hookup	+ 150

Heating — Cooling

Area Heated/Cooled SQ. FT.:	400	600	800	1000	1200	1400	1600	1800
Electric baseboard, wall units, or ceiling cable	2.70	2.40	2.15	2.00	1.85	1.70	1.60	1.55
Forced air wall unit, gas	3.65	3.25	2.90	2.70	2.50	2.30	2.15	2.10

Conventional Class 2

Garage

FLOOR AREA — COST PER SQ. FT.

ATTACHED

Garage, unfinished with interior fire-wall only. Construction feature comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	38.81	32.53	29.39	27.50	26.24	25.35	24.67
25	36.72	31.56	28.83	27.14	25.99	25.16	24.53
50	35.04	30.73	28.34	26.81	25.76	24.99	24.40
75	33.67	30.01	27.90	26.52	25.55	24.82	24.27

Finished

Low-cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 1.75		
+	2.35		

FLOOR AREA — COST PER SQ. FT.

DETACHED

Garage, unfinished with construction features comparable to house, slab-floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	40.48	34.36	31.30	29.47	28.25	27.37	26.72
25	38.44	33.42	30.76	29.12	28.00	27.19	26.58
50	36.81	32.61	30.28	28.80	27.77	27.02	26.45
75	35.47	31.91	29.85	28.51	27.57	26.86	26.32

Finished

Low-cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 1.75		
+	2.35		

ADJUSTMENT FACTORS

ATTIC - apply cost to attic area

Storage; pull down stairs, subfloor

	SQ. FT.	LIN. FT.	EACH
+	\$ 5.10		

ROOF

Composition, roll cover
Baked enamel, metal
Cedar shake, medium weight
Cedar shingle

-	\$.45		
+	2.20		
+	.85		
+	1.30		

FLOOR

Gravel

-	2.00		
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Conventional

Class 3

Class features

Houses in this class are generally built to meet government financing program specifications. Emphasis is on functional utility rather than styling. These homes just meet the current minimum building code.

A simple rectangular shape is most common. Exterior dimensions are usually in multiples of four feet to minimize building material waste. There is little or no exterior ornamentation. Front entries typically open directly into the living area. Interior features are plain and economical. Bathrooms feature economy-grade fixtures. Appliances may or may not be built in and are the most affordable on the market. The overall concept is to provide housing for the economy market.

Class Illustrations



Class 3

Interior Features



Conventional

Class 3 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; interior piers; vent openings; access opening; backfill and grading.
Exterior Wall	Stud frame construction; insulation; economy-grade painted single siding; economy-grade exterior doors and minimal windows; may have some trim, plain features.
Roof	Gable, hip, or comparable design, typically with open soffits; wood frame construction; ceiling joists; economy-grade solid sheathing; light weight 3-tab composition shingle cover; ceiling insulation; gutters and downspouts.
Floor	Wood frame construction with underpinning and underlayment, or concrete slab; economy-grade carpet and padding, and resilient cover in appropriate areas.
Partitions	Wood frame construction; economy-grade plaster or drywall with painted surfaces; similar material for ceiling cover and interior cover of exterior wall; economy-grade hollow core doors, hardware, and trim.
Interior Components	Quantity of cabinetry proportionate to overall house size; cabinets of economy paint grade material or simulated veneer finish; economy-grade plastic or linoleum countertop and backsplash; minimal shelving in wardrobe and linen closets; economy-grade hardware; narrow width stairway of straight design with softwood rail, and economy-grade carpet or softwood tread cover.
Electrical	Entry service; multi-circuit panel; non-metallic sheathed cable wiring; minimum number of convenience outlets; economy-grade light fixtures; range and dryer outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Economy open front entry porch; with concrete or wood steps and floor; minimal extension of dwelling roof or separate roof cover, slightly wider than entry door.

Conventional
Class 3
Cost Factor Tables
One Story Base Factors
(Floor Area — Cost Per Sq. Ft.)

	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
0	71.29	67.38	64.33	61.90	59.91	58.25	56.84	55.64	54.59	53.68	52.87	52.16	51.52
10	70.85	67.04	64.07	61.68	59.73	58.09	56.71	55.52	54.50	53.59	52.80	52.09	51.46
20	70.42	66.71	63.80	61.47	59.55	57.95	56.58	55.42	54.40	53.51	52.72	52.02	51.40
30	70.00	66.39	63.55	61.26	59.38	57.80	56.46	55.31	54.31	53.43	52.65	51.96	51.34
40	69.60	66.07	63.30	61.06	59.21	57.66	56.34	55.20	54.21	53.34	52.58	51.89	51.28
50	69.20	65.77	63.05	60.85	59.04	57.51	56.22	55.10	54.12	53.26	52.50	51.83	51.22
60	68.82	65.47	62.81	60.66	58.87	57.38	56.10	54.99	54.03	53.18	52.43	51.76	51.16
70	68.44	65.17	62.58	60.46	58.71	57.24	55.98	54.89	53.94	53.10	52.36	51.70	51.11
80	68.08	64.89	62.35	60.27	58.55	57.10	55.86	54.79	53.85	53.03	52.29	51.64	51.05
90	67.72	64.61	62.12	60.09	58.40	56.97	55.75	54.69	53.76	52.95	52.22	51.58	50.99

Second Floor Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
0	54.95	50.80	48.04	46.06	44.58	43.43	42.51	41.75	41.12	40.59	40.14	39.74	39.39
10	54.44	50.47	47.81	45.89	44.45	43.33	42.42	41.68	41.07	40.54	40.09	39.70	39.36
20	53.96	50.16	47.59	45.73	44.33	43.23	42.34	41.62	41.01	40.49	40.05	39.67	39.33
30	53.50	49.86	47.38	45.57	44.20	43.13	42.26	41.55	40.95	40.45	40.01	39.63	39.30
40	53.06	49.57	47.17	45.42	44.09	43.03	42.19	41.49	40.90	40.40	39.97	39.60	39.27
50	52.64	49.29	46.97	45.27	43.97	42.94	42.11	41.42	40.85	40.35	39.93	39.56	39.24
60	52.24	49.02	46.78	45.12	43.86	42.85	42.04	41.36	40.79	40.31	39.89	39.53	39.21
70	51.86	48.76	46.59	44.98	43.74	42.76	41.96	41.30	40.74	40.26	39.85	39.49	39.18
80	51.49	48.51	46.41	44.84	43.64	42.67	41.89	41.24	40.69	40.22	39.81	39.46	39.15
90	51.14	48.27	46.23	44.71	43.53	42.59	41.82	41.18	40.64	40.18	39.78	39.43	39.12

Basement Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	49.17	44.40	41.23	38.96	37.26	35.94	34.88	34.01	33.29	32.68	32.16
Low Cost	60.99	55.76	52.27	49.78	47.91	46.46	45.30	44.35	43.56	42.88	42.31
Finished	72.09	66.49	62.75	60.08	58.08	56.52	55.27	54.25	53.40	52.69	52.07

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Unfinished	31.70	31.30	30.95	30.64	30.36	30.11	29.89	29.68	29.49	29.32	29.16
Low Cost	41.81	41.38	40.99	40.65	40.34	40.07	39.82	39.59	39.39	39.20	39.02
Finished	51.54	51.07	50.66	50.29	49.96	49.67	49.40	49.16	48.94	48.73	48.55

Attic Factors
(Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	43.46	33.60	28.67	25.72	23.75	22.34	21.28	20.46	19.80	19.27	18.82
Low Cost	54.83	44.36	39.13	35.99	33.90	32.41	31.29	30.41	29.72	29.15	28.67
Finished	65.58	54.65	49.19	45.91	43.72	42.16	40.99	40.08	39.35	38.75	38.26

Conventional Class 3 (cont.) Adjustment Factors

Foundation

Apply cost to ground floor area	SQ. FT.
Wood frame on masonry piers	– \$ 1.65

Roof

Apply costs to ground floor area	SQ. FT.		SQ. FT.
Comp. shingle, light weight arch.	+ \$.20	Cedar shake, medium weight	+ \$.85
Baked enamel, metal	+ 2.20	Cedar shingle	+ 1.30

Interior Components

	EACH		EACH
APPLIANCES		STOVES AND FIREPLACES (cont.)	
		Fireplaces	
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+ \$ 1,200	Direct vent, gas fired fascia surround, non-brick	+ \$ 2,040
Range, drop-in	+ 550	Interior masonry, mantel high face brick	
Hood-fan	+ 180	single	+ 2,690
Dishwasher	+ 340	raised hearth	+ 580
Garbage disposer	+ 130	Prefab. metal box and flue, gas log, mantel high face brick	+ 2,520
STOVES AND FIREPLACES		Additional features:	
Stoves		Outside brick chimney;	
Wood stove w/ flue	+ 2,600	one story	+ 630
Pellet stove w/ flue	+ 3,950		
Gas stove w/ flue	+ 2,270		
	SQ. FT.		
Floor and wall heat shield	+ \$ 9.00		

**Conventional
Class 3 (cont.)
Adjustment Factors**

Plumbing

	EACH		EACH
FIXTURES			
Full bath: tub w/shower over or shower stall, lavatory, toilet	+ \$1,250	Stall shower, w/door, fiberglass	+ \$1,200
Half bath: lavatory, toilet	+ 500	Lavatory, enameled steel	+ 250
Bathtub, enameled steel or fiberglass	+ 500	Toilet, standard	+ 250
add for:		Kitchen sink:	
shower w/plastic surround	+ 250	Stainless steel, double	+ 400
sliding plastic door	+ 90	Laundry tub, single fiberglass	+ 300
		Water heater	+ 350

Heating — Cooling

Area Heated/Cooled SQ. FT.:	800	1000	1,200	1,400	1,600	1,800	2,000	2,200	2,400
Electric baseboard, wall unit, or ceiling cable	2.20	2.05	1.90	1.75	1.65	1.60	1.55	1.50	1.45
Forced air heating	3.70	2.95	2.45	2.25	2.05	1.90	1.75	1.70	1.60

Conventional Class 3

Garage

FLOOR AREA — COST PER SQ. FT.

ATTACHED

Garage unfinished with interior fire-wall only. Construction feature comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	54.05	44.78	40.15	37.37	35.52	34.20	33.21
25	50.96	43.36	39.34	36.84	35.15	33.92	33.00
50	48.49	42.14	38.61	36.36	34.81	33.67	32.80
75	46.47	41.08	37.96	35.92	34.49	33.43	32.61

Finished

Low-cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 1.90		
+	2.65		

FLOOR AREA — COST PER SQ. FT.

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	55.56	46.78	42.39	39.76	38.01	36.75	35.81
25	52.63	45.43	41.62	39.26	37.65	36.49	35.61
50	50.29	44.27	40.93	38.80	37.33	36.25	35.42
75	48.38	43.27	40.31	38.39	37.03	36.02	35.25

Finished

Low-cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 1.90		
+	2.65		

ADJUSTMENT FACTORS

ATTIC; apply cost to attic area

Storage; pull down stairs, sub floor

	SQ. FT.	LIN. FT.	EACH
+	\$ 5.10		

ROOF

Comp. shingle, light weight arch
Baked enamel, metal
Cedar shake, medium weight
Cedar shingle

+	.20		
+	2.20		
+	.85		
+	1.30		

AUTOMATIC DOOR OPENER

+			\$ 350.00
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Conventional

Class 3

Carport

Construction features comparable to house,
slab floor, open side and end(s)

		200	300	400	500	600	700	800
FLOOR AREA								
ATTACHED	Flat	22.66	21.70	21.22	20.94	20.75	20.61	20.51
Flat or shed	Same as house	24.67	23.84	23.43	23.18	23.02	22.90	22.81
Same as house								
DETACHED								
Flat or shed	Flat	22.86	21.90	21.43	21.14	20.95	20.81	20.71
Gable or hip	Same as house	24.88	24.04	23.63	23.38	23.21	23.09	23.00

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ROOF				
Comp. shingle, light weight arch.	+	\$.20		
Baked enamel, metal	+	2.20		
Cedar shake, medium weight	+	.85		
Cedar shingle	+	1.30		
FLOOR				
Gravel	-	\$2.00		

Conventional

Class 4

Class features

These homes are generally built by contractors following a stock plan. Emphasis is still on functional utility, but they may have some style features such as hardwood floors, brick veneer or other ornamentation.

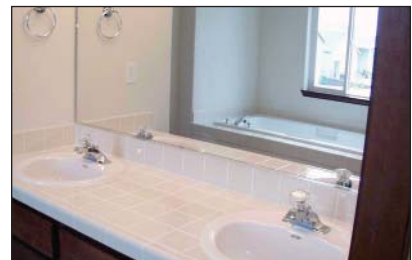
Material and workmanship quality is fair. Usually the front exterior is designed for some curb appeal while other exterior walls are plain. Windows, doors, plumbing and heating are normally made of competitive-grade materials. A class 4 home has a modest entry. Bathroom fixtures and built-in appliances are fair quality, and quantity depends on the floor plan. Service features such as cabinetry, electrical outlets, and lighting are basic but adequate.

Class Illustrations



Class 4

Interior Features



Conventional

Class 4 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; vent openings; access opening; interior piers; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and fair quality painted siding or equivalent construction; fair-quality exterior doors and windows; some ornamental trim; may have optional items such as window boxes and shutters.
Roof	Gable, hip, or comparable design; wood frame construction; ceiling joists; fair-quality solid sheathing; medium weight 3-tab composition shingle cover; ceiling insulation; gutters and downspouts.
Floor	Wood frame construction with underpinning, subflooring and underlayment; or concrete slab; fair-quality hardwood flooring and finish or carpet and padding; fair-quality resilient cover in appropriate areas.
Partitions	Wood frame construction; fair-quality textured plaster or drywall with painted surfaces; similar material for ceiling cover and interior wall; fair-quality doors, hardware and trim; painted or stained fair-quality softwood millwork.
Interior Components	Quantity of cabinetry proportionate to overall house size; cabinets of fair-quality particle-board or plywood with hardwood veneer; fair-quality plastic or tile countertop and backsplash; wardrobe and linen closets with shelving; fair-quality hardware; narrow to moderate width stairway of straight design with softwood rail, and fair-quality carpet or softwood tread cover.
Electrical	Entry service; multi-circuit panel; non-metallic sheathed cable wiring; adequate number of convenience outlets; fair-quality light fixtures; range and dryer outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Fair-quality open front entry porch, integrated with house design; concrete or wood steps and floor; extension of dwelling roof or separate roof structure adequate to cover entry area.

Conventional Class 4 Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
0	93.07	87.93	83.93	80.74	78.12	75.94	74.09	72.51	71.14	69.94	68.88	67.94	67.10
10	92.49	87.49	83.58	80.45	77.88	75.74	73.92	72.37	71.01	69.83	68.78	67.85	67.02
20	91.93	87.05	83.24	80.17	77.65	75.55	73.76	72.22	70.89	69.72	68.69	67.77	66.94
30	91.38	86.63	82.90	79.90	77.42	75.35	73.59	72.08	70.76	69.61	68.59	67.68	66.87
40	90.85	86.22	82.57	79.63	77.20	75.16	73.43	71.94	70.64	69.50	68.49	67.59	66.79
50	90.33	85.82	82.25	79.37	76.98	74.98	73.27	71.80	70.52	69.40	68.40	67.51	66.71
60	89.83	85.42	81.94	79.11	76.77	74.80	73.12	71.67	70.40	69.29	68.31	67.43	66.64
70	89.33	85.04	81.63	78.85	76.55	74.62	72.96	71.53	70.29	69.19	68.21	67.34	66.56
80	88.86	84.66	81.32	78.60	76.34	74.44	72.81	71.40	70.17	69.08	68.12	67.26	66.49
90	88.39	84.29	81.03	78.36	76.14	74.26	72.66	71.27	70.05	68.98	68.03	67.18	66.42

	2,000	2,100	2,200	2,300	2,400	2,500
0	66.34	65.66	65.03	64.47	63.94	63.46
10	66.27	65.59	64.98	64.41	63.89	63.42
20	66.20	65.53	64.92	64.36	63.85	63.37
30	66.13	65.46	64.86	64.30	63.80	63.33
40	66.06	65.40	64.80	64.25	63.75	63.28
50	65.99	65.34	64.74	64.20	63.70	63.24
60	65.92	65.28	64.69	64.15	63.65	63.19
70	65.86	65.22	64.63	64.10	63.60	63.15
80	65.79	65.15	64.58	64.04	63.56	63.11
90	65.72	65.09	64.52	63.99	63.51	63.06

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
0	68.14	63.22	59.95	57.61	55.85	54.48	53.39	52.50	51.75	51.12	50.58	50.11	49.71
10	67.54	62.84	59.68	57.41	55.70	54.36	53.29	52.42	51.69	51.07	50.53	50.07	49.67
20	66.97	62.47	59.42	57.22	55.55	54.25	53.20	52.34	51.62	51.01	50.48	50.03	49.63
30	66.43	62.11	59.17	57.03	55.41	54.13	53.11	52.26	51.55	50.95	50.44	49.99	49.59
40	65.91	61.77	58.92	56.85	55.26	54.02	53.01	52.18	51.49	50.90	50.39	49.94	49.56
50	65.41	61.44	58.69	56.67	55.13	53.91	52.92	52.11	51.43	50.84	50.34	49.90	49.52
60	64.93	61.12	58.46	56.50	54.99	53.80	52.84	52.04	51.36	50.79	50.29	49.86	49.48
70	64.48	60.81	58.23	56.33	54.86	53.70	52.75	51.96	51.30	50.74	50.25	49.82	49.45
80	64.04	60.51	58.02	56.17	54.73	53.59	52.66	51.89	51.24	50.68	50.20	49.78	49.41
90	63.63	60.22	57.81	56.01	54.61	53.49	52.58	51.82	51.18	50.63	50.16	49.74	49.38

Conventional
Class 4
Cost Factor Tables (cont.)

Basement Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	56.93	51.63	48.10	45.58	43.69	42.22	41.04	40.08	39.28	38.60	38.02
Low Cost	71.17	65.47	61.67	58.95	56.91	55.33	54.06	53.02	52.16	51.43	50.80
Finished	84.90	78.91	74.92	72.07	69.93	68.27	66.94	65.85	64.94	64.17	63.51

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Unfinished	37.51	37.07	36.68	36.33	36.02	35.75	35.49	35.26	35.06	34.86	34.69
Low Cost	50.26	49.78	49.36	48.99	48.65	48.35	48.08	47.84	47.61	47.40	47.21
Finished	62.94	62.45	62.00	61.61	61.26	60.95	60.66	60.40	60.17	59.95	59.75

Attic Factors
(Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	54.74	42.16	35.88	32.11	29.59	27.80	26.45	25.40	24.56	23.88	23.31
Low Cost	67.85	55.05	48.65	44.81	42.25	40.42	39.05	37.98	37.13	36.43	35.85
Finished	80.67	67.69	61.20	57.31	54.71	52.86	51.47	50.38	49.52	48.81	48.22

Conventional Class 4 (cont.) Adjustment Factors

Foundation

	SQ. FT.
Apply cost to ground floor area	
Wood frame on masonry piers	- \$ 2.30

Roof

	SQ. FT.		SQ. FT.
Apply costs to ground floor area			
Comp. shingle, light weight architectural	+ \$.10	Baked enamel, metal	+ \$ 2.10
Fiber-cement composite	+ 1.65	Cedar shake, medium weight	+ .75
		Cedar shingle	+ 1.20

Interior Components

	EACH		EACH
APPLIANCES		STOVES AND FIREPLACES (cont.)	
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+ \$ 1,590	Fireplaces	
Range, drop-in	+ 680	Direct vent, gas fired; fascia surround, non-brick	+ \$2,320
Oven, single	+ 610	Interior masonry, mantel high face brick, raised hearth	
Cooktop	+ 470	single	+ 3,580
w/built-in exhaust and grill	+ 700	see-through	+ 4,820
Microwave oven, built-in	+ 450	backed	+ 6,270
Hood-fan	+ 280	stacked	+ 6,830
Dishwasher	+ 480	ceiling high brick, per fireplace	+ 280
Garbage disposer	+ 150	Prefab. metal box and flue, gas log, mantel high face brick	+ 3,140
STOVES AND FIREPLACES		Additional features:	
Stoves		Outside brick chimney;	
Wood stove w/ flue	+ 2,880	one story	+ 730
Pellet stove w/ flue	+ 4,230	two story	+ 1010
Gas stove w/ flue	+ 2,550		
	SQ. FT.		
Floor and wall heat shield	+ \$ 10.10		

Conventional Class 4 (cont.) Adjustment Factors

Plumbing

FIXTURES	EACH		EACH
Full bath: tub w/ shower over		Garden tub	+ \$2,100
or shower stall, lavatory, toilet	+ \$ 1,600	Jet tub	+ 3,300
Half bath: lavatory, toilet	+ 650	Lavatory, china	+ 350
Bathtub, enameled steel or fiberglass	+ 600	Toilet, standard	+ 300
add for:		Kitchen sink:	
shower w/ fiberglass surround	+ 350	Stainless steel, double	+ 450
shower w/ tile surround	+ 700	Hot water dispenser	+ 200
sliding glass door	+ 150	Bar sink, stainless steel	+ 300
Stall shower, w/ door, fiberglass	+ 1,350	Laundry tub, single fiberglass	+ 350
Stall shower, w/ door, tile	+ 2,050	Water heater	+ 400

Heating — Cooling

Area Heated/Cooled square feet:	800	1000	1,200	1,400	1,600	1,800	2,000	2,200	2,400
Electric baseboard, wall units, or ceiling cable	2.25	2.10	1.95	1.80	1.70	1.65	1.60	1.55	1.50
Forced air heating	4.25	3.40	2.85	2.55	2.30	2.15	1.95	1.80	1.70
Forced air heating and cooling	5.30	4.25	3.55	3.20	2.90	2.70	2.45	2.25	2.10
Heat pump	5.90	4.70	3.95	3.55	3.20	3.00	2.70	2.50	2.35

Conventional

Class 4

Garage

FLOOR AREA — COST PER SQ. FT.

ATTACHED

Garage, unfinished with interior firewall only. Construction feature comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	69.05	57.31	51.44	47.92	45.57	43.89	42.63
25	65.13	55.50	50.40	47.25	45.10	43.54	42.37
50	62.00	53.95	49.48	46.64	44.67	43.22	42.12
75	59.44	52.61	48.66	46.08	44.26	42.92	41.88

Finished

Low-cost wallboard or equivalent + \$ 2.45
 Plaster or textured drywall + 3.45

SQ. FT.

LIN. FT.

EACH

FLOOR AREA — COST PER SQ. FT.

DETACHED

Garage, unfinished with construction features comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	70.45	59.49	54.01	50.72	48.53	46.96	45.79
25	66.79	57.80	53.04	50.09	48.09	46.64	45.54
50	63.87	56.36	52.18	49.52	47.69	46.34	45.31
75	61.48	55.10	51.41	49.00	47.31	46.05	45.08

Finished

Low-cost wallboard or equivalent + \$ 2.45
 Plaster or textured drywall + 3.45

SQ. FT.

LIN. FT.

EACH

ADJUSTMENT FACTORS

ATTIC: apply cost to attic area

Storage; pull down stairs, subfloor + \$ 5.10

SQ. FT.

LIN. FT.

EACH

ROOF

Comp. shingle, light weight, arch. + .10
 Fiber-cement composite + 1.65
 Baked enamel, metal + 2.10
 Cedar shake, medium weight + .75
 Cedar shingle + 1.20

AUTOMATIC DOOR OPENER +

\$ 400.00

Conventional Class 4

Carport

Construction features comparable to house,
slab floor, open side and end(s)

FLOOR AREA

ATTACHED

Flat or shed
Same as house

DETACHED

Flat or shed
Gable or hip

	200	300	400	500	600	700	800
Flat	29.22	28.37	27.94	27.68	27.51	27.39	27.30
Same as house	32.28	31.52	31.14	30.91	30.76	30.65	30.57
	200	300	400	500	600	700	800
Flat	29.46	28.60	28.17	27.91	27.73	27.61	27.52
Gable or hip	32.53	31.75	31.37	31.14	30.98	30.87	30.79

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ROOF				
Comp. shingle, light weight arch.	+	\$.10		
Fiber-cement composite	+	1.65		
Baked enamel, metal	+	2.10		
Cedar shake, medium weight	+	.75		
Cedar shingle	+	1.20		
FLOOR				
Gravel	-	\$ 2.50		
EXTERIOR WALL				
(Per lineal foot of wall)				
Curtain wall or storage room wall single wall construction, siding similar to house.			\$ 62.70	

Conventional

Class 5

Class Features

Class 5 represents average quality homes built for speculation or on order by a volume builder. They reflect popular combinations of style, design, and functional utility with a convenient floor plan and are acceptable to a broad portion of the market.

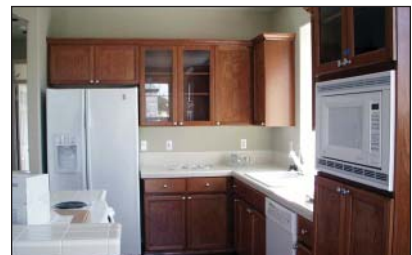
These homes may have exterior ornamentation such as brick veneer, railings, or cornice trim. They have a larger, often multi-storied entry area with some type of outside window area to give a more expansive feeling. Typically, windows are large and numerous, and accent windows are common. Bathroom fixtures are average quality with entry-level designer faucets. Built-in appliances are average-quality and often include separate ovens and cook tops. Interior features may include some average quality hardwood paneling, or painted or stained wainscoting.

Class Illustrations



Class 5

Interior Features



Conventional

Class 5 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; interior piers; vent openings; access opening; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and average quality painted siding or equivalent construction; average quality exterior doors and windows; may have optional items such as masonry trim, windows boxes, shutters, etc.
Roof	Moderate to complex design; wood frame construction; ceiling joists; average quality solid or spread sheathing; light weight architectural composition shingle cover; ceiling insulation; gutters and downspouts; moderate attention to roof trim.
Floor	Wood frame construction with underpinning, subflooring and underlayment; average quality hardwood flooring and finish or carpet and padding; average quality resilient cover or tile in appropriate areas.
Partitions	Wood frame construction; average quality textured plaster or drywall with painted surfaces, wallpaper, veneer paneling or wainscoting; similar material for ceiling cover and interior cover of exterior wall; average quality doors, hardware and trim; painted or stained average quality softwood millwork.
Interior Components	Cabinet quantity is proportionate to overall house size; cabinets of average quality plywood with hardwood veneer, stained or painted, or hardboard with painted finish; average quality laminate or tile countertops and backsplash; wardrobe, linen, and utility closets with shelving; average quality hardware; moderate width stairway of single or double angles with landings, hardwood rail with painted softwood spindles, and average quality carpet or hardwood tread cover.
Electrical	Entry service; multi-circuit panel; non metallic sheathed cable wiring; adequate number of convenience outlets; average quality light fixtures; range and dryer outlets; may have special appliance and equipment outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Average quality open front entry porch integrated with house design, adequate to cover entry area; concrete or wood steps and floor.

Conventional

Class 5 — Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
0	128.13	120.64	114.65	109.74	105.65	102.20	99.23	96.66	94.42	92.43	90.67	89.09	87.67
10	127.30	119.98	114.11	109.30	105.28	101.88	98.96	96.43	94.21	92.25	90.50	88.94	87.54
20	126.49	119.34	113.59	108.87	104.92	101.57	98.69	96.19	94.00	92.06	90.34	88.80	87.41
30	125.69	118.71	113.07	108.44	104.56	101.26	98.42	95.96	93.80	91.88	90.18	88.65	87.27
40	124.92	118.09	112.57	108.02	104.20	100.96	98.16	95.73	93.59	91.70	90.02	88.51	87.14
50	124.16	117.48	112.08	107.61	103.86	100.66	97.90	95.50	93.39	91.53	89.86	88.36	87.01
60	123.43	116.89	111.59	107.20	103.51	100.37	97.65	95.28	93.20	91.35	89.70	88.22	86.89
70	122.71	116.31	111.12	106.81	103.18	100.08	97.40	95.06	93.00	91.18	89.55	88.08	86.76
80	122.00	115.75	110.65	106.42	102.84	99.79	97.15	94.84	92.81	91.01	89.39	87.94	86.64
90	121.31	115.19	110.19	106.03	102.52	99.51	96.90	94.63	92.62	90.84	89.24	87.81	86.51

	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
0	86.39	85.22	84.15	83.18	82.28	81.45	80.68	79.97	79.30	78.68
10	86.27	85.11	84.05	83.08	82.19	81.37	80.61	79.90	79.24	78.62
20	86.15	85.00	83.95	82.99	82.11	81.29	80.53	79.83	79.17	78.56
30	86.03	84.89	83.85	82.90	82.02	81.21	80.46	79.76	79.11	78.50
40	85.91	84.78	83.75	82.81	81.94	81.13	80.39	79.69	79.05	78.45
50	85.79	84.68	83.66	82.72	81.85	81.06	80.32	79.63	78.99	78.39
60	85.67	84.57	83.56	82.63	81.77	80.98	80.25	79.56	78.92	78.33
70	85.56	84.46	83.46	82.54	81.69	80.90	80.17	79.50	78.86	78.27
80	85.45	84.36	83.37	82.45	81.61	80.83	80.10	79.43	78.80	78.21
90	85.33	84.26	83.27	82.36	81.53	80.75	80.04	79.37	78.74	78.16

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
0	88.74	81.14	76.07	72.45	69.74	67.62	65.93	64.55	63.40	62.43	61.59	60.87	60.23
10	87.81	80.54	75.65	72.14	69.50	67.44	65.78	64.43	63.30	62.34	61.51	60.80	60.17
20	86.93	79.97	75.25	71.85	69.27	67.26	65.64	64.31	63.19	62.25	61.44	60.73	60.12
30	86.09	79.42	74.86	71.56	69.05	67.08	65.49	64.18	63.09	62.16	61.36	60.67	60.06
40	85.28	78.89	74.49	71.28	68.83	66.90	65.35	64.07	62.99	62.08	61.29	60.60	60.00
50	84.52	78.37	74.12	71.00	68.62	66.73	65.21	63.95	62.89	61.99	61.22	60.54	59.94
60	83.78	77.88	73.77	70.74	68.41	66.57	65.07	63.84	62.80	61.91	61.14	60.48	59.89
70	83.08	77.40	73.42	70.48	68.21	66.40	64.94	63.72	62.70	61.83	61.07	60.41	59.83
80	82.41	76.94	73.09	70.22	68.01	66.24	64.81	63.61	62.61	61.75	61.00	60.35	59.78
90	81.76	76.50	72.76	69.98	67.81	66.09	64.68	63.51	62.52	61.67	60.93	60.29	59.73

	1,700	1,800	1,900	2,000
0	59.67	59.18	58.73	58.33
10	59.62	59.13	58.69	58.29
20	59.57	59.08	58.65	58.26
30	59.52	59.04	58.61	58.22
40	59.47	58.99	58.57	58.18

	1,700	1,800	1,900	2,000
50	59.42	58.95	58.53	58.15
60	59.37	58.90	58.49	58.11
70	59.32	58.86	58.45	58.07
80	59.27	58.82	58.41	58.04
90	59.22	58.77	58.37	58.00

Conventional

Class 5

Cost Factor Tables (cont.)

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	70.39	62.64	57.47	53.78	51.01	48.86	47.13	45.72	44.55	43.56	42.70
Low Cost	86.62	78.31	72.78	68.82	65.86	63.55	61.70	60.19	58.93	57.87	56.96
Finished	103.25	94.72	89.03	84.97	81.93	79.56	77.66	76.11	74.82	73.73	72.79

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Unfinished	41.97	41.32	40.75	40.24	39.79	39.38	39.01	38.68	38.37	38.09	37.83
Low Cost	56.16	55.47	54.86	54.32	53.83	53.40	53.00	52.64	52.31	52.01	51.73
Finished	71.98	71.27	70.64	70.08	69.59	69.14	68.73	68.36	68.02	67.72	67.43

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	72.47	54.79	45.95	40.64	37.10	34.58	32.68	31.21	30.03	29.07	28.26
Low Cost	87.47	69.34	60.27	54.83	51.20	48.61	46.67	45.16	43.95	42.96	42.14
Finished	102.18	84.14	75.12	69.71	66.10	63.52	61.59	60.09	58.88	57.90	57.08

Conventional Class 5 (cont.) Adjustment Factors

Exterior Wall

	LIN. FT.	
BRICK VENEER, full 8-foot wall	+	\$104.35

Roof

	SQ. FT.		SQ. FT.
Apply costs to ground floor area	-		
Comp. shingle, medium weight, 3 tab	-	\$.10	Baked enamel, metal + \$ 2.00
Comp. shingle, medium weight architectural.	+	.15	Cedar shake, medium weight + .65
Comp. shingle, heavy weight arch.	+	.30	Cedar shingle + 1.10
Fiber-cement composite	+	1.55	Concrete tile + 2.50

Interior Components

	EACH		EACH
APPLIANCES		STOVES AND FIREPLACES (cont.)	
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+	\$ 2,220	
Range, drop-in, self clean	+	900	
Oven, single, self clean	+	870	
Oven, double, self clean	+	1,800	
Cooktop	+	550	
w/built-in exhaust and grill	+	790	
Microwave oven, built-in	+	520	
Hood-fan	+	410	
Dishwasher	+	720	
Garbage disposer	+	190	
STOVES AND FIREPLACES		Fireplaces	
Stoves		Direct vent, gas fired; fascia surround, non-brick + \$ 2,600	
Wood stove w/ flue	+	3,160	
Pellet stove w/ flue	+	4,510	
Gas stove w/ flue	+	2,830	
		SQ. FT.	
Floor and wall heat shield	+	\$ 11.80	
			Interior masonry, ceiling high face brick, raised hearth + 4,140
			single + 5,600
			see-through + 7,280
			backed + 7,900
			stacked
			Prefab. metal box and flue, gas log, ceiling high face brick face + 3,580
			Additional features:
			Outside brick chimney;
			one story + 840
			two story + 1,120

Conventional Class 5 (cont.) Adjustment Factors

Plumbing

FIXTURES	EACH	EACH
Full bath: tub w/ shower over or shower stall, lavatory, toilet	+ \$ 2,350	Garden tub + \$ 2,500
Half bath: lavatory, toilet	+ 950	Jet tub + 3,900
Bathtub, enameled steel or fiberglass	+ 900	Lavatory, china + 500
add for:		Toilet, standard + 450
shower w/ fiberglass surround	+ 500	Kitchen sink:
shower w/ tile surround	+ 900	Enameled steel, double + 600
sliding glass door	+ 250	Bar sink, stainless steel + 450
Stall shower, w/ door, fiberglass	+ 1,600	Hot water dispenser + 250
Stall shower, w/ door, tile	+ 2,600	Laundry tub, single fiberglass + 550
		Water heater + 450

Heating — Cooling

Area Heated/Cooled SQ. FT.:	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600
Electric baseboard, wall units, or ceiling cable	2.15	2.00	1.90	1.80	1.75	1.70	1.65	1.60	1.55
Forced air heating	3.65	3.05	2.75	2.50	2.30	2.10	1.95	1.90	1.80
Forced air heating and cooling	4.55	3.85	3.40	3.10	2.90	2.60	2.50	2.35	2.20
Heat pump	5.05	4.25	3.80	3.45	3.20	2.90	2.75	2.60	2.45

Area Heated/Cooled SQ. FT.:	2,800	3,000	3,200
Electric baseboard, wall units, or ceiling cable	1.50	1.45	1.40
Forced air heating	1.70	1.60	1.50
Forced air heating and cooling	2.05	2.00	1.90
Heat pump	2.30	2.20	2.10

Conventional Class 5

Garage

FLOOR AREA — COST PER SQ. FT.

ATTACHED

Garage unfinished with interior fire-wall only. Construction feature comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	99.20	79.38	69.48	63.53	59.57	56.74	54.61
25	92.59	76.33	67.73	62.40	58.77	56.15	54.16
50	87.31	73.72	66.17	61.37	58.04	55.60	53.74
75	82.99	71.46	64.78	60.43	57.36	55.09	53.34

Finished

Low-cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 2.50		
+	3.80		

FLOOR AREA — COST PER SQ. FT.

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	102.37	83.81	74.53	68.97	65.26	62.60	60.62
25	96.18	80.96	72.90	67.91	64.51	62.06	60.19
50	91.23	78.51	71.44	66.94	63.83	61.54	59.80
75	87.18	76.39	70.14	66.06	63.19	61.07	59.42

Finished

Low-cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 2.50		
+	3.80		

ADJUSTMENT FACTORS

EXTERIOR WALL

Brick veneer; full 8-foot wall

	SQ. FT.	LIN. FT.	EACH
			\$ 65.85

ATTIC; apply cost to attic area

Storage; pull down stairs, subfloor

+	\$ 5.10		
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ROOF

Comp. shingle, medium weight 3 tab — .10
 Comp. shingle, medium weight architectural + .15
 Comp. shingle, heavy weight architectural + .30
 Fiber-cement composite + 1.55
 Baked enamel, metal + 2.00
 Cedar shake, medium weight + .65
 Cedar shingle + 1.10
 Concrete tile + 2.50

AUTOMATIC DOOR OPENER

+			\$ 450.00
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Conventional Class 5

Carport

Construction features comparable to house,
slab floor, open side and end(s)

FLOOR AREA

ATTACHED

Flat or shed
Same as house

DETACHED

Flat or shed
Gable or hip

	200	300	400	500	600	700	800
Flat	34.49	33.45	32.93	32.62	32.41	32.26	32.15
Same as house	38.01	37.06	36.59	36.31	36.12	35.99	35.89

	200	300	400	500	600	700	800
Flat	34.71	33.69	33.18	32.87	32.66	32.52	32.41
Same as house	38.24	37.31	36.85	36.57	36.38	36.25	36.15

ADJUSTMENT FACTORS

		SQ. FT.		LIN. FT.		EACH
ROOF						
Comp. shingle, medium weight, 3 tab	-	\$.10				
Comp. shingle, medium weight, arch.	+	.15				
Comp. shingle, heavy weight, arch.	+	.30				
Fiber-cement composite	+	1.55				
Baked enamel, metal	+	2.00				
Cedar shingle	+	1.10				
Cedar shake, medium weight	+	.65				
Concrete tile	+	2.50				
 FLOOR						
Gravel	-	\$ 2.50				
 EXTERIOR WALL (Per lineal foot of wall)						
Curtain wall, screen wall, or storage room wall materials similar to house.	+			\$ 83.25		

Conventional

Class 6

Class Features

Class 6 homes emphasize a convenient floor plan and overall attention to detail. These are attractive homes with a balance of period or classic architectural style and design, which is often expressed in irregular exterior shape and roof design.

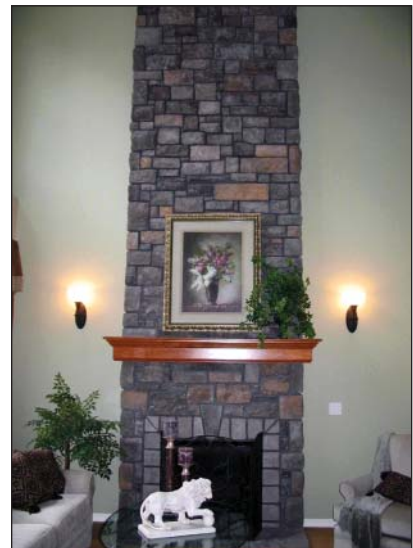
Workmanship and materials are good quality. The exterior has ample ornamentation, such as good quality brick veneer or similar styling features. Windows are generally wood clad or good quality vinyl. Entry areas are ample in size and height, with a good quality hardwood or tile floor cover. Baths feature good quality fixtures that may include designer characteristics. Appliances often include good quality built-in items such as double ovens, microwave, downdraft cook top, and trash compactor. Millwork and trim is good quality painted or stained hardwood, or comparable materials. Interior wall finishes are good quality.

Class Illustrations



Class 6

Interior Features



Conventional

Class 6 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete perimeter wall; interior piers; vent openings; access opening; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and good quality painted siding or equivalent construction; good quality exterior doors and windows; optional items such as decorative brick or stone trim, window boxes, shutters, etc.
Roof	Design matches house style; wood frame construction; ceiling joists; good quality solid or spread sheathing; concrete tile cover; ceiling insulation; gutters and downspouts; added attention to roof trim.
Floor	Wood frame construction with underpinning, subflooring, and underlayment; good quality hardwood flooring and finish or carpet and padding; good quality hardwood flooring or tile in kitchen; good quality resilient cover or tile in baths and utility; may have some special design features such as sunken living room, etc.
Partitions	Wood frame construction; good quality textured plaster or drywall with painted surfaces, wallpaper, veneer paneling or wainscoting; similar material for ceiling cover and interior cover of exterior wall; good quality doors, hardware and trim; good quality millwork.
Interior Components	Quantity of cabinetry proportionate to overall house size; cabinets of good quality solid hardwood stock, painted or stained, or hardboard with painted finish; good quality polymerized acrylic, tile, or granite countertops and backsplash; built in cabinetry in den or family room; make-up vanity and wall cabinets in master suite; wardrobe, linen and utility closets with ample shelving; good quality hardware; ample width stairway, may have multiple angles and landings; hardwood railing and spindles; good quality carpet or hardwood tread cover.
Electrical	Entry service; multi-circuit panel; non-metallic sheathed cable wiring; numerous convenience outlets; ample good quality light fixtures; special appliance and equipment outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Good quality open front and rear entry porches conforming to house style and design, and adequate to cover entry area; concrete, wood, or native stone steps and floor.

Conventional

Class 6

Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100
0	228.84	214.73	203.18	193.56	185.41	178.43	172.38	167.09	162.42	158.27	154.56	151.21	148.19
10	227.29	213.47	202.14	192.68	184.67	177.79	171.82	166.60	161.98	157.88	154.21	150.90	147.90
20	225.77	212.24	201.12	191.82	183.93	177.16	171.27	166.11	161.55	157.50	153.86	150.58	147.62
30	224.29	211.03	200.11	190.97	183.21	176.53	170.72	165.63	161.13	157.11	153.52	150.27	147.34
40	222.84	209.84	199.13	190.14	182.50	175.91	170.19	165.16	160.70	156.74	153.18	149.97	147.06
50	221.41	208.68	198.16	189.32	181.79	175.30	169.65	164.69	160.29	156.36	152.84	149.66	146.78
60	220.02	207.54	197.21	188.52	181.10	174.70	169.13	164.22	159.87	155.99	152.51	149.36	146.51
70	218.66	206.42	196.27	187.72	180.42	174.11	168.61	163.76	159.47	155.63	152.18	149.07	146.24
80	217.32	205.32	195.35	186.94	179.75	173.53	168.10	163.31	159.06	155.27	151.86	148.77	145.97
90	216.01	204.24	194.45	186.17	179.09	172.95	167.59	162.86	158.66	154.91	151.53	148.48	145.70

	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
0	145.44	142.93	140.63	138.51	136.56	134.75	133.07	131.50	130.04	128.68	127.40	126.19	125.06
10	145.18	142.69	140.41	138.31	136.37	134.57	132.91	131.35	129.90	128.54	127.27	126.08	124.95
20	144.92	142.45	140.19	138.11	136.18	134.40	132.75	131.20	129.76	128.41	127.15	125.96	124.84
30	144.66	142.22	139.97	137.91	136.00	134.23	132.59	131.05	129.62	128.28	127.03	125.85	124.73
40	144.41	141.99	139.76	137.71	135.82	134.06	132.43	130.91	129.49	128.15	126.91	125.73	124.63
50	144.16	141.75	139.55	137.51	135.63	133.89	132.27	130.76	129.35	128.03	126.79	125.62	124.52
60	143.91	141.53	139.34	137.32	135.45	133.72	132.12	130.61	129.21	127.90	126.67	125.51	124.41
70	143.66	141.30	139.13	137.13	135.28	133.56	131.96	130.47	129.08	127.77	126.55	125.39	124.31
80	143.41	141.07	138.92	136.94	135.10	133.39	131.81	130.33	128.94	127.65	126.43	125.28	124.20
90	143.17	140.85	138.71	136.75	134.92	133.23	131.65	130.18	128.81	127.52	126.31	125.17	124.10

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
0	103.92	100.10	97.05	94.55	92.46	90.70	89.19	87.88	86.74	85.73	84.83	84.03	83.30
10	103.49	99.76	96.77	94.32	92.27	90.54	89.05	87.76	86.63	85.63	84.75	83.95	83.23
20	103.08	99.44	96.51	94.10	92.09	90.38	88.92	87.64	86.53	85.54	84.66	83.88	83.17
30	102.67	99.11	96.24	93.88	91.91	90.23	88.78	87.52	86.42	85.45	84.58	83.80	83.10
40	102.28	98.80	95.99	93.67	91.73	90.07	88.65	87.41	86.32	85.36	84.50	83.73	83.03
50	101.90	98.49	95.74	93.46	91.55	89.92	88.52	87.29	86.22	85.27	84.42	83.65	82.97
60	101.52	98.19	95.49	93.25	91.37	89.77	88.39	87.18	86.12	85.18	84.34	83.58	82.90
70	101.15	97.90	95.25	93.05	91.20	89.62	88.26	87.07	86.02	85.09	84.26	83.51	82.84
80	100.79	97.61	95.01	92.85	91.03	89.48	88.13	86.96	85.92	85.00	84.18	83.44	82.77
90	100.44	97.32	94.78	92.66	90.87	89.33	88.01	86.85	85.82	84.91	84.10	83.37	82.71

	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300
0	82.65	82.05	81.51	81.01	80.55	80.13	79.74	79.38	79.04	78.72	78.43	78.15	77.89
10	82.59	82.00	81.46	80.96	80.51	80.09	79.70	79.34	79.01	78.69	78.40	78.12	77.86
20	82.52	81.94	81.41	80.92	80.47	80.05	79.66	79.31	78.97	78.66	78.37	78.10	77.84
30	82.46	81.89	81.36	80.87	80.42	80.01	79.63	79.27	78.94	78.63	78.34	78.07	77.81
40	82.40	81.83	81.31	80.82	80.38	79.97	79.59	79.24	78.91	78.60	78.31	78.04	77.79
50	82.34	81.78	81.26	80.78	80.34	79.93	79.55	79.20	78.88	78.57	78.29	78.02	77.76
60	82.28	81.72	81.21	80.73	80.30	79.89	79.52	79.17	78.85	78.54	78.26	77.99	77.74
70	82.23	81.67	81.16	80.69	80.25	79.85	79.48	79.14	78.81	78.51	78.23	77.97	77.72
80	82.17	81.61	81.11	80.64	80.21	79.82	79.45	79.10	78.78	78.48	78.20	77.94	77.69
90	82.11	81.56	81.06	80.60	80.17	79.78	79.41	79.07	78.75	78.45	78.18	77.91	77.67

Conventional

Class 6

Cost Factor Tables (cont.)

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	91.89	81.22	74.11	69.03	65.22	62.25	59.88	57.94	56.33	54.96	53.79
Low Cost	112.28	100.96	93.41	88.02	83.97	80.83	78.31	76.25	74.54	73.09	71.84
Finished	135.04	123.83	116.35	111.01	107.00	103.89	101.39	99.35	97.65	96.22	94.98

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Unfinished	52.77	51.88	51.10	50.40	49.78	49.22	48.71	48.25	47.83	47.44	47.08
Low Cost	70.77	69.82	68.99	68.25	67.59	66.99	66.45	65.96	65.51	65.10	64.73
Finished	93.92	92.98	92.16	91.42	90.77	90.18	89.64	89.16	88.71	88.31	87.93

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	130.66	95.30	77.62	67.01	59.93	54.88	51.09	48.15	45.79	43.86	42.25
Low Cost	151.42	114.76	96.43	85.44	78.11	72.87	68.94	65.89	63.44	61.44	59.78
Finished	170.36	134.69	116.85	106.15	99.01	93.92	90.10	87.12	84.74	82.80	81.18

Conventional

Class 6 (cont.)

Adjustment Factors

Exterior Wall

LIN. FT.

BRICK VENEER, full 8-foot wall	+	\$ 69.90
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Roof

	SQ. FT.		SQ. FT.		
Apply costs to ground floor area					
Comp. shingle, heavy weight arch.	-	\$ 2.20	Cedar shake, heavy weight	-	\$ 1.40
Fiber-cement composite	-	.95	Cedar shingle	-	1.40
Baked enamel, metal	-	.50	Clay tile	+	5.75

Interior Components

	EACH		EACH
APPLIANCES		STOVES AND FIREPLACES (cont.)	
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+ \$ 3,470	Fireplaces	
Range, drop-in, self clean	+ 1,570	Direct vent, gas fired; fascia surround, non-brick +	\$ 3,000
Oven, single, self clean	+ 1,190	Interior masonry, ceiling high face brick face, raised hearth	
Oven, double, self clean	+ 2,050	single	+ 4,700
Warming drawer	+ 1,130	see-through	+ 6,330
Cooktop	+ 780	backed	+ 8,230
w/built-in exhaust and grill	+ 1020	stacked	+ 8,960
Microwave oven, built-in	+ 800	Prefab. metal box and flue, gas log, ceiling high face brick face	+ 4,140
Hood-fan	+ 800	Additional features:	
Dishwasher	+ 890	Outside brick chimney;	
Garbage disposer	+ 210	one story	+ 980
Trash compactor	+ 610	two story	+ 1,320
Built-in refrigerator	+ 5,720		
Wine cooler, under counter	+ 1,360		
STOVES AND FIREPLACES			
Stoves			
Wood stove w/ flue	+ 3,560		
Pellet stove w/ flue	+ 4,900		
Gas stove w/ flue	+ 3,220		
		SQ. FT.	
Floor and wall heat shield	+ \$ 13.50		

Conventional Class 6 (cont.) Adjustment Factors

Plumbing

	EACH		EACH
FIXTURES			
Full bath: tub w/ shower over or shower stall, lavatory, toilet	+ \$ 5,300	Garden tub, designer	+ \$ 3,100
Half bath: lavatory, toilet	+ 2,300	Jet tub	+ 4,900
Bathtub, enameled steel or fiberglass	+ 1,500	Lavatory, designer	+ 1,500
add for:		Toilet, designer	+ 800
shower w/ fiberglass surround	+ 900	Bidet	+ 900
shower w/ tile surround	+ 1,500	Kitchen sink:	
sliding glass door	+ 400	Enameled steel, double	+ 1,200
Stall shower, w/ door, fiberglass	+ 2,100	Hot water dispenser	+ 350
Stall shower, w/ door, tile	+ 3,600	Bar sink, stainless steel	+ 700
		Laundry tub, single fiberglass	+ 1,100
		Water heater	+ 500

Heating — Cooling

Area Heated/Cooled SQ. FT.:	1,500	1,700	1,900	2,100	2,300	2,500	2,700	2,900	3,100
Hot water baseboard	4.50	4.00	3.65	3.35	3.10	2.95	2.85	2.75	2.70
Electric ceiling cable	1.95	1.85	1.80	1.75	1.70	1.65	1.60	1.55	1.50
Forced air heating	2.75	2.45	2.30	2.10	2.05	1.95	1.80	1.70	1.60
Forced air heating and cooling	3.40	3.05	2.80	2.55	2.40	2.25	2.15	2.10	2.05
Heat pump	3.80	3.40	3.10	2.85	2.65	2.50	2.40	2.35	2.30

Area Heated/Cooled SQ. FT.:	3,300	3,500	3,700	3,900	4,100	4,300	4,500
Hot water baseboard	2.65	2.60	2.55	2.45	2.40	2.35	2.35
Electric ceiling cable	1.45	1.45	1.40	1.40	1.40	1.35	1.35
Forced air heating	1.55	1.50	1.50	1.50	1.45	1.45	1.45
Forced air heating and cooling	2.05	2.00	1.95	1.90	1.85	1.80	1.80
Heat pump	2.25	2.20	2.15	2.10	2.05	2.00	2.00

Conventional Class 6

Garage

FLOOR AREA — COST PER SQ. FT.

ATTACHED

Garage unfinished with interior fire-wall only. Construction features comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	136.63	108.81	94.91	86.56	81.00	77.02	74.04
25	127.36	104.53	92.45	84.97	79.88	76.20	73.41
50	119.94	100.87	90.27	83.53	78.86	75.43	72.82
75	113.87	97.69	88.32	82.21	77.91	74.72	72.25

Finished

Low-cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 2.55		
+	5.40		

FLOOR AREA — COST PER SQ. FT.

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	139.20	113.77	101.05	93.42	88.33	84.70	81.98
25	130.72	109.85	98.81	91.97	87.32	83.95	81.40
50	123.94	106.50	96.81	90.65	86.38	83.25	80.85
75	118.39	103.59	95.03	89.44	85.51	82.59	80.34

Finished

Low-cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 2.55		
+	5.40		

ADJUSTMENT FACTORS

EXTERIOR WALL

Brick veneer; full 8 foot wall

	SQ. FT.	LIN. FT.	EACH
		\$ 56.25	

ATTIC; apply cost to attic area

Storage; pull down stairs, sub floor

+	\$ 5.10		
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ROOF

Comp. shingle, heavy weight architectural

-	\$ 2.20		
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Fiber-cement composite

-	.95		
---	-----	--	--

Baked enamel, metal

-	.50		
---	-----	--	--

Cedar shake, heavy weight

-	1.40		
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Cedar shingle

-	1.40		
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Clay tile

+	5.75		
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AUTOMATIC DOOR OPENER

+			\$ 500.00
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Conventional Class 6

Carport

Construction features comparable to house,
slab floor, open side and end(s)

FLOOR AREA

ATTACHED
Flat or shed
Same as house

	200	300	400	500	600	700	800
Flat	40.86	39.44	38.72	38.28	37.99	37.79	37.63
Same as house	48.10	46.84	46.21	45.83	45.58	45.40	45.27

DETACHED
Flat or shed
Gable or hip

	200	300	400	500	600	700	800
Flat	40.88	39.54	38.89	38.49	38.23	38.04	37.90
Same as house	48.12	46.97	46.40	46.06	45.83	45.66	45.54

ADJUSTMENT FACTORS

	SQ. FT.	LIN. FT.	EACH
ROOF			
Comp. shingle, heavy weight architectural.	- \$ 2.20		
Fiber-cement composite	- .95		
Baked enamel, metal	- .50		
Cedar shake, heavy weight	- 1.40		
Cedar shingle	- 1.40		
Clay tile	+ 5.75		
EXTERIOR WALL Per lineal ft. of wall			
Curtain wall, screen wall, or storage room wall materials similar to house.	+ \$ 113.38		

Conventional

Class 7

Class Features

Class 7 homes are custom built, usually designed by professional home planners, and built by specialty contractors, possibly under architectural supervision. Special effort is made to include good style and design features in the exterior wall, roof, and interior construction detail. Care is taken to ensure convenient floor plans, window placement, built-ins and adaptation of the house to the site.

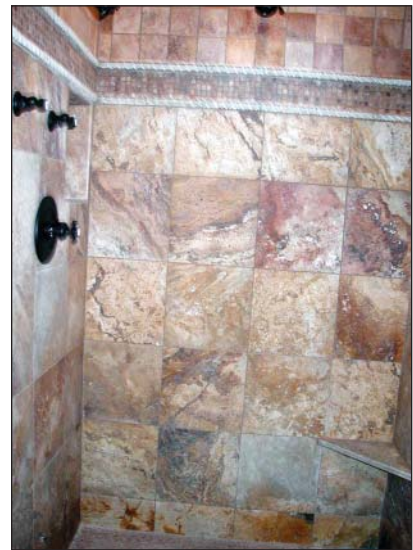
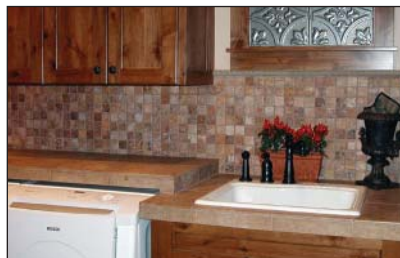
All materials and labor are high quality. The front of the house usually has a large amount of high quality brick veneer or other comparable materials with similar styling features and ornamentation. Windows are usually wood constructed to integrate with the design of the house. The entry area is large with a raised ceiling and hardwood, tile, or marble floors. Three formal rooms off the entry are common and special interior detail may include ample built-ins, solid core raised panel doors, and high quality designer plumbing fixtures in the kitchen and baths.

Class Illustrations



Class 7

Interior Features



Conventional

Class 7 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; special footings and walls of reinforced concrete for site adaptation; vent openings; interior piers; access openings; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and high quality painted siding or equivalent construction; high quality exterior doors and windows; optional items such as decorative brick or stone trim, window boxes, shutters, etc.
Roof	Design in keeping with style of building; wood frame construction; ceiling joists; high quality spread sheathing; concrete tile cover; ceiling insulation; gutters and downspouts; special attention to roof trim.
Floor	Wood frame construction with underpinning, subflooring, and underlayment; high quality hardwood flooring and finish or carpet and padding; marble or tile accented entry; high quality hardwood flooring or tile in kitchen; high quality resilient cover or tile in baths and utility; will have some special design features such as sunken or elevated rooms, etc.
Partitions	Wood frame construction; high quality textured plaster or drywall with painted surfaces, decorative wallpaper, hardwood paneling or wainscoting; similar material for ceiling cover and interior cover of exterior wall; high quality doors with ornate hardware and trim; special hardwood millwork; may have custom crown molding.
Interior Components	Cabinet quantity proportionate to house size; cabinets of high quality painted or stained solid hardwood stock, or hardboard with painted finish, both with decorative trim; high quality tile, granite, or polymerized acrylic countertops and backsplash; built-in cabinetry in den or family room; make-up vanity and wall cabinets in master suite; wardrobe, linen, and utility closets with ample shelving; ornate hardware; may have other special built-in features; wide stairway of customized, complex, or curving design with heavy hardwood railing and spindles; high quality carpet or hardwood tread cover.
Electrical	Entry service; multi-circuit panel, heavy load capacity system; non-metallic sheathed cable wiring; numerous convenience outlets; high quality light fixtures of decorative design; special switches; numerous special appliance and equipment outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	High quality porches conforming to style and design of house, and adequate to cover entry area; concrete, wood, native stone, or equivalent construction.

Conventional

Class 7

Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
0	334.55	320.51	308.34	297.69	288.29	279.94	272.46	265.74	259.65	254.12	249.07	244.44	240.18
10	333.05	319.21	307.21	296.70	287.41	279.15	271.76	265.10	259.08	253.59	248.59	244.00	239.77
20	331.57	317.94	306.10	295.72	286.54	278.38	271.06	264.47	258.50	253.07	248.11	243.56	239.37
30	330.12	316.68	305.00	294.75	285.68	277.61	270.37	263.85	257.94	252.56	247.64	243.12	238.97
40	328.68	315.44	303.91	293.79	284.83	276.85	269.69	263.23	257.38	252.05	247.17	242.69	238.57
50	327.27	314.21	302.84	292.85	283.99	276.10	269.01	262.62	256.82	251.54	246.70	242.26	238.17
60	325.88	313.01	301.78	291.91	283.17	275.36	268.35	262.02	256.27	251.04	246.24	241.84	237.78
70	324.51	311.81	300.74	290.99	282.34	274.62	267.68	261.42	255.73	250.54	245.79	241.42	237.39
80	323.15	310.64	299.71	290.08	281.53	273.90	267.03	260.82	255.19	250.04	245.33	241.00	237.01
90	321.82	309.48	298.69	289.18	280.73	273.18	266.38	260.23	254.65	249.55	244.88	240.59	236.63

	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
0	236.25	232.61	229.22	226.08	223.14	220.39	217.81	215.39	213.12	210.97	208.94	207.02	205.20
10	235.87	232.26	228.90	225.77	222.86	220.13	217.56	215.16	212.89	210.76	208.74	206.83	205.03
20	235.50	231.91	228.58	225.47	222.57	219.86	217.32	214.93	212.68	210.55	208.55	206.65	204.85
30	235.12	231.56	228.26	225.17	222.30	219.60	217.07	214.70	212.46	210.35	208.35	206.46	204.68
40	234.76	231.22	227.94	224.88	222.02	219.34	216.83	214.47	212.24	210.14	208.16	206.28	204.50
50	234.39	230.88	227.62	224.58	221.74	219.08	216.58	214.24	212.03	209.94	207.97	206.10	204.33
60	234.03	230.55	227.31	224.29	221.47	218.82	216.34	214.01	211.81	209.74	207.77	205.92	204.16
70	233.67	230.21	227.00	224.00	221.20	218.57	216.10	213.78	211.60	209.54	207.58	205.74	203.99
80	233.31	229.88	226.69	223.71	220.93	218.32	215.87	213.56	211.39	209.34	207.40	205.56	203.82
90	232.96	229.55	226.38	223.42	220.66	218.06	215.63	213.34	211.18	209.14	207.21	205.38	203.65

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200
0	157.10	151.80	147.37	143.63	140.42	137.64	135.21	133.06	131.16	129.45	127.91	126.52	125.26
10	156.53	151.32	146.97	143.29	140.13	137.38	134.98	132.86	130.98	129.29	127.77	126.39	125.14
20	155.96	150.85	146.58	142.95	139.84	137.13	134.76	132.66	130.80	129.13	127.62	126.26	125.02
30	155.40	150.39	146.19	142.62	139.55	136.88	134.54	132.47	130.62	128.97	127.48	126.13	124.90
40	154.86	149.93	145.80	142.29	139.26	136.63	134.32	132.27	130.45	128.81	127.34	126.00	124.78
50	154.32	149.49	145.43	141.97	138.98	136.39	134.10	132.08	130.28	128.66	127.20	125.88	124.67
60	153.80	149.05	145.06	141.65	138.71	136.15	133.89	131.89	130.11	128.51	127.06	125.75	124.55
70	153.28	148.62	144.69	141.34	138.44	135.91	133.68	131.71	129.94	128.36	126.92	125.63	124.44
80	152.78	148.20	144.33	141.03	138.17	135.67	133.47	131.52	129.78	128.21	126.79	125.50	124.33
90	152.28	147.78	143.98	140.72	137.90	135.44	133.27	131.34	129.61	128.06	126.65	125.38	124.22

	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
0	124.10	123.05	122.07	121.18	120.34	119.57	118.85	118.18	117.55	116.97	116.41	115.89	115.40
10	123.99	122.95	121.98	121.09	120.26	119.50	118.78	118.12	117.49	116.91	116.36	115.84	115.35
20	123.89	122.85	121.89	121.00	120.18	119.42	118.71	118.05	117.43	116.85	116.31	115.79	115.31
30	123.78	122.75	121.80	120.92	120.11	119.35	118.65	117.99	117.37	116.80	116.25	115.74	115.26
40	123.67	122.65	121.71	120.84	120.03	119.28	118.58	117.93	117.31	116.74	116.20	115.69	115.21
50	123.56	122.55	121.62	120.75	119.95	119.21	118.51	117.86	117.25	116.68	116.15	115.64	115.17
60	123.46	122.45	121.53	120.67	119.87	119.13	118.44	117.80	117.20	116.63	116.10	115.59	115.12
70	123.35	122.36	121.44	120.59	119.80	119.06	118.38	117.74	117.14	116.57	116.04	115.55	115.07
80	123.25	122.26	121.35	120.51	119.72	118.99	118.31	117.68	117.08	116.52	115.99	115.50	115.03
90	123.15	122.17	121.26	120.42	119.65	118.92	118.25	117.61	117.02	116.47	115.94	115.45	114.98

Conventional

Class 7

Cost Factor Tables (cont.)

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
Unfinished	124.08	112.31	103.49	96.62	91.13	86.64	82.89	79.72	77.01	74.65	72.59
Low Cost	151.76	139.69	130.63	123.59	117.95	113.34	109.50	106.25	103.46	101.04	98.93
Finished	185.20	173.58	164.86	158.08	152.65	148.21	144.52	141.39	138.70	136.38	134.34
	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700
Unfinished	70.78	69.16	67.72	66.41	65.24	64.17	63.19	62.30	61.47	60.71	60.01
Low Cost	97.07	95.41	93.92	92.59	91.38	90.28	89.28	88.36	87.52	86.74	86.02
Finished	132.55	130.95	129.53	128.24	127.08	126.02	125.06	124.17	123.36	122.61	121.91
	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
Unfinished	59.35	58.74	58.18	57.64	57.15	56.68	56.24	55.82	55.43	55.06	54.71
Low Cost	85.34	84.72	84.14	83.59	83.08	82.60	82.15	81.72	81.32	80.94	80.58
Finished	121.27	120.67	120.10	119.58	119.09	118.62	118.19	117.78	117.39	117.03	116.68

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	141.33	118.83	103.83	93.12	85.08	78.83	73.83	69.74	66.34	63.45	60.98
Low Cost	168.88	145.91	130.60	119.66	111.46	105.08	99.98	95.80	92.32	89.37	86.85
Finished	199.06	176.73	161.85	151.22	143.24	137.04	132.08	128.02	124.64	121.78	119.32

Conventional Class 7 (cont.) Adjustment Factors

		Plumbing			
		EACH		EACH	
FIXTURES					
Full bath: tub w / shower over or shower stall, lavatory, toilet	+	\$ 8,300	Garden tub, designer	+	3,800
Half bath: lavatory, toilet	+	3,800	Jet tub	+	6,300
Bathtub, enameled steel or fiberglass	+	2,300	Lavatory, designer	+	2,400
add for:			Toilet, designer	+	1,400
shower w / fiberglass surround	+	1,300	Bidet	+	1,150
shower w / tile surround	+	2,200	Kitchen sink:		
sliding glass door	+	600	Enameled steel, double	+	1,800
Stall shower, w / door, fiberglass	+	3,300	Bronze / copper farm sink	+	6,000
Stall shower, w / door, tile	+	5,300	Hot water dispenser	+	500
			Bar sink, china or SS	+	1,200
			Bar sink, bronze / copper	+	2,000
			Laundry tub, single fiberglass	+	1,800
			Water heater	+	550

Heating — Cooling

Area Heated/Cooled SQ. FT.:	3,000	3,400	3,800	4,200	4,600	5,000	5,400	5,800
Hot water baseboard	2.90	2.75	2.75	2.70	2.70	2.70	2.60	2.60
Electric ceiling cable	1.55	1.50	1.50	1.45	1.45	1.45	1.40	1.40
Forced air heating	1.75	1.70	1.70	1.65	1.65	1.65	1.60	1.60
Forced air heating and cooling	2.20	2.10	2.10	2.05	2.05	2.05	2.00	2.00
Heat pump	2.45	2.35	2.35	2.30	2.30	2.30	2.20	2.20

Area Heated/Cooled SQ. FT.:	6,200	6,600	7,000	7,400	7,800	8,200	8,600	9,000
Hot water baseboard	2.60	2.60	2.55	2.55	2.55	2.55	2.55	2.55
Electric ceiling cable	1.40	1.40	1.40	1.35	1.35	1.35	1.35	1.35
Forced air heating	1.60	1.60	1.55	1.55	1.55	1.55	1.55	1.55
Forced air heating and cooling	2.00	2.00	1.95	1.95	1.95	1.95	1.95	1.95
Heat pump	2.20	2.2	2.15	2.15	2.15	2.15	2.15	2.15

Area Heated/Cooled SQ. FT.:	9,400	9,800	10,200	10,600	11,000	11,400	11,800	12,200
Hot water baseboard	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.40
Electric ceiling cable	1.35	1.35	1.30	1.30	1.30	1.30	1.30	1.30
Forced air heating	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.45
Forced air heating and cooling	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.85
Heat pump	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.05

Conventional

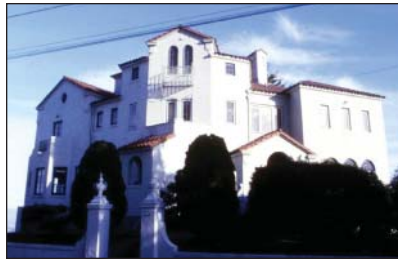
Class 8

Class Features

Class 8 represents the highest quality custom homes. They are professionally designed by an architect and constructed by well-qualified specialty builders to the individual desires of the client. The architect and contractor maintain quality control throughout construction.

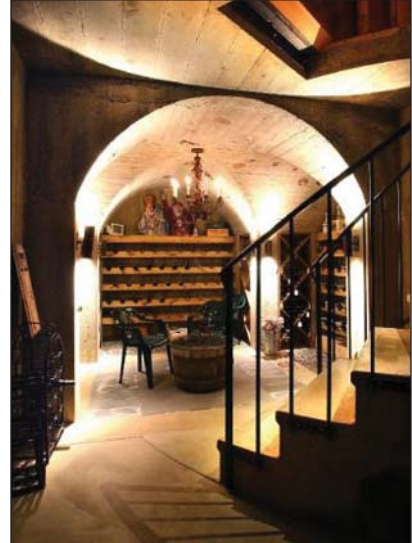
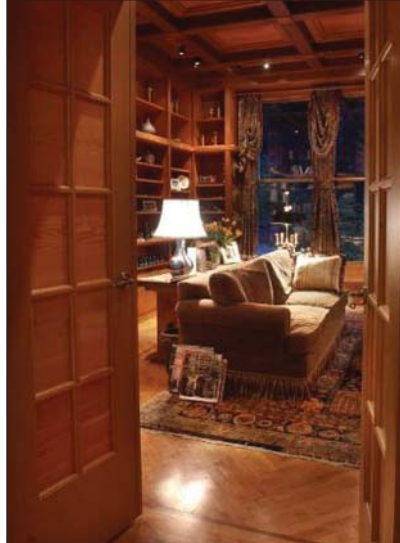
Design is not limited by cost and may feature special wall and roof patterns to achieve a particular classic style or period effect. Spacious entryways, loft ceilings and varied floor levels are common. Materials and workmanship are superior quality. Care is taken to ensure optimum site adaptation. Attention to detail is found throughout. The kitchen and baths feature the highest quality plumbing fixtures. Interior trim is decorative and intricate. Lighting systems and windows are custom designed to enhance interior features or create special effects. There may be a large number of custom features and convenience items. These homes typically instill a sense of grandeur. This guide reflects only the entry-level range of class 8 homes due to the unlimited range within this class.

Class Illustrations



Class 8

Interior Features



Conventional

Class 8 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; special footings and walls of reinforced concrete for site adaptation; vent openings; interior piers; access opening; backfill and grading.
Exterior Wall	Quality stud frame construction; insulation; sheathing; highest quality siding, doors, windows and finish; optional items such as decorative brick trim, window boxes, shutters, etc.; may be of particular classic style such as English Tudor.
Roof	Custom complex design; wood frame construction; clay tile cover; ceiling insulation; highest quality gutters and downspouts; special attention to roof trim.
Floor	Wood frame construction; highest quality underpinning, subflooring, and underlayment; highest quality hardwood flooring and finish or carpet and padding; marble, slate, or tile entry way; highest quality hardwood flooring or tile in kitchen; highest quality tile or comparable material in bath and utility; custom design and styling features such as varied floor levels, etc.
Partitions	Wood frame construction; highest quality plaster or special wall covering material with painted surfaces, decorative wallpaper, hardwood paneling, wainscoting, native stone or brick veneer; similar material for ceiling cover and interior cover of exterior wall; custom doors with elaborate hardware and special trim; custom hardwood millwork.
Interior Components	Cabinet quantity proportionate to overall house size; custom made cabinets of highest quality painted or stained hardwood, or paint grade material; highest quality tile, granite, or polymerized acrylic countertops and backsplash; highest quality built-in cabinetry throughout the house; large custom designed vanities and wall cabinets in master suite; large wardrobe closets; linen and utility closets with highest quality shelving; ornate hardware; will have many special built-in features; expansive complex stairway of curving design of highest quality heavy hardwoods or exotic materials, railing and tread covers to match stairway design.
Electrical	Entry service; multi-circuit panel; heavy load capacity system; non-metallic sheathed cable wiring; numerous convenience outlets; highest quality light fixtures, decorative or ornate chandeliers or other custom designed fixtures; special switches; numerous special appliance and equipment stations; custom design features.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Porches of highest quality material conforming to style and custom design of house, and adequate to cover entry area; concrete, wood, native stone, or equivalent construction.

Conventional

Class 8

Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200
0	497.24	484.97	473.82	463.64	454.31	445.72	437.80	430.46	423.65	417.30	411.38	405.84	400.65
10	495.96	483.81	472.76	462.67	453.42	444.90	437.04	429.76	422.99	416.69	410.81	405.31	400.15
20	494.69	482.66	471.71	461.71	452.53	444.09	436.29	429.06	422.34	416.09	410.24	404.78	399.65
30	493.43	481.52	470.67	460.76	451.66	443.28	435.54	428.36	421.70	415.48	409.68	404.25	399.15
40	492.19	480.39	469.64	459.81	450.79	442.48	434.80	427.67	421.05	414.89	409.12	403.73	398.66
50	490.95	479.27	468.62	458.88	449.93	441.68	434.06	426.99	420.42	414.29	408.57	403.20	398.17
60	489.73	478.16	467.60	457.95	449.07	440.89	433.33	426.31	419.79	413.70	408.01	402.69	397.69
70	488.53	477.06	466.60	457.03	448.23	440.11	432.60	425.64	419.16	413.12	407.47	402.17	397.20
80	487.33	475.97	465.61	456.11	447.38	439.33	431.88	424.97	418.54	412.53	406.92	401.66	396.72
90	486.15	474.89	464.62	455.21	446.55	438.56	431.17	424.31	417.92	411.96	406.38	401.15	396.25

	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
0	395.77	391.18	386.85	382.76	378.90	375.23	371.76	368.45	365.31	362.32	359.47	356.75	354.14
10	395.30	390.74	386.43	382.37	378.52	374.88	371.42	368.13	365.01	362.03	359.19	356.48	353.89
20	394.83	390.29	386.01	381.97	378.15	374.52	371.08	367.81	364.70	361.74	358.91	356.22	353.64
30	394.36	389.85	385.60	381.58	377.78	374.17	370.75	367.49	364.40	361.45	358.64	355.95	353.39
40	393.90	389.42	385.19	381.19	377.41	373.82	370.41	367.18	364.10	361.16	358.36	355.69	353.14
50	393.44	388.98	384.78	380.80	377.04	373.47	370.08	366.86	363.80	360.88	358.09	355.43	352.89
60	392.98	388.55	384.37	380.42	376.67	373.12	369.75	366.55	363.50	360.59	357.82	355.17	352.64
70	392.53	388.12	383.96	380.03	376.31	372.78	369.43	366.24	363.20	360.31	357.55	354.91	352.39
80	392.08	387.70	383.56	379.65	375.95	372.44	369.10	365.93	362.91	360.03	357.28	354.66	352.14
90	391.63	387.27	383.16	379.27	375.59	372.09	368.78	365.62	362.61	359.75	357.01	354.40	351.90

	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800
0	351.66	349.27	346.99	344.80	342.70	340.68	338.73	336.86	335.07	333.33	331.66	330.04	328.49
10	351.41	349.04	346.77	344.59	342.49	340.48	338.54	336.68	334.89	333.16	331.49	329.89	328.33
20	351.17	348.81	346.54	344.37	342.29	340.28	338.35	336.50	334.71	332.99	331.33	329.73	328.18
30	350.93	348.58	346.32	344.16	342.08	340.09	338.17	336.32	334.54	332.82	331.17	329.57	328.03
40	350.69	348.35	346.10	343.95	341.88	339.89	337.98	336.14	334.36	332.65	331.01	329.41	327.88
50	350.45	348.12	345.88	343.74	341.68	339.70	337.79	335.96	334.19	332.49	330.84	329.26	327.73
60	350.21	347.89	345.66	343.53	341.47	339.50	337.60	335.78	334.02	332.32	330.68	329.10	327.58
70	349.98	347.66	345.45	343.32	341.27	339.31	337.42	335.60	333.84	332.15	330.52	328.95	327.43
80	349.74	347.44	345.23	343.11	341.07	339.12	337.23	335.42	333.67	331.99	330.36	328.79	327.28
90	349.51	347.21	345.01	342.90	340.87	338.92	337.05	335.24	333.50	331.82	330.20	328.64	327.13

	5,900	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000	7,100
0	326.98	325.53	324.12	322.76	321.44	320.16	318.92	317.72	316.56	315.42	314.33	313.26	312.22
10	326.83	325.38	323.98	322.62	321.31	320.03	318.80	317.60	316.44	315.31	314.22	313.16	312.12
20	326.69	325.24	323.84	322.49	321.18	319.91	318.68	317.48	316.33	315.20	314.11	313.05	312.02
30	326.54	325.10	323.70	322.36	321.05	319.78	318.56	317.37	316.21	315.09	314.00	312.95	311.92
40	326.39	324.96	323.57	322.22	320.92	319.66	318.44	317.25	316.10	314.98	313.90	312.84	311.82
50	326.25	324.82	323.43	322.09	320.79	319.54	318.32	317.13	315.99	314.87	313.79	312.74	311.72
60	326.10	324.68	323.30	321.96	320.67	319.41	318.20	317.02	315.87	314.76	313.68	312.64	311.62
70	325.96	324.54	323.16	321.83	320.54	319.29	318.08	316.90	315.76	314.65	313.58	312.53	311.52
80	325.81	324.40	323.02	321.70	320.41	319.17	317.96	316.79	315.65	314.54	313.47	312.43	311.42
90	325.67	324.26	322.89	321.57	320.29	319.04	317.84	316.67	315.54	314.44	313.37	312.33	311.32

Conventional

Class 8

Cost Factor Tables (cont.)

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700
0	247.60	242.43	237.87	233.82	230.19	226.93	223.98	221.29	218.84	216.60	214.53	212.62	210.85
10	247.05	241.95	237.45	233.44	229.85	226.62	223.70	221.04	218.61	216.38	214.33	212.44	210.68
20	246.51	241.48	237.02	233.06	229.51	226.32	223.42	220.78	218.38	216.17	214.13	212.26	210.52
30	245.98	241.01	236.61	232.69	229.18	226.01	223.15	220.53	218.15	215.96	213.94	212.08	210.35
40	245.45	240.54	236.20	232.32	228.85	225.71	222.87	220.29	217.92	215.75	213.75	211.90	210.18
50	244.93	240.08	235.79	231.96	228.52	225.42	222.60	220.04	217.69	215.54	213.56	211.72	210.02
60	244.42	239.63	235.39	231.60	228.20	225.12	222.34	219.80	217.47	215.33	213.37	211.54	209.85
70	243.91	239.18	234.99	231.24	227.87	224.83	222.07	219.55	217.25	215.13	213.18	211.37	209.69
80	243.41	238.74	234.59	230.89	227.56	224.55	221.81	219.31	217.03	214.93	212.99	211.20	209.53
90	242.92	238.30	234.20	230.54	227.24	224.26	221.55	219.08	216.81	214.73	212.80	211.02	209.37

	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
0	209.21	207.69	206.26	204.93	203.68	202.50	201.40	200.35	199.37	198.44	197.56	196.72	195.93
10	209.06	207.54	206.12	204.80	203.56	202.39	201.29	200.25	199.27	198.35	197.47	196.64	195.85
20	208.90	207.39	205.99	204.67	203.44	202.28	201.18	200.15	199.18	198.26	197.39	196.56	195.77
30	208.74	207.25	205.85	204.54	203.32	202.16	201.08	200.05	199.09	198.17	197.30	196.48	195.69
40	208.59	207.10	205.72	204.42	203.20	202.05	200.97	199.95	198.99	198.08	197.22	196.40	195.62
50	208.44	206.96	205.58	204.29	203.08	201.94	200.87	199.86	198.90	197.99	197.13	196.32	195.54
60	208.28	206.82	205.45	204.17	202.96	201.83	200.76	199.76	198.81	197.90	197.05	196.24	195.47
70	208.13	206.68	205.32	204.04	202.85	201.72	200.66	199.66	198.71	197.82	196.97	196.16	195.39
80	207.98	206.54	205.19	203.92	202.73	201.61	200.56	199.56	198.62	197.73	196.88	196.08	195.32
90	207.83	206.40	205.06	203.80	202.62	201.50	200.46	199.47	198.53	197.64	196.80	196.00	195.24

	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
0	195.17	194.45	193.76	193.11	192.48	191.88	191.31	190.76	190.23	189.72	189.24	188.77	188.32
10	195.10	194.38	193.69	193.04	192.42	191.82	191.25	190.70	190.18	189.67	189.19	188.72	188.28
20	195.02	194.31	193.63	192.98	192.36	191.76	191.20	190.65	190.13	189.63	189.14	188.68	188.23
30	194.95	194.24	193.56	192.92	192.30	191.71	191.14	190.60	190.08	189.58	189.10	188.63	188.19
40	194.88	194.17	193.50	192.85	192.24	191.65	191.08	190.54	190.03	189.53	189.05	188.59	188.14
50	194.80	194.10	193.43	192.79	192.18	191.59	191.03	190.49	189.97	189.48	189.00	188.54	188.10
60	194.73	194.03	193.36	192.73	192.12	191.53	190.97	190.44	189.92	189.43	188.95	188.50	188.06
70	194.66	193.96	193.30	192.66	192.06	191.48	190.92	190.39	189.87	189.38	188.91	188.45	188.01
80	194.59	193.90	193.24	192.60	192.00	191.42	190.87	190.33	189.82	189.33	188.86	188.41	187.97
90	194.52	193.83	193.17	192.54	191.94	191.36	190.81	190.28	189.77	189.29	188.82	188.36	187.93

	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200	6,300	6,400	6,500	6,600
0	187.89	187.47	187.07	186.68	186.30	185.94	185.59	185.25	184.92	184.61	184.30	184.00	183.71
10	187.84	187.43	187.03	186.64	186.27	185.90	185.56	185.22	184.89	184.57	184.27	183.97	183.68
20	187.80	187.39	186.99	186.60	186.23	185.87	185.52	185.18	184.86	184.54	184.24	183.94	183.65
30	187.76	187.35	186.95	186.56	186.19	185.83	185.49	185.15	184.83	184.51	184.21	183.91	183.63
40	187.72	187.31	186.91	186.53	186.16	185.80	185.45	185.12	184.80	184.48	184.18	183.88	183.60
50	187.68	187.27	186.87	186.49	186.12	185.76	185.42	185.09	184.76	184.45	184.15	183.85	183.57
60	187.63	187.23	186.83	186.45	186.08	185.73	185.39	185.05	184.73	184.42	184.12	183.83	183.54
70	187.59	187.19	186.79	186.41	186.05	185.69	185.35	185.02	184.70	184.39	184.09	183.80	183.51
80	187.55	187.15	186.75	186.38	186.01	185.66	185.32	184.99	184.67	184.36	184.06	183.77	183.49
90	187.51	187.11	186.72	186.34	185.98	185.62	185.28	184.96	184.64	184.33	184.03	183.74	183.46

Conventional Class 8 Cost Factor Tables (cont.)

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
Unfinished	144.49	135.78	128.52	122.38	117.11	112.55	108.56	105.04	101.90	99.10	96.58
Low Cost	189.32	180.79	173.69	167.69	162.54	158.07	154.17	150.72	147.66	144.92	142.45
Finished	251.99	243.85	237.06	231.32	226.40	222.14	218.40	215.11	212.19	209.57	207.21
	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100
Unfinished	94.30	92.23	90.33	88.60	87.00	85.52	84.16	82.89	81.71	80.61	79.58
Low Cost	140.22	138.19	136.34	134.64	133.08	131.64	130.30	129.06	127.91	126.83	125.82
Finished	205.08	203.14	201.37	199.75	198.25	196.88	195.60	194.42	193.31	192.28	191.32
	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200
Unfinished	78.61	77.71	76.85	76.05	75.29	74.57	73.89	73.24	72.63	72.04	71.48
Low Cost	124.88	123.99	123.16	122.37	121.62	120.92	120.25	119.62	119.02	118.45	117.91
Finished	190.42	189.57	188.77	188.02	187.31	186.64	186.00	185.39	184.82	184.27	183.75
	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
Unfinished	70.95	70.45	69.96	69.50	69.06	68.63	68.23	67.83	67.46	67.10	66.75
Low Cost	117.39	116.89	116.42	115.97	115.53	115.12	114.72	114.34	113.97	113.61	113.27
Finished	183.26	182.78	182.33	181.90	181.49	181.09	180.71	180.34	179.99	179.65	179.33

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
Unfinished	225.42	194.34	172.14	155.49	142.54	132.19	123.71	116.65	110.67	105.55	101.11
Low Cost	271.19	240.16	217.99	201.36	188.43	178.09	169.62	162.57	156.60	151.48	147.05
Finished	326.79	296.41	274.71	258.44	245.78	235.65	227.37	220.47	214.62	209.62	205.28
	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600
Unfinished	97.22	93.79	90.75	88.02	85.57	83.35	81.33	79.49	77.80	76.24	74.81
Low Cost	143.17	139.75	136.71	133.98	131.53	129.32	127.30	125.46	123.77	122.22	120.79
Finished	201.48	198.13	195.15	192.49	190.09	187.92	185.94	184.14	182.49	180.97	179.57

Conventional Class 8 (cont.) Adjustment Factors

Roof			
Apply costs to ground floor area	SQ. FT.		SQ. FT.
Comp. shingle, heavy weight arch.	-	\$7.95	Concrete tile
Cedar shake, heavy weight	-	7.15	Copper
Cedar shingle	-	7.15	Slate
			+ 4.00

Interior Components			
	EACH		EACH
APPLIANCES		STOVES AND FIREPLACES (cont.)	
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+ \$ 9,630	Fireplaces	
Range, drop-in, self clean	+ 4,500	Direct vent, gas fired; fascia surround, non-brick	+ \$ 3,890
Commercial range, drop-in	+ 9,600	Interior masonry, ceiling high face brick face, raised hearth	
Oven, single, self clean	+ 2,580	single	+ 6,720
Oven, double, self clean	+ 3,600	see-through	+ 9,070
Warming drawer	+ 1,500	backed	+ 11,760
Cooktop	+ 1,710	stacked	+ 12,770
w/built-in exhaust and grill	+ 1,980	Additional features:	
Microwave, built-in	+ 3,400	Outside brick chimney;	
Hood-fan	+ 3,460	one story	+ 1,680
Dishwasher	+ 1,360	two story	+ 2,240
Garbage disposer	+ 310		
Trash compactor	+ 1,890		
Built-in refrigerator	+ 6,910		
Warming drawer	+ 1,500		
Wine cooler	+ 4,400		
STOVES AND FIREPLACES			
Stoves			
Wood stove w/ flue	+ 4,450		
Pellet stove w/ flue	+ 5,800		
Gas stove w/ flue	+ 4,120		
	SQ. FT.		
Floor and wall heat shield	+ \$16.80		

Conventional Class 8 (cont.) Adjustment Factors

Plumbing

FIXTURES	EACH	EACH
Full bath: tub w/ shower over or shower stall, lavatory, toilet	+ \$11,700	Lavatory, designer + \$ 3,500
Half bath: lavatory, toilet	+ 5,600	Toilet, designer + 2,100
Bathtub, enameled steel or fiberglass	+ 3,100	Bidet + 1,500
add for:		Kitchen sink:
shower w/ fiberglass surround	+ 1,700	Enameled steel, double + 5,000
shower w/ tile surround	+ 3,000	Bronze/copper farm sink + 7,000
sliding glass door	+ 800	Hot water dispenser + 650
Stall shower, w/ door, fiberglass	+ 4,700	Bar sink, china or SS + 2,000
Stall shower, w/ door, tile	+ 7,200	Bar sink, bronze/copper + 2,500
Garden tub, designer	+ 4,900	Laundry tub, single fiberglass + 2,500
Jet tub	+ 8,100	Water heater + 600

Heating — Cooling

Area Heated/Cooled SQ. FT.:	3,000	3,400	3,800	4,200	4,600	5,000	5,400	5,800
Zoned systems:								
Hot water baseboard	3.00	2.90	2.90	2.85	2.85	2.75	2.75	2.70
Forced air heating	1.85	1.80	1.80	1.75	1.75	1.75	1.70	1.70
Forced air heating and cooling	2.30	2.20	2.20	2.15	2.15	2.10	2.10	2.05
Heat pump	2.55	2.45	2.45	2.40	2.40	2.35	2.35	2.30

Area Heated/Cooled SQ. FT.:	6,200	6,600	7,000	7,400	7,800	8,200	8,600	9,000
Zoned systems:								
Hot water baseboard	2.70	2.70	2.65	2.65	2.65	2.65	2.65	2.65
Forced air heating	1.70	1.70	1.65	1.65	1.65	1.65	1.65	1.65
Forced air heating and cooling	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
Heat pump	2.30	2.30	2.25	2.25	2.25	2.25	2.25	2.25

Area Heated/Cooled SQ. FT.:	9,400	9,800	10,200	10,600	11,000	11,400	11,800	12,200
Zoned systems:								
Hot water baseboard	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.55
Forced air heating	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.55
Forced air heating and cooling	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.95
Heat pump	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.15

Base Component Costs

This table shows the costs of major component items as described in the base specifications.

	Building Class							
	1	2	3	4	5	6	7	8
Base Size Square Feet:	600	800	1,100	1,300	1,600	2,200	2,800	3,200
Foundation	1.93	3.80	4.34	5.20	5.91	6.69	21.60	31.51
Exterior Wall	7.10	7.78	9.38	11.79	18.79	28.04	53.02	70.51
Roof	6.41	7.52	9.10	10.58	10.92	15.54	18.95	29.29
Floor	4.78	6.68	8.52	12.19	13.41	17.78	29.06	65.95
Partitions	7.22	8.09	9.66	12.46	15.13	21.22	29.97	50.40
Interior Components	9.13	8.73	10.79	13.28	20.81	44.92	58.59	124.61
Electrical	3.31	3.68	4.25	4.67	4.63	5.56	8.95	15.02
Rough-in Plumbing	4.72	4.14	3.87	3.92	4.82	5.69	9.08	13.36
Heating/Cooling	—	—	—	—	—	—	—	—
Total	44.60	50.42	59.91	74.09	94.42	145.44	229.22	400.65

Multifamily Residential

Duplex, Triplex, and Fourplex

Conventional

Special Instructions

The following cost schedules are for multifamily dwellings up to and including four unit dwellings. These schedules do not apply to large multifamily complexes with several buildings, such as six duplexes in one complex. In this case, refer to a commercial cost estimation guide such as Marshall & Swift or use the income approach to valuation.

Apply the cost factors in this section the same way as the factors in the section on conventional single family residences. Procedures that apply only to multifamily residences are discussed in these special instructions.

Classification

Three quality classes are provided for the duplex, triplex, and fourplex—3, 4, and 5. These classes are similar in quality to the same numbered classes in the single family residence section.

To select the proper class for the building being appraised, compare the structural features to the base specifications in this section. This should be the main consideration in selecting the class. Use the class features and class illustrations to supplement the classification selection.

Base Factors

Base factors provide square foot costs for one story, second floor, basement, and attic floor levels. Apply these factors to their respective floor levels as discussed in the single family residence instructions.

Base factors apply to both townhouse and conventional style units. The unit arrangement isn't considered as long as the proper factors are used. For example, the unit arrangement does not matter when using the second floor factors for the second floor or the triplex factors for triplexes.

When the building being appraised has more square feet than listed in the cost factor table, use the largest square foot area factor listed.

Note: These factors are not intended to be used to appraise condominiums or timeshare properties. See *Appraisal Methods for Real Property* (150-303-415, Rev. 07/03), Chapter 12, Common Ownership Properties.

Adjustment Factors

Apply the adjustment factors the same way as in the single family residence section, except for the heating/cooling and plumbing factors. Select heating cooling factors according to the average unit size, then apply that factor to the total floor area heated and/or cooled.

For example, a class 4 triplex has a 1,200 square foot ground floor level and a 1,200 square foot second floor. The adjustment for forced air heat in this triplex is as follows:

$$2,400 \text{ s/f total floor area} \div 3 \text{ units} = 800 \text{ s/f per unit}$$

The forced air heat factor at 800 s/f is \$4.25 per square foot

$$\text{Total area heated } 2,400 \text{ s/f times } \$4.25 = \$10,200$$

Rough-in plumbing costs are included in the base cost factors. However, no plumbing fixture costs are included. All plumbing fixture costs need to be inventoried and totaled as lump sums.

Special Instructions (cont.)

Garages and Carports

Specifications, base factors, and adjustment factors for garages and carports are included with the cost data for multifamily dwellings. Overall construction quality also applies to garage and carports in the same class. If the quality of the garage or carport is different from the dwelling, raise or lower the class for the garage or carport as necessary.

Example Cost Estimate

The following example shows the steps to compute a cost estimate of a class 4 duplex with a first floor area of 1,040 square feet and a second floor area of 760 square feet. The building has a medium weight shake roof, forced air heat, one bath, and basic set of appliances in each unit (drop-in range, hood fan, dishwasher, and garbage disposal.)

Example

	Sq. Ft.	Lump Sum
Class 4 duplex		
One story factor @ 1,040 s/f	\$ 92.28	
Adjustment factors:		
Roof, medium weight shake	+ .70	
Appliances, two basic sets @ \$1,590ea.	+	\$ 3,180
Plumbing, two full baths @ \$1,600ea.	+	3,200
two kitchen sinks, stainless steel, double @ \$ 450 ea.	+	900
two water heaters @ \$ 400 ea.	+	800
Heating, average unit area 900 s/f 1,800 s/f @ \$3.80	+ _____	_____ 6,840
	Totals	\$ 14,920
One story 1,040 s/f @ \$ 92.98		96,699
Second floor 760 s/f @ \$ 64.46	+	48,989
		<u> </u>
Total cost estimate (rounded)		<u><u>\$ 160,600</u></u>

Conventional

Class 3

Class Features

The two to four family dwellings in this class are usually built from stock plans that emphasize utility. These structures meet the minimum building code requirements and have few, if any, trim features. Windows, doors, interior finish, plumbing, and heating are economy grade. Volume production results in low quality workmanship. Interior components such as fireplaces, built-in appliances, cabinets, etc., are economy quality. The general appearance is plain with little or no decorative features like planters, special siding sections, etc. There is no attempt to achieve an individual appearance or classic style.

The design is usually a simple rectangle with plain lines. Units have individual outside entries, separate electrical, heating, and plumbing systems with common walls and/or floors.

Class Illustrations



Conventional

Class 3 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; interior piers; vent openings; access opening; backfill and grading.
Exterior Wall	Stud frame construction; insulation; economy grade painted single siding; economy grade exterior doors and minimal windows; may have some trim, plain features.
Roof	Gable, hip, or comparable design, typically with open soffits; wood frame construction; ceiling joists; economy grade solid sheathing; light weight three-tab composition shingle cover; ceiling insulation; gutters and downspouts.
Floor	Wood frame construction with underpinning, subflooring, and underlayment; or concrete slab; economy grade carpeting and resilient cover in appropriate areas.
Partitions	Wood frame construction; economy grade plaster or drywall with painted surfaces; economy-grade hollow core doors, hardware and trim; similar material for ceiling cover and interior cover of exterior wall.
Interior Components	Cabinet quantity proportionate to overall unit size; cabinets of economy paint grade material or simulated veneer finish; economy grade plastic or linoleum countertop and backsplash; minimal shelving in wardrobe and linen closets; economy grade hardware; narrow width stairway of straight design with softwood rail, and economy grade carpet or softwood tread cover.
Electrical	Entry service and multi-circuit panel to each unit; nonmetallic sheathed cable wiring; minimum number of convenience outlets; economy-grade light fixtures; range and dryer outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Economy open front entry porch, for each unit, with concrete or wood steps and floor; minimal extension of dwelling roof or separate roof cover, slightly wider than entry door; concrete or wood steps at rear entries.

Conventional

Class 3 Duplex

Cost Factor Tables

One Story Base Factors

(Floor Area — Cost Per Sq. Ft.)

	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
0	149.95	122.50	106.03	95.05	87.20	81.32	76.74	73.08	70.09	67.59	65.48	63.67	62.10
10	146.41	120.49	104.73	94.14	86.54	80.81	76.34	72.76	69.82	67.37	65.29	63.50	61.96
20	143.09	118.58	103.49	93.27	85.89	80.31	75.95	72.44	69.55	67.14	65.10	63.34	61.81
30	139.97	116.75	102.30	92.43	85.27	79.83	75.56	72.12	69.29	66.92	64.91	63.18	61.67
40	137.03	115.01	101.15	91.61	84.66	79.36	75.19	71.82	69.04	66.71	64.72	63.02	61.53
50	134.26	113.35	100.04	90.82	84.06	78.90	74.82	71.51	68.79	66.49	64.54	62.86	61.39
60	131.65	111.76	98.97	90.05	83.49	78.45	74.46	71.22	68.54	66.29	64.36	62.70	61.26
70	129.18	110.23	97.93	89.31	82.92	78.01	74.10	70.93	68.30	66.08	64.19	62.55	61.12
80	126.83	108.77	96.94	88.59	82.37	77.58	73.76	70.64	68.06	65.88	64.01	62.40	60.99
90	124.61	107.37	95.98	87.88	81.84	77.15	73.42	70.36	67.82	65.68	63.84	62.25	60.86

	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400
0	60.73	59.52	58.44	57.48	56.61	55.83	55.11	54.46	53.87
10	60.60	59.40	58.34	57.39	56.53	55.75	55.05	54.40	53.81
20	60.48	59.29	58.24	57.30	56.45	55.68	54.98	54.34	53.75
30	60.35	59.18	58.14	57.21	56.37	55.61	54.91	54.28	53.70
40	60.23	59.07	58.04	57.12	56.29	55.53	54.85	54.22	53.64
50	60.11	58.96	57.95	57.03	56.21	55.46	54.78	54.16	53.59
60	59.99	58.86	57.85	56.95	56.13	55.39	54.72	54.10	53.53
70	59.87	58.75	57.76	56.86	56.05	55.32	54.65	54.04	53.48
80	59.75	58.65	57.66	56.78	55.98	55.25	54.59	53.98	53.42
90	59.63	58.54	57.57	56.69	55.90	55.18	54.53	53.92	53.37

Second Floor Factors

(Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800
0	56.98	53.69	51.22	49.30	47.77	46.51	45.47	44.58	43.82	43.17	42.59	42.08	41.63
25	56.05	53.01	50.70	48.89	47.43	46.23	45.23	44.38	43.65	43.02	42.46	41.97	41.53
50	55.20	52.37	50.21	48.50	47.11	45.97	45.01	44.19	43.48	42.87	42.33	41.85	41.42
75	54.42	51.78	49.74	48.12	46.81	45.71	44.79	44.00	43.32	42.73	42.20	41.74	41.32

Basement Factors

(Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
Unfinished	49.89	46.53	44.02	42.06	40.50	39.21	38.15	37.24	36.47	35.80	35.21	34.70
Low Cost	61.47	57.80	55.04	52.90	51.19	49.79	48.62	47.63	46.78	46.05	45.41	44.84
Finished	72.31	68.38	65.43	63.14	61.31	59.81	58.56	57.50	56.60	55.81	55.12	54.52

Attic Factors

(Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300
Unfinished	65.07	47.91	39.33	34.18	30.75	28.30	26.46	25.03	23.89	22.95	22.17	21.51
Low Cost	76.98	58.99	50.00	44.60	41.00	38.43	36.50	35.00	33.80	32.82	32.01	31.31
Finished	88.18	69.51	60.18	54.58	50.85	48.19	46.19	44.63	43.39	42.37	41.52	40.80

Conventional Class 3 Triplex Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100
0	92.92	87.55	83.16	79.50	76.40	73.75	71.45	69.43	67.66	66.08	64.67	63.40	62.25
10	92.33	87.07	82.76	79.17	76.12	73.50	71.23	69.25	67.49	65.93	64.53	63.28	62.14
20	91.75	86.60	82.37	78.84	75.84	73.26	71.02	69.06	67.33	65.78	64.40	63.16	62.03
30	91.19	86.14	81.99	78.52	75.56	73.02	70.82	68.88	67.17	65.64	64.27	63.04	61.92
40	90.63	85.69	81.62	78.20	75.29	72.79	70.61	68.70	67.00	65.50	64.14	62.92	61.82
50	90.09	85.25	81.25	77.89	75.03	72.56	70.41	68.52	66.85	65.35	64.01	62.81	61.71
60	89.56	84.82	80.89	77.58	74.76	72.33	70.21	68.34	66.69	65.21	63.89	62.69	61.61
70	89.05	84.39	80.53	77.28	74.50	72.10	70.01	68.17	66.53	65.07	63.76	62.58	61.50
80	88.54	83.97	80.18	76.98	74.25	71.88	69.82	68.00	66.38	64.94	63.64	62.47	61.40
90	88.04	83.56	79.84	76.69	74.00	71.66	69.62	67.83	66.23	64.80	63.52	62.36	61.30

	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
0	61.20	60.24	59.37	58.56	57.82	57.13	56.49	55.90	55.34	54.82	54.34	53.88	53.45
10	61.10	60.15	59.29	58.49	57.75	57.07	56.43	55.84	55.29	54.77	54.29	53.84	53.41
20	61.00	60.06	59.20	58.41	57.68	57.00	56.37	55.78	55.24	54.72	54.24	53.79	53.37
30	60.90	59.97	59.12	58.34	57.61	56.94	56.31	55.73	55.18	54.67	54.20	53.75	53.32
40	60.81	59.89	59.04	58.26	57.54	56.87	56.25	55.67	55.13	54.63	54.15	53.70	53.28
50	60.71	59.80	58.96	58.19	57.47	56.81	56.19	55.62	55.08	54.58	54.10	53.66	53.24
60	60.62	59.71	58.88	58.11	57.40	56.74	56.13	55.56	55.03	54.53	54.06	53.62	53.20
70	60.52	59.62	58.80	58.04	57.33	56.68	56.07	55.51	54.98	54.48	54.01	53.58	53.16
80	60.43	59.54	58.72	57.97	57.27	56.62	56.01	55.45	54.93	54.43	53.97	53.53	53.12
90	60.34	59.45	58.64	57.89	57.20	56.56	55.96	55.40	54.87	54.38	53.92	53.49	53.08

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200
0	53.03	51.20	49.68	48.40	47.29	46.34	45.50	44.76	44.11	43.52	42.99	42.52	42.08
25	52.54	50.80	49.34	48.10	47.04	46.12	45.31	44.59	43.96	43.38	42.87	42.40	41.98
50	52.07	50.41	49.01	47.82	46.80	45.91	45.12	44.43	43.81	43.25	42.75	42.29	41.88
75	51.63	50.04	48.70	47.55	46.56	45.70	44.94	44.26	43.66	43.12	42.63	42.19	41.78

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
Unfinished	48.94	46.64	44.75	43.18	41.85	40.72	39.73	38.87	38.10	37.43	36.82	36.27
Low Cost	60.12	57.60	55.55	53.83	52.38	51.14	50.06	49.12	48.29	47.55	46.89	46.29
Finished	70.58	67.90	65.70	63.87	62.32	61.00	59.85	58.84	57.95	57.16	56.46	55.82

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
Unfinished	38.23	34.62	31.92	29.81	28.13	26.76	25.61	24.64	23.81	23.08	22.45	21.90
Low Cost	48.50	44.73	41.91	39.71	37.95	36.51	35.31	34.30	33.43	32.67	32.01	31.43
Finished	58.33	54.42	51.50	49.22	47.40	45.91	44.67	43.62	42.72	41.94	41.25	40.65

Conventional Class 3 Four-plex Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700
0	80.31	77.69	75.37	73.32	71.48	69.82	68.32	66.96	65.72	64.58	63.53	62.56	61.66
10	80.03	77.44	75.16	73.12	71.30	69.66	68.18	66.83	65.60	64.47	63.43	62.47	61.58
20	79.76	77.20	74.94	72.93	71.13	69.51	68.04	66.70	65.48	64.36	63.33	62.37	61.49
30	79.49	76.96	74.73	72.74	70.96	69.36	67.90	66.58	65.36	64.25	63.23	62.28	61.41
40	79.22	76.73	74.52	72.56	70.79	69.20	67.76	66.45	65.25	64.15	63.13	62.19	61.32
50	78.96	76.50	74.32	72.37	70.63	69.05	67.63	66.32	65.13	64.04	63.03	62.10	61.24
60	78.70	76.27	74.11	72.19	70.46	68.90	67.49	66.20	65.02	63.94	62.94	62.01	61.16
70	78.44	76.04	73.91	72.01	70.30	68.76	67.36	66.08	64.91	63.83	62.84	61.92	61.07
80	78.19	75.82	73.71	71.83	70.14	68.61	67.22	65.96	64.80	63.73	62.75	61.84	60.99
90	77.94	75.59	73.51	71.65	69.98	68.47	67.09	65.84	64.69	63.63	62.65	61.75	60.91

	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
0	60.83	60.05	59.33	58.65	58.02	57.42	56.86	56.33	55.83	55.36	54.91	54.49	54.09
10	60.75	59.98	59.26	58.59	57.96	57.37	56.81	56.28	55.79	55.32	54.87	54.45	54.05
20	60.67	59.91	59.19	58.52	57.90	57.31	56.75	56.23	55.74	55.27	54.83	54.41	54.01
30	60.59	59.83	59.12	58.46	57.84	57.25	56.70	56.18	55.69	55.22	54.78	54.37	53.97
40	60.51	59.76	59.05	58.40	57.78	57.19	56.65	56.13	55.64	55.18	54.74	54.33	53.93
50	60.43	59.69	58.99	58.33	57.72	57.14	56.59	56.08	55.59	55.13	54.70	54.28	53.89
60	60.36	59.61	58.92	58.27	57.66	57.08	56.54	56.03	55.55	55.09	54.66	54.24	53.85
70	60.28	59.54	58.85	58.21	57.60	57.03	56.49	55.98	55.50	55.05	54.61	54.20	53.81
80	60.20	59.47	58.79	58.14	57.54	56.97	56.44	55.93	55.45	55.00	54.57	54.16	53.78
90	60.13	59.40	58.72	58.08	57.48	56.92	56.38	55.88	55.41	54.96	54.53	54.12	53.74

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400
0	53.56	51.89	50.47	49.24	48.16	47.20	46.36	45.60	44.92	44.30	43.74	43.23	42.76
25	53.11	51.52	50.15	48.95	47.91	46.98	46.16	45.42	44.76	44.15	43.61	43.11	42.65
50	52.69	51.16	49.83	48.68	47.67	46.77	45.97	45.25	44.60	44.01	43.48	42.99	42.54
75	52.28	50.81	49.53	48.41	47.43	46.56	45.78	45.08	44.45	43.87	43.35	42.87	42.43

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300
Unfinished	48.00	46.26	44.77	43.48	42.35	41.35	40.47	39.68	38.96	38.32	37.73	37.19
Low Cost	58.78	56.89	55.27	53.86	52.63	51.55	50.58	49.72	48.95	48.24	47.61	47.02
Finished	68.86	66.84	65.12	63.62	62.31	61.16	60.13	59.21	58.38	57.63	56.95	56.33

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
Unfinished	37.09	34.36	32.17	30.38	28.89	27.63	26.55	25.61	24.79	24.07	23.42	22.85
Low Cost	47.01	44.15	41.87	40.01	38.45	37.13	36.01	35.03	34.17	33.42	32.75	32.15
Finished	56.47	53.52	51.16	49.23	47.62	46.26	45.10	44.08	43.20	42.42	41.73	41.10

Conventional Class 3 (cont.) Adjustment Factors

Foundation

	SQ. FT.
Apply cost to ground floor area	
Wood frame on masonry piers	- \$ 1.65

Roof

	SQ. FT.		SQ. FT.
Apply costs to ground floor area			
Comp. shingle, light weight, arch.	+ \$.20	Cedar shake, medium weight	+ \$.85
Baked enamel, metal	+ 2.20	Cedar shingle	+ 1.30

Interior Components

	EACH		EACH
APPLIANCES		STOVES AND FIREPLACES (cont.)	
		Fireplaces	
Basic set: drop-in range, hood fan, dishwasher, garbage disposer	+ \$ 1,200	Direct vent, gas fired; fascia surround, nonbrick	+ \$ 2,040
Range, drop-in, self clean	+ 550	Interior masonry, mantel high face brick	
Hood-fan	+ 180	single	+ 2,690
Dishwasher	+ 340	raised hearth	+ 580
Garbage disposer	+ 130	Prefab. metal box and flue, gas log, mantel high face brick	+ 2,520
STOVES AND FIREPLACES		Additional features:	
Stoves		Outside brick chimney;	
Wood stove w/ flue	+ 2,600	one story	+ 630
Pellet stove w/ flue	+ 3,950		
Gas stove w/ flue	+ 2,270		
	SQ. FT.		
Floor and wall heat shield	+ \$ 9.00		

Conventional Class 3 (cont.) Adjustment Factors

		Plumbing			
		EACH		EACH	
FIXTURES					
Full Bath: tub w/shower over or shower stall, lavatory, toilet	+	\$ 1,250	Stall shower, w/ door, fiberglass	+	\$ 1,200
Half Bath: lavatory, toilet	+	500	Lavatory, enameled steel	+	250
Bathtub, enameled steel or fiberglass	+	500	Toilet, standard	+	250
add for:			Kitchen sink:		
shower w/plastic surround	+	250	Stainless steel, double	+	400
sliding plastic door	+	90	Laundry tub, single fiberglass	+	300
			Water heater	+	350

Heating — Cooling

Area Heated/Cooled square feet:	400	500	600	700	800	900	1,000	1,100
Electric baseboard, wall unit, or ceiling cable	3.95	3.40	2.95	2.55	2.20	2.10	2.05	1.95
Forced air heating	6.65	5.70	4.95	4.25	3.70	3.30	2.95	2.65

Conventional Class 3

Garage

FLOOR AREA — COST PER SQ. FT.

ATTACHED

Garage unfinished with interior fire-wall only. Construction features comparable to house, slab floor, minimum lighting, and outlets.

	200	300	400	500	600	700	800
0	\$54.05	44.78	40.15	37.37	35.52	34.20	33.21
25	50.96	43.36	39.34	36.84	35.15	33.92	33.00
50	48.49	42.14	38.61	36.36	34.81	33.67	32.80
75	46.47	41.08	37.96	35.92	34.49	33.43	32.61

Finished

Low cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 1.90		
+	2.65		

FLOOR AREA — COST PER SQ. FT.

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	\$55.56	46.78	42.39	39.76	38.01	36.75	35.81
25	52.63	45.43	41.62	39.26	37.65	36.49	35.61
50	50.29	44.27	40.93	38.80	37.33	36.25	35.42
75	48.38	43.27	40.31	38.39	37.03	36.02	35.25

Finished

Low cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 1.90		
+	2.65		

ADJUSTMENT FACTORS

	SQ. FT.	LIN. FT.	EACH
ATTIC—apply cost to attic area			
Storage; pull down stairs, subfloor	+	\$ 5.10	
PARTITION—stud frame, painted drywall			
both walls		\$ 40.15	
ROOF:			
Comp. shingle, light weight architectural	+	\$.20	
Baked enamel, metal	+	2.20	
Cedar shake, medium weight	+	.85	
Cedar shingle	+	1.30	

Conventional Class 3

Carport

Construction features comparable to principal building, slab floor, open side and end(s)

FLOOR AREA

ATTACHED

Flat or shed
Same as house

	200	300	400	500	600	700	800
Flat	22.66	21.70	21.22	20.94	20.75	20.61	20.51
Same as house	24.67	23.84	23.43	23.18	23.02	22.90	22.81

DETACHED

Flat or shed
Gable or hip

	200	300	400	500	600	700	800
Flat	22.86	21.90	21.43	21.14	20.95	20.81	20.71
Same as house	24.88	24.04	23.63	23.38	23.21	23.09	23.00

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ROOF				
Comp. shingle, light weight architectural	+	\$.20		
Baked enamel, metal	+	2.20		
Cedar shake, medium weight	+	.85		
Cedar shingle	+	1.30		
FLOOR				
Gravel	-	\$ 2.00		

Conventional

Class 4

Class Features

The two to four family dwellings in this class constitute most of the fair quality multiple family dwellings. These buildings reflect the most popular combinations of style, design, and functional utility. The materials and workmanship are fair quality.

The design is functional, and may include some shape and roof design variations. Special features are usually included to add to the attractiveness such as hardwood paneling, aluminum or vinyl windows, brick veneer, wrought iron railings, or other trim. Units have individual outside entries, separate electrical, heating, and plumbing systems with common walls and/or floors.

Class Illustrations



Conventional

Class 4 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; vent openings; access opening; interior piers; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and fair quality painted siding or equivalent construction; fair quality exterior doors and windows; some ornamental trim; may have optional items such as window boxes and shutters.
Roof	Gable, hip, or comparable design; wood frame construction; ceiling joists; fair quality solid sheathing; medium weight three-tab composition shingle cover; ceiling insulation; gutters and downspouts.
Floor	Wood frame construction with underpinning, sub flooring, and underlayment; or concrete slab; fair quality hardwood flooring and finish or carpet and padding; fair quality resilient cover in appropriate areas.
Partitions	Wood frame construction; fair quality textured plaster or drywall with painted surfaces; fair quality doors, hardware and trim; painted or stained fair quality softwood millwork; similar material for ceiling cover and interior wall.
Interior Components	Cabinet quantity proportionate to overall unit size; cabinets of fair quality particleboard or plywood veneer; fair quality plastic or tile countertops and backsplash; wardrobe and linen closets with shelving; fair quality hardware; narrow to moderate width stairway of straight design with softwood rail, and fair quality carpet or softwood tread cover.
Electrical	Entry service and multi-circuit panel to each unit; non-metallic sheathed cable wiring; adequate number of convenience outlets; fair quality light fixtures; range and dryer outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Fair quality open front entry porch, for each unit, integrated with unit design; concrete or wood steps and floor; extension of dwelling roof or separate roof structure adequate to cover entry area; concrete or wood steps at rear entry.

Conventional

Class 4 Duplex

Cost Factor Tables

One Story Base Factors

(Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800
0	122.02	111.97	104.44	98.58	93.90	90.06	86.87	84.16	81.85	79.84	78.08	76.53	75.15
10	120.86	111.13	103.79	98.07	93.48	89.72	86.58	83.92	81.63	79.65	77.92	76.39	75.02
20	119.75	110.30	103.16	97.57	93.07	89.38	86.29	83.67	81.42	79.47	77.76	76.24	74.89
30	118.67	109.50	102.54	97.07	92.67	89.05	86.01	83.43	81.22	79.29	77.60	76.10	74.77
40	117.62	108.72	101.93	96.59	92.28	88.72	85.73	83.20	81.01	79.11	77.44	75.96	74.64
50	116.61	107.96	101.34	96.12	91.89	88.40	85.46	82.96	80.81	78.93	77.28	75.82	74.52
60	115.63	107.22	100.76	95.66	91.51	88.08	85.19	82.73	80.61	78.76	77.13	75.68	74.40
70	114.67	106.50	100.20	95.20	91.14	87.77	84.93	82.51	80.41	78.58	76.98	75.55	74.28
80	113.75	105.79	99.65	94.76	90.77	87.46	84.67	82.28	80.22	78.41	76.83	75.42	74.16
90	112.85	105.11	99.11	94.32	90.42	87.16	84.42	82.06	80.03	78.25	76.68	75.28	74.04

	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700
0	73.92	72.81	71.80	70.89	70.06	69.29	68.59	67.94	67.34
10	73.80	72.70	71.71	70.81	69.98	69.22	68.52	67.88	67.28
20	73.69	72.60	71.62	70.72	69.90	69.15	68.46	67.82	67.23
30	73.57	72.50	71.52	70.63	69.82	69.08	68.39	67.76	67.17
40	73.46	72.40	71.43	70.55	69.74	69.01	68.33	67.70	67.11
50	73.35	72.29	71.34	70.47	69.67	68.94	68.26	67.64	67.06
60	73.24	72.19	71.25	70.38	69.59	68.87	68.20	67.58	67.00
70	73.13	72.10	71.16	70.30	69.52	68.80	68.13	67.52	66.95
80	73.02	72.00	71.07	70.22	69.44	68.73	68.07	67.46	66.89
90	72.91	71.90	70.98	70.14	69.37	68.66	68.00	67.40	66.84

Second Floor Factors

(Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800
0	69.76	65.97	63.13	60.92	59.16	57.71	56.51	55.49	54.62	53.86	53.20	52.61	52.09
25	68.70	65.19	62.53	60.45	58.77	57.39	56.24	55.26	54.42	53.68	53.04	52.48	51.97
50	67.72	64.46	61.96	59.99	58.40	57.08	55.98	55.04	54.22	53.52	52.90	52.34	51.85
75	66.81	63.77	61.43	59.57	58.05	56.79	55.73	54.82	54.04	53.35	52.75	52.22	51.74

Basement Factors

(Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
Unfinished	55.94	52.26	49.51	47.36	45.65	44.24	43.07	42.08	41.23	40.50	39.85	39.29
Low Cost	69.80	65.85	62.89	60.58	58.74	57.23	55.98	54.92	54.00	53.21	52.52	51.91
Finished	83.14	79.01	75.91	73.49	71.56	69.99	68.67	67.56	66.60	65.78	65.05	64.41

Attic Factors

(Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300
Unfinished	80.41	59.15	48.52	42.14	37.89	34.85	32.58	30.80	29.39	28.23	27.26	26.44
Low Cost	92.76	71.47	60.82	54.43	50.17	47.13	44.85	43.08	41.66	40.49	39.53	38.71
Finished	105.13	83.71	73.01	66.58	62.30	59.24	56.95	55.16	53.74	52.57	51.60	50.77

Conventional

Class 4 Triplex

Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400
0	102.30	98.33	94.93	91.98	89.40	87.12	85.10	83.29	81.66	80.19	78.85	77.63	76.50
10	101.87	97.97	94.61	91.71	89.16	86.91	84.91	83.12	81.51	80.05	78.72	77.51	76.40
20	101.45	97.61	94.31	91.44	88.92	86.70	84.72	82.95	81.36	79.91	78.60	77.39	76.29
30	101.04	97.26	94.00	91.17	88.69	86.49	84.54	82.79	81.21	79.77	78.47	77.28	76.19
40	100.63	96.91	93.70	90.91	88.46	86.29	84.35	82.62	81.06	79.64	78.35	77.17	76.08
50	100.23	96.57	93.40	90.65	88.23	86.08	84.17	82.46	80.91	79.50	78.22	77.05	75.98
60	99.84	96.23	93.11	90.39	88.00	85.88	83.99	82.29	80.76	79.37	78.10	76.94	75.87
70	99.45	95.90	92.82	90.14	87.78	85.68	83.81	82.13	80.62	79.24	77.98	76.83	75.77
80	99.07	95.57	92.54	89.89	87.56	85.49	83.64	81.98	80.47	79.11	77.86	76.72	75.67
90	98.70	95.25	92.26	89.64	87.34	85.29	83.46	81.82	80.33	78.98	77.74	76.61	75.57

	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700
0	75.47	74.52	73.64	72.82	72.06	71.35	70.68	70.06	69.47	68.92	68.40	67.91	67.44
10	75.37	74.43	73.55	72.74	71.98	71.28	70.62	70.00	69.41	68.86	68.35	67.86	67.40
20	75.28	74.34	73.47	72.66	71.91	71.21	70.55	69.94	69.36	68.81	68.30	67.81	67.35
30	75.18	74.25	73.39	72.58	71.84	71.14	70.49	69.88	69.30	68.76	68.25	67.76	67.31
40	75.08	74.16	73.30	72.51	71.77	71.07	70.42	69.82	69.24	68.71	68.20	67.72	67.26
50	74.99	74.07	73.22	72.43	71.69	71.01	70.36	69.76	69.19	68.65	68.15	67.67	67.22
60	74.89	73.98	73.14	72.36	71.62	70.94	70.30	69.70	69.13	68.60	68.10	67.62	67.17
70	74.80	73.90	73.06	72.28	71.55	70.87	70.24	69.64	69.08	68.55	68.05	67.58	67.13
80	74.70	73.81	72.98	72.20	71.48	70.81	70.18	69.58	69.03	68.50	68.00	67.53	67.09
90	74.61	73.72	72.90	72.13	71.41	70.74	70.12	69.53	68.97	68.45	67.95	67.49	67.04

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200
0	65.28	63.17	61.41	59.93	58.66	57.55	56.59	55.74	54.98	54.30	53.69	53.14	52.64
25	64.71	62.70	61.02	59.59	58.37	57.30	56.37	55.54	54.80	54.14	53.55	53.01	52.52
50	64.17	62.25	60.64	59.27	58.09	57.06	56.15	55.35	54.63	53.99	53.41	52.88	52.41
75	63.66	61.82	60.28	58.96	57.82	56.82	55.94	55.16	54.46	53.84	53.27	52.76	52.29

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
Unfinished	54.77	52.26	50.20	48.49	47.04	45.79	44.72	43.77	42.94	42.20	41.54	40.95
Low Cost	68.20	65.51	63.31	61.48	59.92	58.59	57.44	56.43	55.54	54.75	54.04	53.40
Finished	81.14	78.33	76.02	74.11	72.48	71.09	69.88	68.83	67.90	67.07	66.33	65.66

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
Unfinished	47.20	42.74	39.40	36.80	34.72	33.01	31.60	30.40	29.37	28.47	27.69	27.01
Low Cost	59.09	54.63	51.29	48.69	46.61	44.91	43.49	42.29	41.26	40.37	39.59	38.90
Finished	70.91	66.44	63.08	60.47	58.38	56.67	55.24	54.04	53.00	52.11	51.32	50.63

Conventional

Class 4 Fourplex

Cost Factor Tables

One Story Base Factors

(Floor Area — Cost Per Sq. Ft.)

	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800
0	100.26	97.29	94.64	92.28	90.15	88.22	86.47	84.87	83.40	82.06	80.81	79.66	78.59
10	99.95	97.01	94.39	92.05	89.95	88.04	86.30	84.72	83.26	81.93	80.69	79.55	78.48
20	99.64	96.73	94.15	91.83	89.75	87.86	86.14	84.57	83.13	81.80	80.57	79.44	78.38
30	99.33	96.46	93.90	91.61	89.55	87.68	85.97	84.42	82.99	81.67	80.46	79.33	78.28
40	99.03	96.19	93.66	91.40	89.35	87.50	85.81	84.27	82.85	81.55	80.34	79.22	78.18
50	98.73	95.93	93.43	91.18	89.16	87.32	85.65	84.12	82.72	81.42	80.22	79.11	78.08
60	98.43	95.66	93.19	90.97	88.97	87.15	85.49	83.98	82.58	81.30	80.11	79.01	77.98
70	98.14	95.40	92.96	90.76	88.78	86.98	85.33	83.83	82.45	81.17	79.99	78.90	77.88
80	97.85	95.15	92.73	90.56	88.59	86.81	85.18	83.69	82.32	81.05	79.88	78.80	77.78
90	97.57	94.89	92.50	90.35	88.40	86.64	85.02	83.54	82.19	80.93	79.77	78.69	77.69

	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100
0	77.59	76.66	75.79	74.98	74.21	73.49	72.81	72.17	71.56	70.98	70.44	69.92	69.42
10	77.50	76.57	75.71	74.90	74.14	73.42	72.74	72.10	71.50	70.93	70.38	69.87	69.38
20	77.40	76.48	75.62	74.82	74.06	73.35	72.68	72.04	71.44	70.87	70.33	69.82	69.33
30	77.31	76.39	75.54	74.74	73.99	73.28	72.61	71.98	71.38	70.82	70.28	69.77	69.28
40	77.21	76.31	75.46	74.66	73.92	73.21	72.55	71.92	71.32	70.76	70.23	69.72	69.23
50	77.12	76.22	75.38	74.59	73.84	73.14	72.48	71.86	71.27	70.71	70.17	69.67	69.19
60	77.03	76.13	75.30	74.51	73.77	73.08	72.42	71.80	71.21	70.65	70.12	69.62	69.14
70	76.93	76.05	75.21	74.43	73.70	73.01	72.35	71.74	71.15	70.60	70.07	69.57	69.09
80	76.84	75.96	75.13	74.36	73.63	72.94	72.29	71.68	71.10	70.54	70.02	69.52	69.05
90	76.75	75.88	75.05	74.28	73.56	72.87	72.23	71.62	71.04	70.49	69.97	69.47	69.00

Second Floor Factors

(Floor Area — Cost Per Sq. Ft.)

	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600
0	62.38	60.95	59.70	58.60	57.62	56.74	55.95	55.24	54.59	54.00	53.45	52.95	52.49
25	62.01	60.63	59.42	58.34	57.39	56.54	55.77	55.07	54.44	53.86	53.32	52.83	52.38
50	61.64	60.31	59.14	58.10	57.17	56.34	55.59	54.91	54.29	53.72	53.20	52.72	52.27
75	61.29	60.00	58.86	57.85	56.95	56.14	55.41	54.75	54.14	53.58	53.07	52.60	52.17

Basement Factors

(Floor Area — Cost Per Sq. Ft.)

	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300
Unfinished	53.75	51.85	50.22	48.81	47.58	46.49	45.52	44.66	43.88	43.17	42.53	41.95
Low Cost	66.76	64.73	62.99	61.48	60.17	59.00	57.97	57.04	56.21	55.46	54.77	54.15
Finished	79.30	77.18	75.37	73.79	72.42	71.20	70.12	69.16	68.29	67.50	66.79	66.13

Attic Factors

(Floor Area — Cost Per Sq. Ft.)

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
Unfinished	45.83	42.46	39.75	37.54	35.70	34.14	32.80	31.65	30.63	29.74	28.94	28.23
Low Cost	57.36	53.98	51.28	49.07	47.23	45.68	44.34	43.19	42.17	41.28	40.49	39.78
Finished	68.81	65.42	62.71	60.49	58.65	57.08	55.74	54.58	53.56	52.67	51.87	51.16

Conventional Class 4 (cont.) Adjustment Factors

Foundation

	SQ. FT.
Apply cost to ground floor area	
Wood frame on masonry piers	– \$ 2.30

Roof

	SQ. FT.		SQ. FT.
Apply costs to ground floor area			
Comp. shingle, light weight architectural	+ \$.10	Baked enamel, metal	+ \$ 2.10
Fiber cement composite	+ 1.65	Cedar shake, medium weight	+ .75
		Cedar shingle	+ 1.20

Interior Components

	EACH		EACH
APPLIANCES		STOVES AND FIREPLACES (cont.)	
Basic set: drop-in range, hood fan, dishwasher, garbage disposer	+ \$ 1,590	Fireplaces	
Range, drop-in, self clean	+ 680	Direct vent, gas fired; fascia surround, nonbrick	+ \$ 2,320
Oven, single, self clean	+ 610	Interior masonry, mantel high brick	
Cooktop	+ 470	single	+ 3,580
w/built in exhaust and grill	+ 700	see-through	+ 4,820
Microwave oven, built-in	+ 450	backed	+ 6,270
Hood-fan	+ 280	stacked	+ 6,830
Dishwasher	+ 480	ceiling high brick, per fireplace	+ 280
Garbage disposer	+ 150	Prefab. metal box and flue, gas log, mantle high face brick	+ 3,140
STOVES AND FIREPLACES		Additional features:	
Stoves		Outside brick chimney;	
Wood stove w/ flue	+ 2,880	one story	+ 730
Pellet stove w/ flue	+ 4,230	two story	+ 1,010
Gas stove w/ flue	+ 2,550		
	SQ. FT.		
Floor and wall heat shield	+ \$ 10.10		

Conventional Class 4 (cont.) Adjustment Factors

		Plumbing			
FIXTURES		EACH		EACH	
Full bath: tub w/shower over or shower stall, lavatory, toilet	+	\$ 1,600	Stall shower, w/door, fiberglass	+	\$ 1,350
Half bath: lavatory, toilet	+	650	Stall shower, w/door, tile	+	2,050
Bathtub, enameled steel or fiberglass	+	600	Garden tub	+	2,100
add for:			Jet tub	+	3,300
shower w/fiberglass surround	+	350	Lavatory, china	+	350
shower w/tile surround	+	700	Toilet, standard	+	300
sliding glass door	+	150	Kitchen sink:		
			Stainless steel, double	+	450
			Hot water dispenser	+	200
			Bar sink, stainless steel	+	300
			Water heater	+	400
			Laundry tub, single fiberglass	+	350

Heating — Cooling

Area Heated/Cooled square feet:	400	500	600	700	800	900	1,000	1,100
Electric baseboard, wall unit, or ceiling cable	4.00	3.45	3.00	2.60	2.25	2.15	2.10	2.00
Forced air heating	7.70	6.60	5.65	4.80	4.25	3.80	3.40	3.05
Forced air heating and cooling	9.60	8.15	7.05	6.10	5.30	4.70	4.25	3.85

Conventional Class 4

Garage

FLOOR AREA — COST PER SQ. FT.

ATTACHED

Garage unfinished with interior fire-wall only. Construction features comparable to house, slab floor, minimum lighting, and outlets.

	200	300	400	500	600	700	800
0	\$69.05	57.31	51.44	47.92	45.57	43.89	42.63
25	65.13	55.50	50.40	47.25	45.10	43.54	42.37
50	62.00	53.95	49.48	46.64	44.67	43.22	42.12
75	59.44	52.61	48.66	46.08	44.26	42.92	41.88

Finished

Low cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 2.45		
+	3.45		

FLOOR AREA — COST PER SQ. FT.

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting, and outlets.

	200	300	400	500	600	700	800
0	\$70.45	59.49	54.01	50.72	48.53	46.96	45.79
25	66.79	57.80	53.04	50.09	48.09	46.64	45.54
50	63.87	56.36	52.18	49.52	47.69	46.34	45.31
75	61.48	55.10	51.41	49.00	47.31	46.05	45.08

Finished

Low cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 2.45		
+	3.45		

ADJUSTMENT FACTORS

ATTIC—apply cost to attic area

Storage; pull down stairs, subfloor

	SQ. FT.	LIN. FT.	EACH
+	\$ 5.10		

PARTITION—stud frame, painted drywall
both walls

\$ 52.45

ROOF

Comp. shingle, light weight architectural + \$.10
Fiber-cement composite + 1.65
Baked enamel, metal + 2.10
Cedar shake, medium weight + .75
Cedar shingle + 1.20

Conventional Class 4

Carport

Construction features comparable to principal building, slab floor, open side and end(s)

		200	300	400	500	600	700	800
FLOOR AREA								
	Flat	29.22	28.37	27.94	27.68	27.51	27.39	27.30
ATTACHED								
	Same as house	32.28	31.52	31.14	30.91	30.76	30.65	30.57
	Flat or shed Same as house							
DETACHED								
	Flat	29.46	28.60	28.17	27.91	27.73	27.61	27.52
	Same as house	32.53	31.75	31.37	31.14	30.98	30.87	30.79
	Flat or shed Gable or hip							

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ROOF				
	Comp. shingle, light weight architectural	+	\$.10	
	Fiber cement composite	+	1.65	
	Baked enamel, metal	+	2.10	
	Cedar shake, medium weight	+	.75	
	Cedar shingle	+	1.20	
FLOOR				
	Gravel	-	2.50	
EXTERIOR WALL (Per lineal foot of wall)				
	Curtain wall or storage room wall, single wall construction, material similar to house	+		\$ 62.70

Conventional

Class 5

Class Features

The two to four family dwellings in this class provides average quality housing that emphasizes convenience and overall appearance. Often there is an irregular exterior shape or roof design to give an attractive architectural appearance.

Workmanship and materials are average quality and millwork and trim may include some hardwood. Interior construction is average, and the exterior has some ornamentation. The overall construction is characterized by attention to detail.

Class Illustrations



Conventional Class 5 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; interior piers; vent openings; access opening; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and average quality painted siding or equivalent construction; average quality exterior doors, windows and finish; may have optional items such as masonry trim, planters, window boxes, shutters, etc.
Roof	Moderate to complex design; wood frame construction; ceiling joists; average quality solid or spread sheathing; light weight architectural composition shingle cover; ceiling insulation; gutters and downspouts; moderate attention to roof trim.
Floor	Wood frame construction with underpinning, subflooring, and underlayment; average quality hardwood flooring and finish or carpet and padding; average quality resilient cover in appropriate areas.
Partitions	Wood frame construction; average quality textured plaster or drywall with painted surfaces, wallpaper, veneer paneling or wainscoting; average quality doors, hardware and trim; painted or stained average quality softwood millwork; similar material for ceiling cover and interior cover of exterior wall.
Interior Components	Cabinetry quantity proportionate to overall unit size; cabinets of average quality plywood with hardwood veneer, stained or painted, or hardboard with painted finish; average quality plastic countertops and backsplash; wardrobe, linen, and utility closets with shelving; average quality hardware; moderate width stairway of single or double angles with landings, hardwood rail with painted softwood spindles, and average quality carpet or hardwood tread cover
Electrical	Entry service and multi-circuit panel to each unit; nonmetallic sheathed cable wiring; adequate number of convenience outlets; average quality light fixtures; range and dryer outlets; may have special appliance and equipment outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Average quality open front entry porch integrated with unit design, adequate to cover entry area; concrete or wood steps and floor; small rear porch; some accessory items such as railings, planters, etc.

Conventional Class 5 Duplex Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800
0	185.51	167.92	154.73	144.46	136.25	129.54	123.94	119.20	115.14	111.63	108.55	105.83	103.42
10	183.49	166.43	153.58	143.56	135.52	128.93	123.43	118.77	114.77	111.30	108.26	105.58	103.19
20	181.54	164.99	152.47	142.68	134.81	128.34	122.93	118.34	114.40	110.98	107.98	105.33	102.97
30	179.65	163.58	151.39	141.82	134.10	127.75	122.44	117.92	114.04	110.66	107.70	105.08	102.74
40	177.81	162.21	150.33	140.97	133.41	127.18	121.95	117.51	113.68	110.35	107.42	104.83	102.52
50	176.04	160.88	149.29	140.14	132.74	126.62	121.48	117.10	113.32	110.04	107.15	104.59	102.31
60	174.32	159.59	148.28	139.33	132.07	126.06	121.01	116.70	112.98	109.73	106.88	104.35	102.09
70	172.64	158.32	147.29	138.54	131.42	125.52	120.55	116.30	112.63	109.43	106.61	104.11	101.88
80	171.02	157.09	146.33	137.76	130.78	124.98	120.09	115.91	112.29	109.13	106.35	103.88	101.67
90	169.45	155.89	145.39	137.00	130.15	124.46	119.64	115.52	111.96	108.84	106.09	103.65	101.46

	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100
0	101.26	99.31	97.55	95.95	94.49	93.16	91.92	90.79	89.73	88.76	87.85	87.00	86.20
10	101.05	99.13	97.39	95.80	94.35	93.03	91.81	90.68	89.63	88.66	87.76	86.92	86.13
20	100.85	98.95	97.22	95.65	94.22	92.90	91.69	90.57	89.53	88.57	87.67	86.83	86.05
30	100.65	98.77	97.06	95.50	94.08	92.77	91.57	90.46	89.43	88.48	87.59	86.75	85.98
40	100.45	98.59	96.90	95.35	93.94	92.65	91.46	90.36	89.33	88.39	87.50	86.67	85.90
50	100.26	98.41	96.73	95.21	93.81	92.53	91.34	90.25	89.24	88.29	87.42	86.59	85.83
60	100.07	98.24	96.58	95.06	93.68	92.40	91.23	90.15	89.14	88.20	87.33	86.52	85.75
70	99.87	98.06	96.42	94.92	93.54	92.28	91.12	90.04	89.04	88.11	87.25	86.44	85.68
80	99.69	97.89	96.26	94.78	93.41	92.16	91.01	89.94	88.95	88.02	87.16	86.36	85.60
90	99.50	97.72	96.11	94.63	93.28	92.04	90.90	89.84	88.85	87.94	87.08	86.28	85.53

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800
0	90.85	85.02	80.65	77.25	74.53	72.30	70.45	68.88	67.53	66.37	65.35	64.44	63.64
25	89.22	83.82	79.72	76.51	73.93	71.81	70.03	68.52	67.22	66.10	65.11	64.24	63.46
50	87.71	82.69	78.85	75.82	73.36	71.33	69.63	68.18	66.93	65.84	64.88	64.03	63.28
75	86.32	81.64	78.03	75.16	72.82	70.88	69.25	67.85	66.64	65.59	64.66	63.84	63.10

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
Unfinished	65.20	60.55	57.06	54.35	52.18	50.41	48.93	47.68	46.60	45.67	44.86	44.14
Low Cost	80.70	75.73	72.01	69.11	66.79	64.89	63.31	61.98	60.83	59.84	58.97	58.20
Finished	96.77	91.68	87.87	84.90	82.52	80.58	78.96	77.59	76.41	75.39	74.50	73.72

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300
Unfinished	107.97	78.27	63.42	54.51	48.58	44.33	41.15	38.68	36.70	35.08	33.73	32.59
Low Cost	122.12	92.16	77.18	68.19	62.20	57.92	54.71	52.21	50.22	48.58	47.22	46.07
Finished	135.58	106.07	91.31	82.46	76.55	72.34	69.18	66.72	64.75	63.14	61.80	60.66

Conventional

Class 5 Triplex

Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400
0	152.10	145.12	139.14	133.95	129.42	125.41	121.85	118.67	115.80	113.21	110.85	108.70	106.73
10	151.35	144.48	138.59	133.47	128.99	125.04	121.52	118.37	115.53	112.96	110.63	108.50	106.54
20	150.62	143.85	138.04	133.00	128.58	124.67	121.19	118.07	115.26	112.72	110.41	108.29	106.35
30	149.89	143.23	137.51	132.53	128.16	124.30	120.86	117.78	115.00	112.48	110.19	108.09	106.17
40	149.18	142.62	136.98	132.07	127.76	123.94	120.54	117.49	114.73	112.24	109.97	107.89	105.98
50	148.47	142.02	136.46	131.61	127.35	123.58	120.22	117.20	114.47	112.00	109.75	107.69	105.80
60	147.78	141.43	135.94	131.16	126.96	123.23	119.90	116.91	114.22	111.77	109.54	107.50	105.62
70	147.10	140.84	135.44	130.72	126.56	122.88	119.59	116.63	113.96	111.54	109.33	107.30	105.44
80	146.43	140.27	134.93	130.28	126.17	122.53	119.28	116.35	113.71	111.31	109.12	107.11	105.26
90	145.77	139.70	134.44	129.84	125.79	122.19	118.97	116.08	113.46	111.08	108.91	106.92	105.09

	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700
0	104.91	103.24	101.69	100.24	98.90	97.65	96.48	95.38	94.35	93.38	92.47	91.60	90.78
10	104.74	103.08	101.54	100.11	98.77	97.53	96.37	95.28	94.25	93.29	92.38	91.52	90.70
20	104.57	102.92	101.39	99.97	98.65	97.41	96.26	95.17	94.15	93.19	92.29	91.43	90.63
30	104.40	102.76	101.24	99.83	98.52	97.29	96.14	95.07	94.05	93.10	92.20	91.35	90.55
40	104.23	102.60	101.10	99.70	98.39	97.17	96.03	94.96	93.96	93.01	92.11	91.27	90.47
50	104.06	102.45	100.95	99.56	98.27	97.06	95.92	94.86	93.86	92.92	92.03	91.19	90.39
60	103.89	102.29	100.81	99.43	98.14	96.94	95.81	94.76	93.76	92.83	91.94	91.11	90.31
70	103.73	102.14	100.67	99.30	98.02	96.82	95.70	94.65	93.67	92.73	91.86	91.02	90.24
80	103.56	101.99	100.52	99.16	97.90	96.71	95.60	94.55	93.57	92.64	91.77	90.94	90.16
90	103.40	101.84	100.38	99.03	97.77	96.59	95.49	94.45	93.48	92.55	91.69	90.86	90.08

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200
0	84.55	81.30	78.60	76.31	74.34	72.64	71.16	69.84	68.67	67.63	66.69	65.84	65.07
25	83.68	80.58	77.99	75.79	73.90	72.25	70.81	69.54	68.40	67.39	66.47	65.64	64.88
50	82.85	79.89	77.41	75.29	73.46	71.88	70.48	69.24	68.14	67.15	66.25	65.44	64.71
75	82.06	79.23	76.85	74.81	73.05	71.51	70.16	68.95	67.88	66.92	66.04	65.25	64.53

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
Unfinished	63.91	60.72	58.11	55.94	54.10	52.53	51.16	49.97	48.91	47.98	47.14	46.39
Low Cost	78.94	75.55	72.77	70.45	68.49	66.81	65.36	64.08	62.96	61.96	61.07	60.26
Finished	94.61	91.13	88.29	85.92	83.91	82.19	80.70	79.39	78.24	77.22	76.31	75.48

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
Unfinished	61.74	55.52	50.85	47.23	44.32	41.95	39.97	38.29	36.86	35.62	34.53	33.57
Low Cost	75.16	68.90	64.20	60.54	57.62	55.23	53.24	51.55	50.10	48.85	47.75	46.79
Finished	88.82	82.65	78.02	74.43	71.55	69.19	67.23	65.57	64.15	62.91	61.83	60.88

Conventional Class 5 Fourplex Cost Factor Tables

One Story Base Factors (Floor Area — Cost Per Sq. Ft.)

	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800
0	149.61	144.36	139.69	135.51	131.75	128.35	125.26	122.43	119.85	117.46	115.27	113.23	111.34
10	149.06	143.87	139.25	135.12	131.40	128.03	124.96	122.16	119.60	117.24	115.06	113.04	111.16
20	148.51	143.38	138.82	134.73	131.05	127.71	124.67	121.90	119.35	117.01	114.85	112.84	110.98
30	147.97	142.90	138.39	134.34	130.70	127.39	124.38	121.63	119.11	116.79	114.64	112.65	110.80
40	147.44	142.43	137.96	133.96	130.35	127.08	124.10	121.37	118.87	116.56	114.43	112.46	110.62
50	146.91	141.96	137.55	133.58	130.01	126.77	123.81	121.11	118.63	116.34	114.23	112.27	110.45
60	146.39	141.49	137.13	133.21	129.67	126.46	123.53	120.85	118.39	116.12	114.03	112.08	110.27
70	145.87	141.04	136.72	132.84	129.34	126.16	123.25	120.60	118.16	115.91	113.82	111.89	110.10
80	145.36	140.58	136.31	132.47	129.00	125.85	122.98	120.35	117.92	115.69	113.63	111.71	109.92
90	144.86	140.13	135.91	132.11	128.68	125.55	122.71	120.09	117.69	115.48	113.43	111.52	109.75

	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100
0	109.58	107.94	106.40	104.96	103.61	102.34	101.13	100.00	98.93	97.91	96.95	96.03	95.16
10	109.41	107.78	106.25	104.82	103.48	102.21	101.02	99.89	98.82	97.81	96.85	95.94	95.08
20	109.24	107.62	106.11	104.68	103.35	102.09	100.90	99.78	98.72	97.71	96.76	95.85	94.99
30	109.08	107.47	105.96	104.55	103.22	101.97	100.79	99.67	98.62	97.62	96.67	95.77	94.91
40	108.91	107.31	105.81	104.41	103.09	101.85	100.67	99.56	98.51	97.52	96.58	95.68	94.82
50	108.75	107.16	105.67	104.27	102.96	101.73	100.56	99.46	98.41	97.42	96.48	95.59	94.74
60	108.58	107.00	105.53	104.14	102.84	101.61	100.45	99.35	98.31	97.33	96.39	95.50	94.66
70	108.42	106.85	105.38	104.01	102.71	101.49	100.33	99.24	98.21	97.23	96.30	95.42	94.57
80	108.26	106.70	105.24	103.87	102.58	101.37	100.22	99.14	98.11	97.14	96.21	95.33	94.49
90	108.10	106.55	105.10	103.74	102.46	101.25	100.11	99.03	98.01	97.04	96.12	95.25	94.41

Second Floor Factors (Floor Area — Cost Per Sq. Ft.)

	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600
0	80.79	78.58	76.64	74.93	73.41	72.06	70.83	69.73	68.72	67.80	66.96	66.19	65.47
25	80.21	78.07	76.19	74.54	73.06	71.74	70.55	69.47	68.48	67.58	66.76	66.00	65.30
50	79.64	77.58	75.76	74.15	72.72	71.43	70.27	69.21	68.25	67.37	66.57	65.82	65.13
75	79.10	77.10	75.34	73.78	72.38	71.13	69.99	68.96	68.02	67.16	66.37	65.64	64.97

Basement Factors (Floor Area — Cost Per Sq. Ft.)

	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300
Unfinished	62.76	60.35	58.29	56.50	54.93	53.55	52.32	51.22	50.23	49.34	48.52	47.78
Low Cost	77.33	74.76	72.57	70.66	69.00	67.53	66.22	65.05	64.00	63.05	62.18	61.39
Finished	92.59	89.97	87.72	85.77	84.07	82.57	81.23	80.03	78.96	77.98	77.10	76.29

Attic Factors (Floor Area — Cost Per Sq. Ft.)

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
Unfinished	60.04	55.33	51.56	48.47	45.90	43.72	41.86	40.24	38.83	37.58	36.47	35.48
Low Cost	73.05	68.30	64.51	61.40	58.82	56.63	54.75	53.13	51.70	50.45	49.33	48.33
Finished	86.34	81.67	77.94	74.88	72.33	70.18	68.33	66.73	65.33	64.09	62.99	62.01

Conventional Class 5 (cont.) Adjustment Factors

Exterior Wall

LIN. FT.

BRICK VENEER, full 8-foot wall + \$ 104.35

Roof

	SQ. FT.		SQ. FT.
Apply costs to ground floor area			
Comp. shingle, medium weight Three tab	-	\$.10	Baked enamel, metal + \$ 2.00
Comp. shingle, medium weight architectural	+	.15	Cedar shake, medium weight + .65
Comp. shingle, heavy weight architectural	+	.30	Cedar shingle + 1.10
Fiber cement composite	+	1.55	Concrete tile + 2.50

Interior Components

	EACH		EACH
APPLIANCES		STOVES AND FIREPLACES (cont.)	
Basic set: drop-in range, hood fan, dishwasher, garbage disposer	+	\$ 2,220	
Range, drop-in, self clean	+	900	Direct vent, gas fired; fascia surround, nonbrick + \$ 2,600
Oven, single, self clean	+	870	Interior masonry, ceiling high face brick face, raised hearth
Oven, double, self clean	+	1800	single + 4,140
Cooktop	+	550	see-through + 5,600
w/built in exhaust and grill	+	790	backed + 7,280
Microwave oven, built in	+	520	stacked + 7,900
Hood-fan	+	410	Prefab. metal box and flue, gas log, ceiling high face brick face + 3,580
Dishwasher	+	720	Additional features:
Garbage disposer	+	190	Outside brick chimney;
			one story + 840
			two story + 1,120
STOVES AND FIREPLACES			
Stoves			
Wood stove w/ flue	+	3,160	
Pellet stove w/ flue	+	4,510	
Gas stove w/ flue	+	2,830	
		SQ. FT.	
Floor and wall heat shield	+	\$ 11.80	

Conventional Class 5 (cont.) Adjustment Factors

		Plumbing			
FIXTURES		EACH		EACH	
Full bath: tub w/shower over or shower stall, lavatory, toilet	+	\$ 2,350	Stall shower, w/door, fiberglass	+	\$ 1,600
Half bath: lavatory, toilet	+	950	Stall shower, w/door, tile	+	2,600
Bathtub, enameled steel or fiberglass	+	900	Garden tub	+	2,500
add for:			Jet tub	+	3,900
shower w/fiberglass surround	+	500	Lavatory, china	+	500
shower w/tile surround	+	900	Toilet, standard	+	450
sliding glass door	+	250	Kitchen sink:		
			Enameled steel, double	+	600
			Hot water dispenser	+	250
			Bar sink, stainless steel	+	450
			Laundry tub, single fiberglass	+	550
			Water heater	+	450

Heating — Cooling

Area Heated/Cooled square feet:	400	500	600	700	800	900	1,000	1,100
Electric baseboard, wall unit, or ceiling cable	4.05	3.50	3.05	2.65	2.30	2.20	2.15	2.05
Forced air heating	8.30	7.10	6.10	5.25	4.55	4.05	3.65	3.30
Forced air heating and cooling	10.35	8.90	7.60	6.55	5.65	5.05	4.55	4.15
Heat pump	11.50	9.80	8.45	7.30	6.30	5.60	5.05	4.60

Conventional Class 5

Garage

FLOOR AREA — COST PER SQUARE FEET

ATTACHED

Garage unfinished with interior fire-wall only. Construction features comparable to house, slab floor, minimum lighting, and outlets.

	200	300	400	500	600	700	800
0	\$99.20	79.38	69.48	63.53	59.57	56.74	54.61
25	92.59	76.33	67.73	62.40	58.77	56.15	54.16
50	87.31	73.72	66.17	61.37	58.04	55.60	53.74
75	82.99	71.46	64.78	60.43	57.36	55.09	53.34

Finished

Low cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 2.50		
+	3.80		

FLOOR AREA — COST PER SQUARE FEET

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting, and outlets.

	200	300	400	500	600	700	800
0	\$102.37	83.81	74.53	68.97	65.26	62.60	60.62
25	96.18	80.96	72.90	67.91	64.51	62.06	60.19
50	91.23	78.51	71.44	66.94	63.83	61.54	59.80
75	87.18	76.39	70.14	66.06	63.19	61.07	59.42

Finished

Low cost wallboard or equivalent
Plaster or textured drywall

	SQ. FT.	LIN. FT.	EACH
+	\$ 2.50		
+	3.80		

ADJUSTMENT FACTORS

EXTERIOR WALL:

Brick veneer; full 8-foot wall

	SQ. FT.	LIN. FT.	EACH
			\$ 65.85

ATTIC—apply cost to attic area

Storage; pull down stairs, subfloor

+	\$ 5.10		
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PARTITION—stud frame, painted drywall
both walls

\$ 67.50

ROOF:

Comp. shingle, medium weight three tab	-	\$.10
Comp. shingle, medium weight architectural	+	.15
Comp. shingle, heavy weight architectural	+	.30
Fiber-cement composite	+	1.55
Baked enamel, metal	+	2.00
Cedar shake, medium weight	+	.65
Cedar shingle	+	1.10
Concrete tile	+	2.50

Conventional Class 5

Carport

Construction features comparable to principal building, slab floor, open side and end(s)

	200	300	400	500	600	700	800
FLOOR AREA							
ATTACHED							
Flat or shed	34.49	33.45	32.93	32.62	32.41	32.26	32.15
Same as house	38.01	37.06	36.59	36.31	36.12	35.99	35.89
DETACHED							
Flat or shed	34.71	33.69	33.18	32.87	32.66	32.52	32.41
Gable or hip	38.24	37.31	36.85	36.57	36.38	36.25	36.15

ADJUSTMENT FACTORS

	SQ. FT.	LIN. FT.	EACH
ROOF			
Comp. shingle, medium weight three tab	– \$.10		
Comp. shingle, medium weight architectural	+ .15		
Comp. shingle, heavy weight architectural	+ .30		
Fiber-cement composite	+ 1.55		
Baked enamel, metal	+ 2.00		
Cedar shake, medium weight	+ .65		
Cedar shingle	+ 1.10		
Concrete tile	+ 2.50		
FLOOR			
Gravel	– \$ 2.50		
EXTERIOR WALL (Per lineal foot)			
Curtain wall, screen wall, or storage room wall materials similar to house	+ \$ 83.25		

Accessory Improvements

Section 300 Instructions

Accessory Categories

Cost schedules in this section are for supplemental improvements to the principal residential building. These schedules are arranged in groups according to use. For example, under garden shed there are wood, metal, vinyl, and cedar sheds.

Cost Estimating

Cost factors represent the replacement cost for either the whole improvement or the components making up an improvement. A breakdown of accessory items allows cost estimates for the combination of components on the property being appraised. For example, the cost of a domestic water supply system would break down as follows:

Example

Well: 6-inches with casing, 100-feet deep at \$ 28.00 per foot	=	\$ 2,800
Pump: 3/4 H.P. submersible	=	1,400
Pressure tank: 80 gallon, glass lined	=	<u>310</u>
Total Replacement Cost Estimate		\$ 4,510

Garden Shed

Special Instructions

The garden shed category includes buildings made of wood, metal, vinyl, and cedar. Use the base specifications and type illustrations to determine the building type.

Type Illustrations

Wood



Metal



Vinyl



Cedar



Garden Shed

Wood

Base Specifications

This building has a wood floor (OSB), wood frame with plywood wall cover, gable or gambrel roof with composition shingle cover, entry door, primed siding and trim boards. Cost includes delivery and installation, but not concrete blocks or foundation, shelving, lofts, windows, or permits.

Cost Factors

Base factors	Ground Floor Area (Per Square Foot)					
	64	96	144	192	240	288
Gable roof	\$17.00	\$16.00	\$15.50	\$15.00	\$14.50	\$14.50
Gambrel roof	\$20.50	\$19.00	\$17.50	\$16.00	\$15.50	\$14.50

Metal

Base Specifications

This building has a wood floor (OSB), metal frame with metal wall cover, gable or gambrel metal roof, and metal entry door. Cost includes delivery and installation, but not concrete blocks or foundation, shelving, lofts, windows, or permits.

Cost Factors

Base Factors	Ground Floor Area (Per Square Foot)					
	64	96	144	192	240	288
Low-end	\$6.19	\$5.82	\$5.44	\$5.07	\$4.56	
High-end	\$9.25	\$8.67	\$7.86	\$7.05	\$6.24	

Vinyl

Base Specifications

This building has a vinyl floor, vinyl or wood frame with vinyl wall cover, gable or gambrel vinyl composition or metal roof, and vinyl entry door. Cost includes delivery and installation, but not concrete blocks or foundation, shelving, lofts, windows, or permits.

Cost Factors

Base Factors	Ground Floor Area (Per Square Foot)					
	64	96	144	192	240	288
Low-end	\$13.42	\$11.71	\$9.07	\$6.42		
High-end	\$26.55	\$24.81	\$22.38	\$19.96	\$15.12	

Cedar

Base Specifications

Low-end cedar sheds listed below have wood floors (OSB), wood frames with cedar wall cover, composition or metal roofs, and cedar entry doors. Cost includes delivery and installation, but not concrete blocks or foundation, shelving, lofts, windows, or permits.

High-end garden sheds listed below have wood floors, metal or cedar shake gambrel or gable roof, wood frames with cedar wall cover, at least three windows and high quality cedar and/or glass pane entry doors. Cost includes delivery and installation, but not concrete blocks or foundation, shelving, lofts, or permits.

Cost Factors

Base Factors	Ground Floor Area (Per Square Foot)					
	64	96	144	192	240	288
Low-end gable roof	\$20.30	\$17.60	\$14.48	\$11.36	\$8.24	
Low-end gambrel roof	\$23.42	\$20.15	\$17.25	\$14.35	\$11.44	
High-end (gable or gambrel)	\$49.22	\$44.92	\$42.71	\$40.51	\$38.30	\$36.46

Garden Greenhouse

Conventional and Prefabricated

Special Instructions

Buildings in this category are freestanding or lean-to structures designed for the hobby gardener. Plumbing, electrical, foundation, floor, humidifiers, vent fans, heaters, benches, and installation must be added to the base cost.

Type Illustrations



Garden Greenhouse

Base Specifications

This building is a free standing or lean-to structure with a kiln-dried, clear, all-heart Redwood frame, Western Red Cedar base walls with built-in vents, roof vents, 1½-inch thick Redwood door, glass or polycarbonate glazing, and 9-foot height head room.

Cost Factors

	Ground Floor Area (Per Square Foot)				
	108	144	180	320	448
Precut or prefabricated, redwood frame, 32-inch base wall, glass glazing	\$47.70	42.80	39.94	38.86	38.63
Prefabricated, Redwood frame, polycarbonate glazing, composite base, free standing	31.25		30.60		
Prefabricated, resin frame and base, polycarbonate glazing	22.32				
Prefabricated, aluminum frame and steel base, polycarbonate glazing	23.27				
Prefabricated, aluminum powder-coat, steel base, polycarbonate glazing	30.56				

Adjustment Factors

The items below do not include wiring, plumbing, or installation.

		Sq. Ft.	Lin. Ft.	Each
Humidifier	+			\$390.00
Soil heater, 48-foot	+			35.00
Exhaust fan with 12-inch shutter	+			170.00
Motorized 12-inch shutter/exhaust fan	+			300.00
Timer, seven-day digital	+			32.00
Automatic exhaust fan venting system	+			240.00
Automatic misting system, 12-feet with six nozzles	+			90.00
Heater, gas direct vent with blower, 10,000 btu	+			650.00
Cooler, 3000 cfm	+			500.00
Electrical Service	+			\$400.00

Pump House

Conventional

Special Instructions

Buildings in this category are freestanding structures designed to protect water supply equipment from the weather. Costs of the well, pump, and pressure tank are in the domestic water data of this section.

Type Illustrations



Base Specifications

Concrete slab floor; wood frame walls with insulation, interior sheathing, and painted siding; shed or gable roof with composition shingle cover, and electrical service.

Pump House Cost Factors

Building	Ground Floor Area (Per Square Foot)					
Base Factors	20	40	60	80	100	120
	\$78.40	62.00	54.35	49.20	44.70	36.45
Floor	Adjustment Factors					
Bare Earth	-	\$3.00				

Domestic Water System

Cistern: Includes excavation, concrete or masonry tank with concrete slab cover, inlet piping, overflow outlet, concrete filter box and backfill.

	Sq. Ft.	Lin. Ft.	Each
Rectangular Tank: depth 8-feet 16,000 gallon capacity	\$16.25		
Add or subtract for each foot of depth variation.	2.05		

Circular Tank: depth 6-feet

Diameter 8- feet capacity 2,250 gallons			\$2,970.00
10- feet 3,500			3,375.00
12- feet 5,000			3,885.00
14- feet 7,000			3,975.00
16- feet 9,000			4,470.00
Add or subtract for each foot of depth variation			400.00

Well: Includes cost of drilling through soil and gravel plus installation of metal casing.

Casing: diameter 6- inch	\$28.00
8- inch	38.00
10- inch	48.00

Pump: Includes electric wiring, piping, and mounts.

Submersible:

1/2 H.P.	975.00
3/4	1,400.00
1	1,675.00
1 ½	2,290.00
2	3,100.00

Jet:

1/2 H.P.	350.00
3/4	740.00
1	1,100.00

Pressure Tank Includes fittings, valves, and gauges.

Precharged: 40 gallons	445.00
80	539.00
120	720.00

Glass lined

or galvanized: 40 gallons	290.00
80	310.00
120	400.00

Sewage Disposal System

Specifications: Includes trenching, pipe, installation, and backfill for a 3-bedroom, 2.5-bath home on a 1-acre level site.

Drainfield—375 feet (125 feet ea. bedroom)

Tank (installed), steel or concrete

1,000 gallon	\$4,200.00
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1,500 gallon	4,600.00
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2,000 gallon	5,000.00
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Polyfiber tank costs approximately \$500 additional.

Sandfilter systems—\$15,000 to \$20,000.

Recreation Improvements

Swimming Pool

Basic pool Includes excavation, gunite or fiberglass construction, water supply piping, pump, filter system, skimmer, drainage, steps, tile edge, 3-foot concrete perimeter, coping, heater, one pool light, and chlorinator. Diving board, decking, and connecting walkways are not included.

Costs for custom pools are higher.

Dimensions

Width × Length	Perimeter	Surface Area S/F	Tapered Depth	Sq. Ft.	Lin. Ft.	Each
16' × 32'	96'	512	3' to 8'	\$86.00	\$458.00	
18' × 36'	108'	648	3' to 8'	72.50	435.00	
20' × 40'	120'	800	3' to 8'	62.50	416.00	

Vinyl lined pool Includes same items as basic pool, except lining is vinyl instead of gunite or fiberglass.

Width × Length	Perimeter	Surface Area S/F	Tapered Depth	Sq. Ft.	Lin. Ft.	Each
16'×32	'96	512	3' to 8'	\$58.60	\$312.50	
18' × 36'	108	648	3' to 8'	49.40	296.30	
20' × 40'	120'	800	3' to 8'	42.50	283.30	

Accessories Includes miscellaneous materials, preparation, and installation costs.

Diving board	\$1,200 to 1,500
Slides	1,500 to 2,000
Motorized pool cover	4,000 to 6,000
High end pool cover	8,500
Wave pool component	15,000
Control unit (for wave, heat, lights)	2,500
Pool lights (each)	450

Spas

Specifications: Includes fiberglass spa, water and air piping, wiring, electric heater, filter system, pump, and jets.

Add for decking or special features:

6' × 7'	\$3,000
7' × 7'	3,500
8' × 8'	4,000

Custom built-in spa: Incorporated in pool area, gunite, tile edge, six person 15,000

Sauna Room

Specifications: Includes insulation, cedar interior and mahogany plywood exterior, doors, wood benches, heater, controls, lights, and floor cover. Does not include installation.

	Sq. Ft.	Lin. Ft.	Each
4 feet × 4 feet			3,800
5 feet × 6 feet			4,500
6 feet × 8 feet			5,900
8 feet × 10 feet			8,400
Roof package for outdoor use			800

Steam Room

Specifications: Includes acrylic walls with integral seating, ceiling, glass door, steam generator, timer, and temperature control. Does not include plumbing, 240-volt electrical supply, and installation.

3' 8" × 3' 8" (100 cubic feet capacity)			\$7,870
3' 8" × 7' (200 cubic feet capacity)			10,300
7' × 9' 5" (500 cubic feet capacity)			17,700
7' × 12' (650 cubic feet capacity)			19,100

Outdoor Kitchen, Fireplace, and Barbecue

Outdoor kitchen: Does not include delivery and installation.

5-foot island, stucco exterior, granite countertop, stainless steel storage cabinet, and stainless steel 36-inch grill with rotisserie			6,400
8-foot island, stucco exterior, granite countertop, stainless steel storage cabinet, stainless steel 36-inch grill with rotisserie, stainless steel side burner, and stainless steel warming drawer			9,700
Stone exterior, 5-foot island; add			535
Stone exterior, 8-foot island; add			800
Outdoor fireplace, free standing, stone, wood burning			7,000

Courts

Complete tennis court Includes playing surface, 62 feet × 122 feet, net supports and surrounding light gauge wire fence, 10-feet high

Asphalt

Sealed surface, 2 inches over gravel base \$4.25 to 6.60 s/f

Sport court

Includes concrete or asphalt with "Plexapave" surfacing, and equipment 7.00 to 8.00 s/f
With fencing 11.00 to 14.00 s/f

Accessories

Lighting with electrical 1,000 per light
Adjustable hoop 750 to 2,000
Fixed height hoop (10 feet) 650 to 2,000
Net, including posts 500

Yard Improvements

Fencing and Gates

Basic Fence Includes preparation, footings or mounts, posts, rails, brackets, and gates. Protective finish not included. Assumes level site.

	Sq. Ft.	Lin. Ft.	Each
Wood: post frame with horizontal rails			
Cedar, solid privacy 6-feet high		\$ 21.00	
Cedar with lattice top 6 feet		25.00	
Cedar picket 4 feet		17.00	
Cedar split rail			
Two rails		12.00	
Three rails		13.00	
Metal Chain Link: posts in concrete with top rails			
Galvanized material 4-feet high		8.00	
5 feet		10.00	
6 feet		12.00	
With privacy slats 6 feet		18.00	
Black, vinyl coated 5 feet		18.00	
Vinyl: posts in concrete and caps			
Solid privacy 6-feet high		28.00	
With lattice top 6 feet		32.00	
Picket 4 feet		22.00	
Three rail		10.00	
Ornamental Metal: posts in concrete			
Aluminum, powder coated, in 8-foot panels			
4-feet high		38.00	
5-feet high		43.00	
6-feet high		47.00	
Steel, average design, custom built, powder coated			
4-feet high		55.00	
6-feet high		60.00	
Steel, high end, custom built, powder coated			
4-feet high		75.00	
6-feet high		85.00	
Ornamental Metal Driveway Gates: posts in concrete. Costs are for each item.			
Aluminum, powder coated - manual			
13-foot single gate			\$ 2,200
18-foot double gate			2,550
Steel, powder coated – manual			
12-foot single gate			3,500
Steel, powder coated – automated (includes gate operator and stand, keypad access system, three safety/reversing loops, one pair infrared photo eyes, one remote control receiver, two remote control transmitters, and one box for emergency vehicles)			
13-foot single gate			8,000
18-foot double gate			11,000
telephone system			1,000

Sprinklers

Lawn system Professionally installed system with at least 55 pounds of pressure. Includes plastic pipe, distribution lines, valves, and sprinkler heads.

	Sq. Ft.	Lin. Ft.	Each
Automatic control			
Four zones or less			\$2,500.00
Each zone (covers approximately 1,000 square feet)			
Additional zones (each zone)			500.00
Manual control			
Deduct from automatic control cost (each zone)			300.00

Paving

Surface areas Includes preparation, base material, and installation

Driveway: concrete, 4 inches over gravel base

Broom finish or smooth	\$3.25
Exposed aggregate	3.25
Stamped concrete	12.00
Asphalt, 2 inches over gravel base	3.00
Paving stone, simple design	8.00
Paving stone, complex design	10.00
Paving stone, circle design	39.00

Retaining Wall or Garden Wall

Complete Wall Includes materials and placement for footing, drainage, backfill, and installation. Engineering is required on all walls over 4 feet high. Costs are per square foot.

	Height	
	3' or less	over 3'
Concrete: 6 inches thick	\$22.00	\$25.00
Concrete block: 8 inches thick	\$17.00	\$20.00
Recycled concrete	21.00	24.00
Interlocking block	22.00	31.00

	Sq. Ft.	Lin. Ft.	Each
Veneer over concrete: Add costs to concrete wall costs.			
Stucco	\$ 6.50		
Brick	12.00		
Stone	25.00		
Simulated stone	15.00		
Caps (each)			
Brick			\$16.00
Stone			25.00
Precast			28.00
Loose-laid landscape boulders, each			
Hand-laid			\$19.00
Machine-laid			22.00

Landscaping

Each

High-end, approximately 1 acre—7,000 square feet of sod, sprinkler system, water feature, numerous shrubs and plants, bark, landscape design, and installation:

\$65,000

Costs increase as design and complexity increases.

Illustrations and Component Costs

Section 400 Instructions

Composition of Costs

“Assembled costs” is the total cost of the complete assembly for a major structural component. Assembled costs in this manual show the range between different construction qualities for an assembled component, such as cabinets and fireplaces. However, some assembled costs, such as porches and decks, are designed to estimate the cost of a completed assembly.

Assembled costs represent typical costs for major components installed as an integral part of the structure. This includes both direct and indirect costs, as discussed in the general instructions (see page 1). When comparing costs in this section with reported local building or subcontract costs, be sure that each reflects the same level of indirect cost.

Much of the cost data formerly included in this section is now found only in the cost factors for each building class. “Segregated costs” in this section are those not included in cost factors and represent individual items of a major structural component.

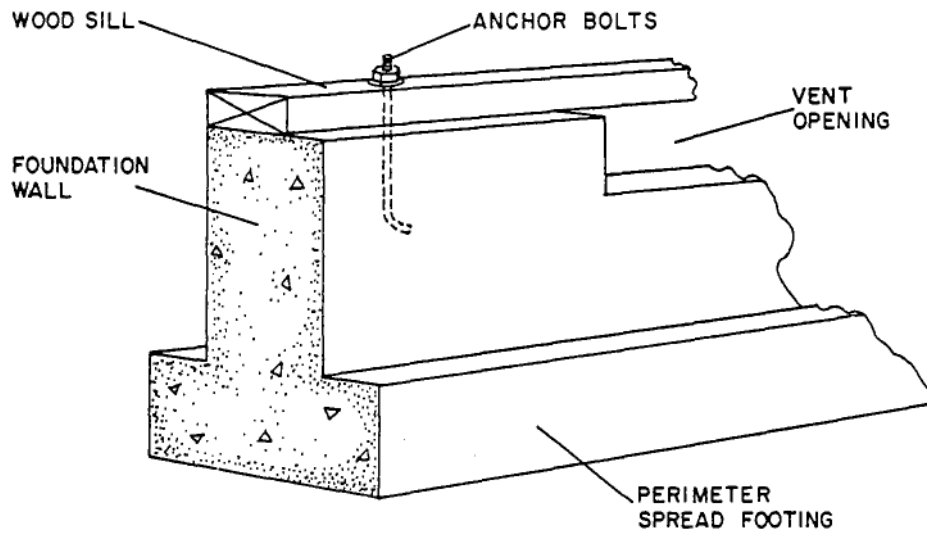
Section Layout

This section includes diagrams with general descriptions for major structural components. They are:

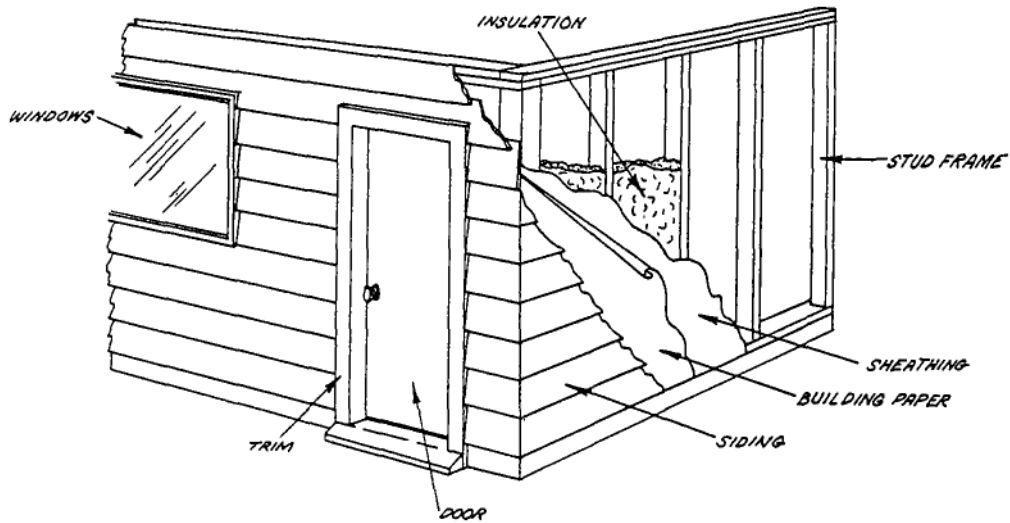
- foundation
- exterior wall
- roof
- floor
- interior components
 - cabinets
 - fireplaces
- partitions
- electrical
- plumbing
- heating and cooling

The diagrams show how components make up a completed assembly for a major structural component.

Foundation Illustration — Complete Foundation Assembly

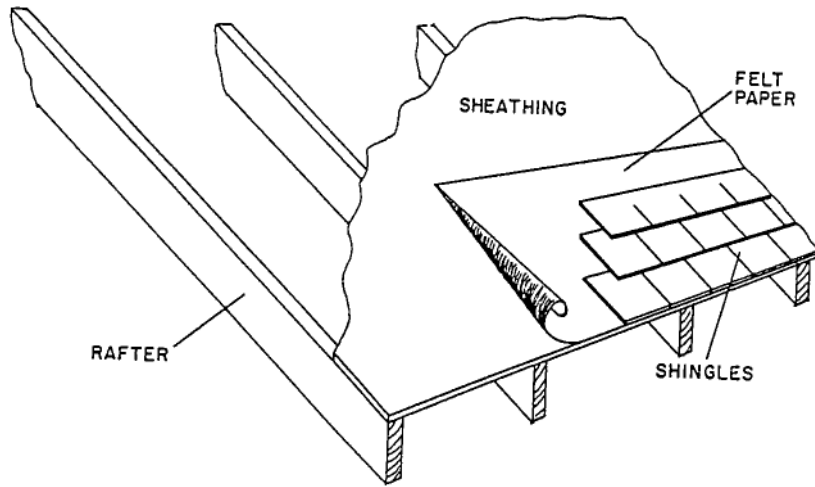


Exterior Wall Illustration — Complete Wall Assembly



Roof

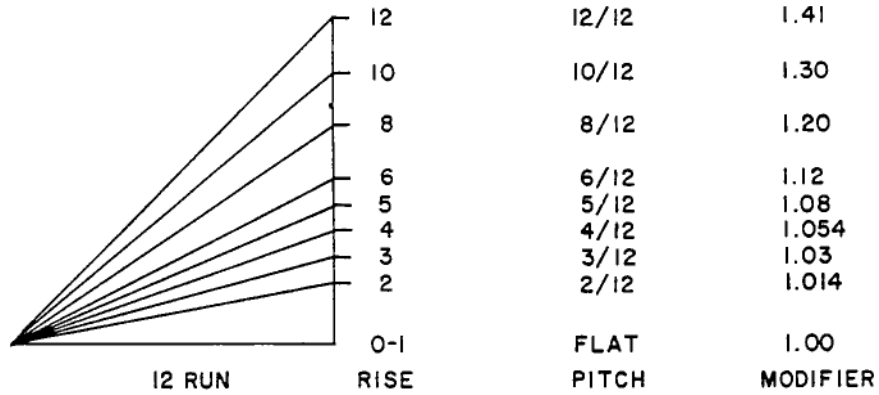
Illustration — Completed Roof Assembly



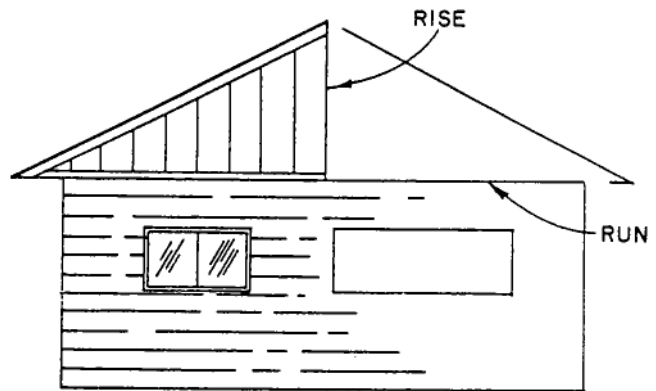
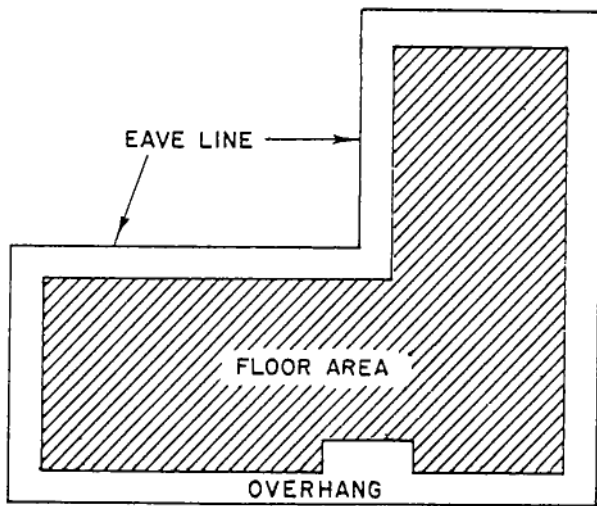
Roof

Illustration — Roof Pitch Modifier

The roof pitch modifier is used to estimate the square foot surface area of a pitched roof. Apply the applicable percentage modifier to the eave ground dimension area.



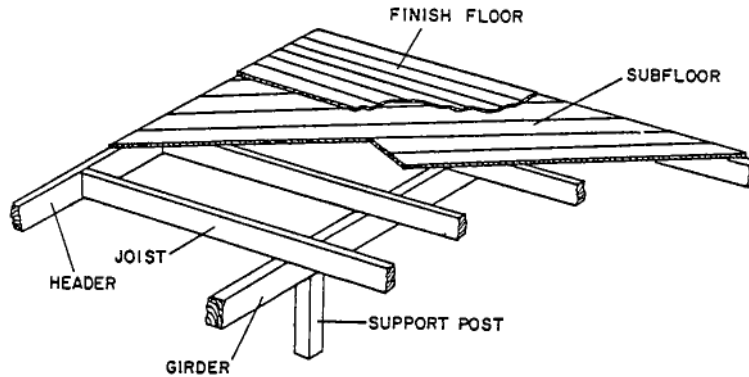
Also see Supplementary Information
Section 500, Tables, page 160.



Roof Segregated Costs

	Sq. Ft.	Lin. Ft.	Each
Roof cover			
Composition roll	\$ 1.10		
Built-up roofing			
3-ply	1.75		
Shingles			
Cedar	2.85		
Composition			
3-tab			
Light, 20-year	1.55		
Medium, 30-year	1.75		
Heavy, 50-year	2.00		
Architectural			
Light, 30-year	1.75		
Medium, 40-year	1.90		
Heavy, 50-year	2.05		
Shakes			
Cedar, medium	2.40		
Cedar, heavy	2.85		
Fiber-cement composite	3.30		
Panels			
Baked enamel, metal	3.75		
Tile			
Concrete, bar or shingle	4.25		
Clay, mission	10.00		
Copper	10.00		
Slate	14.00		

Floor
Illustration — Complete Floor Assembly

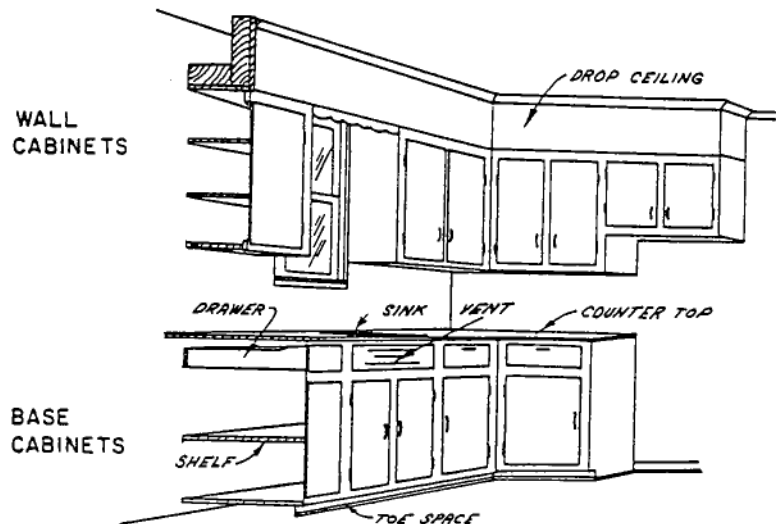


Segregated Costs

	Sq. Ft.	Lin. Ft.	Each
Concrete			
Concrete slab; 4" thick, with 4" gravel base	\$ 3.25		
Floor cover (applicable finish included)			
Ceramic tile wall mastic set	26.60		
Ceramic tile wall mud set	31.50		
Flagstone	44.80		
Sheet vinyl - print	3.25		
Inlaid	6.05		
Quarry tile	49.00		
Slate	49.00		
Vinyl tile	8.40		
Wood flooring (protective finish included)			
Hardwood; 3/4"	16.80		
plank; 3/4"	22.40		
plank, pegged; 3/4"	29.40		
parquet, blocks; 1/2"	19.90		
parquet, patterned	65.00		
laminates	21.00		
Softwood; vertical grain fir	21.00		
Carpeting (includes standard foam rubber pad, typical 100 square yard installation)			
Nylon			
approved grade	3.55		
medium grade	4.95		
Wool			
approved grade	10.10		
medium grade	13.20		
Indoor-outdoor			
low-cost, thin grade	2.15		
artificial turf	3.10		

Interior Components

Illustration — Complete Cabinet Assembly



Assembled Costs

Complete assembly includes the total installed cost of each major component typical to the quality. All costs include protective finish.

These are general costs within each level of quality of materials and workmanship to show comparison costs for each quality level presented.

Base standard: 50-mile delivery radius of Portland.

43 feet of base cabinet

29 feet of upper cabinet

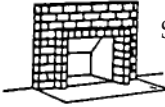


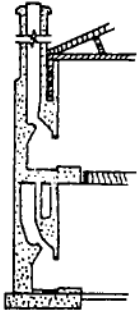
2 feet of pantry cabinet

European hidden hinges, trim, and decking material

Interior Components

	Sq. Ft.	Lin. Ft.	Each
Cabinets			
Fair quality			\$ 6,900.00
Medium quality			11,200.00
Good quality			19,000.00
Counter tops			
Average quality laminate	\$12.75		
Preformed laminate	25.00		
Average quality ceramic tile (mud set)	13.50		
Granite, slab	80.00		
12" × 12" tile	17.00		
1/2" tile, polished	31.00		
Slate, 12" × 12" tile	13.00		
Limestone and Travertine, 12" × 12" tile	17.50		
Marble, 12" × 12" tile	22.50		
Mosaic, 1/2" tile, square pattern	12.50		
Designed pattern	15.50		
Stainless steel	80.00		
Stone composite	80.00		
Custom concrete counter top	62.50		

Interior Components Segregated Costs

	Sq. Ft.	Lin. Ft.	Each
Fireplace			
Single opening; interior masonry			
ceiling high face brick			\$4,140.00
used brick			4,270.00
cultured stone			4,650.00
natural stone			5,550.00
Double opening; interior masonry on same level with a common chimney			
See-through, common firebox			
ceiling high face brick			5,600.00
used brick			5,730.00
cultured stone			6,240.00
natural stone			7,270.00
Back-to-back, separate fireboxes			
ceiling high face brick			7,280.00
used brick			7,410.00
cultured stone			8,050.00
natural stone			9,200.00
Stacked; interior masonry, two openings, one above the other on separate floors using the same chimney			
ceiling high face brick			7,900.00
used brick			8,030.00
cultured stone			8,540.00
natural stone			9,570.00
Russian stove; large masonry "furnace" with interior baffle system for heat exchange			6,430.00
Additional features; add for each opening			
ceiling high face material; face brick	\$11.00		
new / used brick	11.50		
cultured stone	15.00		
natural stone	27.00		
raised hearth			580.00
mantel; including top and sides			770.00
bricked chimney; full length to weather			
one story			840.00
two story			1,120.00
Prefabricated metal			
built-in; mantel high face brick			3,580.00
Gas fireplace (direct vent)			2,600.00

Interior components Segregated costs (cont.)

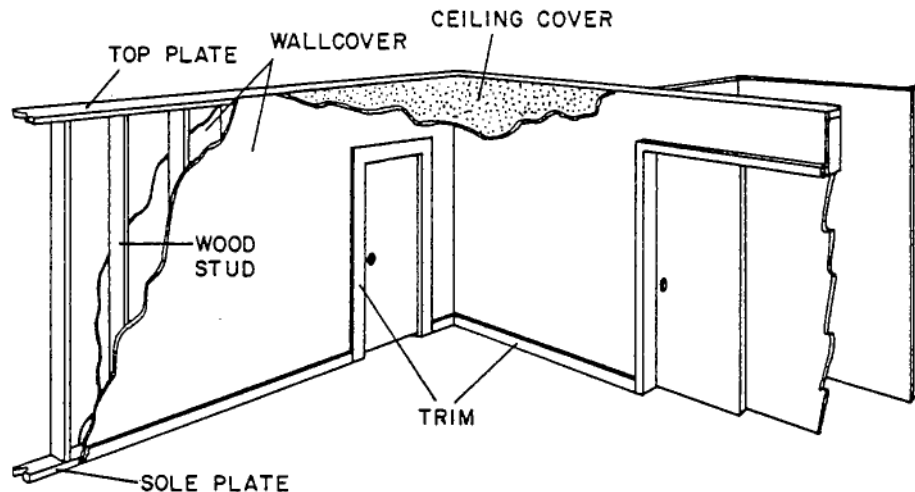
	Each
Intercom/music system (includes installation, wiring, and cabling)	
Master station with AM-FM radio, four indoor speakers, one door speaker	1,850
Master station with CD player and AM-FM radio, four indoor speakers, three door speakers, eight ceiling speakers, three outdoor speakers, and door chimes	7080
Whole house music system (includes wiring and installation)	
Four zone system with four zone distribution amplifier, four 10-key in-wall keypad controllers, multi-disc CD changer, AM/FM tuner, and four pair 8-inch in-ceiling speakers	7,000
Eight zone system with eight zone distribution amplifier, eight 10-key in-wall keypad controllers, multi-disc CD changer, AM/FM tuner, and eight pair 8-inch in-ceiling speakers	11,000
Home theater system (includes wiring and installation)	
16 × 9 projector, 110" 16 × 9 fixed screen, digital channel receiver, DVD player, speaker system with stands and subwoofer, and touch screen remote system.	13,000
16 × 9 projector using HD resolution, 110" 16 × 9 fixed screen, digital channel receiver, DVD player, system with stands and subwoofer, and touch screen remote system.	22,000
High definition 16 × 9 projector/video controller with zoom lens, 110" 16 × 9 fixed screen, multi-zone pre-amp, digital channel processor, multi-channel amplifier, DVD player with Precision Cinema Progressive output, speaker system with stands and subwoofer, and color touch screen control system.	46,000
Silicon X-tal Reflective Display projector with three panels (6,220,800 pixels of resolution), 110 inch 16 × 9 fixed screen, digital channel pre-amp and channel amplifier, DVD player, speaker system with stands and dual subwoofers, and color touch screen (video capable) control system.	90,000
Motion simulator seating (one controller will control up to 16 seats (four platforms))	
4 × 8 platform, controller, and first four seats	28,000
Additional 4 × 8 platform and four seats	15,000
Total for 16 seats	65,000
Seats —high quality, leather, reclining (caution—seats may be personal property)	
One seat	2,500
Set of two seats	3,500
Set of three seats	6,000

Interior Components

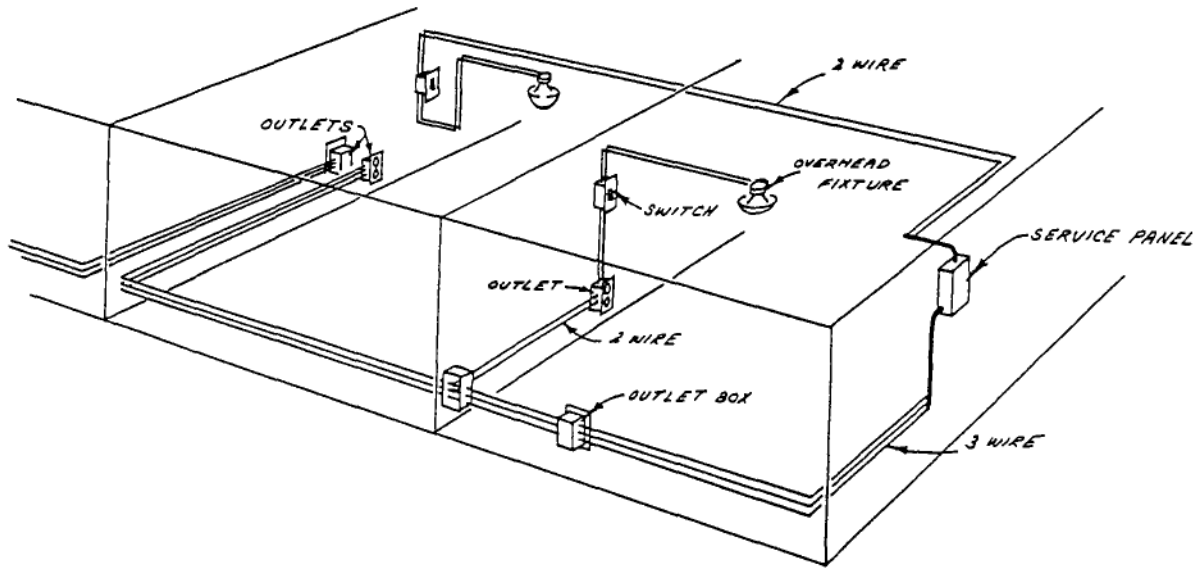
	Sq. Ft.	Lin. Ft.	Each
Residential elevators and lifts;			
Banister chair lift, straight run			\$ 3,500
Banister chair lift, curved run			14,500
Conventional 3' x 5' cab; two-stop, includes framing			26,000
Add for each extra stop or floor			2,000
High-end deluxe elevator, three-stop			46,000
Dumbwaiter		8,000 to 14,000	
Security alarm system			
8 zone hard wired system			\$ 300
16 zone			390
24 zone			900
Video door phone system (includes phone, camera, monitor, power supply); add			660
Vacuum system: Includes rough-in, power unit, and accessory package			
Up to 1,700 square feet			\$ 1,600
1,700 to 3,800 square feet			2,630
Over 3,800 square feet			4,150
Wine cellar: Includes cedar racking, cooling unit, and installation only. Does not include exterior grade door, framing, insulation and vapor barrier in walls, wall covering and paint, hard surface flooring (slate, tile, etc.), and electrical work. Experienced sub-contractors usually install these items.			
Approximately 10' x 10' room, 1,600-bottle capacity, cedar racking, cooling unit, and installation			\$ 8,500

Partitions

Illustration — Complete Partitions Assembly

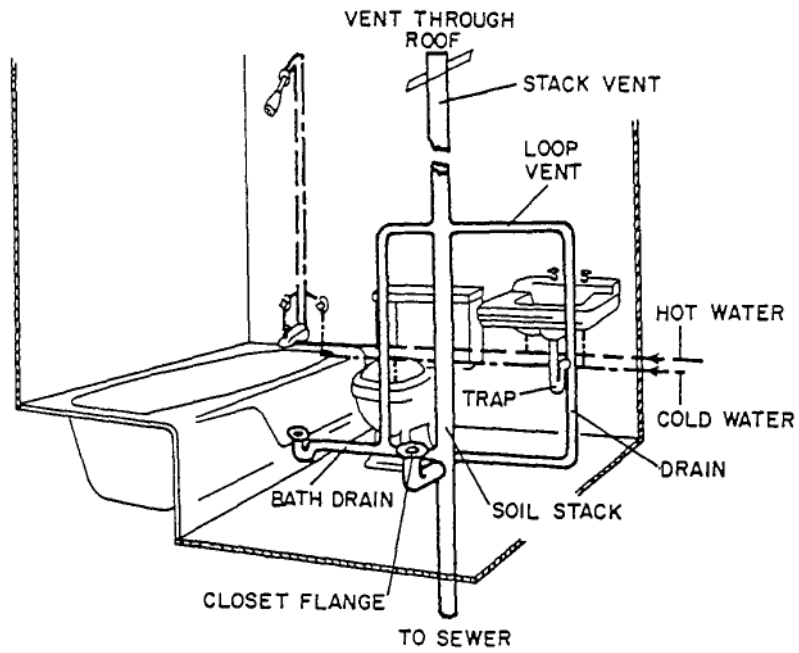


Electrical Illustration — Complete Electrical Assembly

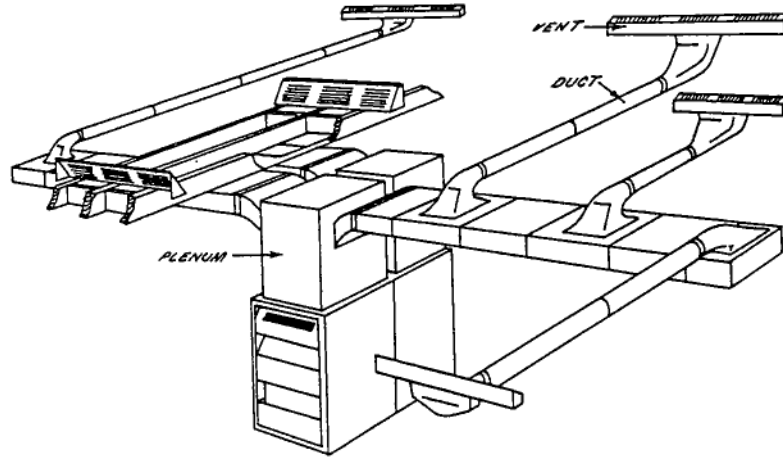


Plumbing

Illustration — Complete Plumbing Assembly



Heating and Cooling Illustration — Complete Heating Assembly



Segregated Costs

	Each
Humidifier—includes automatic controls, tubing and mounting items. Furnace mounted	\$650.00
Electronic filter—includes wiring, mounting items, etc. Furnace mounted	720.00

Exterior Components Assembled Costs

Complete Assembly Includes all items and costs necessary for complete installation

	Sq. Ft.	Lin. Ft.	Each
Porches including steps; 2' sidewalls			
Wood: joist frame and flooring			
open platform; pier and post foundation;			
no roof	\$ 11.90		
roofed, light weight architectural composition shingle cover;			
concrete foundation			
simple shed roof	45.20		
gable or hip roof and ceiling	48.50		
Concrete: footing and slab on shallow fill			
open pad; no roof overhead	3.25		
roofed; slab floor			
simple, open ceiling	36.60		
gable or hip roof and ceiling	39.90		
Railings includes fittings and brackets			
Wood—plain design		\$13.60	
ornamental; turned posts		15.60	
Metal—simple styling		40.20	
ornamental; decorative scroll		49.00	
Patio materials placed on-grade			
Concrete slab			
plain surface	3.25		
aggregate surface	3.25		
Average quality brick or flagstone			
poured concrete base	15.50		
sand bed	6.50		
Stamped concrete	12.00		
Paving stone, simple design	8.00		
Paving stone, complex design	10.00		
Paving stone, circular design	39.00		
Wood Deck includes pier and post foundation, stringers, decking, railing, and stairs			
Fir material	11.90		
Tight knot cedar	14.00		
Redwood	16.25		
Mahogany	15.70		
Composite	18.00		
Additional items			
stairs and landings	18.00		
wood railing			
plain design		13.60	
decorative		15.60	
Roof Cover woodframe; includes light support posts, beams, rafters, and cover material			
Aluminum or fiberglass	18.60		
Metal Awning: metal frame with aluminum cover			
12' length, 44" projection (width)	24.00		
Retractable, with remote control (cloth) 12' length, 14' projection			1,500

Gazebos

Precut assembled cedar panel kit, pressure treated frame, floor joists 2' on center, cedar shake roof, 2" x 6" joists, decking, handrails, and rafters, assembled with corrosion resistant screws, includes concrete blocks and complete installation.

	Each	Sq. Ft.
8' octagon or square (64 sq. ft.)	\$3,070	\$47.97/sq. ft.
10' octagon or square (100 sq. ft.)	3,570	35.70/sq. ft.
12' octagon or square (144 sq. ft.)	4,070	28.26/sq. ft.
14' octagon or square (196 sq. ft.)	4,870	24.85/sq. ft.
12' square enclosed (144 sq. ft.)	7,920	55.00/sq. ft.

(12 square feet enclosed is solid cedar on lower half of wall—upper half of wall full Plexiglas, slider or swing windows, without floor.)

Supplementary Information

Instructions

Abbreviations and symbols

A list of abbreviations and symbols is provided on page 145 to clarify their use in this manual.

Glossary

A glossary of construction terms on page 148 defines the terms used in this book.

Tables and formulas

The tables and formulas on page 157 are tools to help analyze field data and compute built-up cost estimates.

Abbreviations and Symbols

Special Instructions

The abbreviations and symbols below will provide a standard reference for residential appraisal terms.

acoustic	acou.	continued or contract	cont.
acre	ac.	control	con.
addition	add.	conventional	conv.
adjustment	adj.	corrugated	corr.
air conditioning	a/c	cover	cvr.
aluminum	alum.	cubic	cu.
apartments	apt.	daylight	d/l
appointment	appt.	depreciated replacement cost	D.R.C.
appraiser	appr.	depreciation	depr.
appreciation	apprec.	detached	det.
approximately	approx	deterioration	deter.
asbestos	asb.	diagonal	diag.
asphalt	asph.	diameter	dia.
attached	att.	dining	din.
automatic	auto.	dishwasher	d/w
average	ave.	disposal/disposer	disp.
backed	bkd.	door	dr.
barbeque	BBQ.	double	dbl.
baseboard	bsbd.	down	dn
basement	bsmt.	drive or driveway	dr.
bathroom	bath.	drywall	dwl.
bedroom	bdrm.	each	ea.
between	btwn.	effective	eff.
benchmark	b.m.	elaborate	elab.
blacktop	blktp.	electric	elec.
block	blk.	elevator	elev.
board	bd.	enameled	enam.
board and batten	b & b	estimate	est.
board feet (foot)	b.f.	excavation	exc.
breakfast	bkfst.	excellent	excel.
British Thermal Unit	BTU	exposed	exp.
builder	bldr.	exterior	ext.
building	bldg.	fair	f.
built-in	b.i.	family	fam.
cantilever	can.	feet	ft.
capacity	cap.	fiberglass	fgl.
ceiled and paper	cld. & pa.	figure	fig.
ceiling	clg. or ceil.	finish	fin.
cement	cmt.	fireplace	fp. or frpl.
center	cen.	first story	1st. sty.
ceramic	cer.	fixture	fixt.
circular	circ.	flagstone	flag.
circulator	cir.	floor	fl.
common	com.	fluorescent	fluor.
composition	compo.	foot	ft.
concrete	conc.	footing	ftg.
condition	cond.	forced air	F.A.
condominium	condo.	foundation	fndn.
construction	const.	frame	fr.

Abbreviations and Symbols (cont.)

functional	func.	Local Cost Modifier	LCM
furnished	furn.	lumber	lbr.
furred	fur'd.	luminous	lum.
gable	gab.	lump sum	l.s.
gallon	gal.	machine	mach.
galvanized	galv.	maintenance	maint.
gambrel	gamb.	market	mkt.
garage	gar.	masonry	mas.
garbage	garb.	material	mat.
glass	gl.	maximum	max.
good	gd.	medium	med.
gravel	grv.	metal	mtl.
gravity	grav.	microwave	mw
gross rent multiplier	GRM	minimum	min.
ground	grd.	miscellaneous	misc.
gypsum	GYP.	modifier	mod.
"H" beam	H bm.	month	mo.
hardboard	hbd.	mortgage	mtg.
hardware	hwr.	multiplier	mult.
hardwood	h. wd.	normal	norm.
heating	htg	number	no.
heavy	hvy.	obsolescence	obsol.
height	ht.	on center	o.c.
hood and fan	h & f	one hundred pounds	CWT
horizontal	horiz.	Oregon Revised Statutes	ORS
horsepower	hp.	On site development	OSD
house	hse.	ounce	oz.
hundred	C	overhang	oh.
"I" beam	I bm.	overhead	ohd.
improvement	imp.	paint	pt.
inch or inches	in.	pair	pr.
inclusive or included	incl.	paper	pa.
income	inc.	parquet	pqt.
information	info.	particle board	part. bd.
insulation	insl.	pavement	pvmt.
interior	int.	payment	pmt.
irrigation	irr.	physical	phys.
joint	jt.	plank	plk.
junction	junction.	plaster	pls.
kitchen	kit.	plastic	plas.
knotty pine	k.p.	plate	plt.
laminated	lam.	plumbing	plbg.
landscaping	lndscp.	plywood	ply.
landing	ldg.	poor	p.
large	lg.	porcelain	porc.
laundry	ldry.	pounds	lbs.
length	L.	prefabricated	prefab.
light	lt.	prefinished	prefin.
lineal feet (foot)	L.F. or lin. ft.	property	ppty.
linoleum	lino.	quality	qual.
living	liv.	quart	qt.

Abbreviations and Symbols (cont.)

radiator or radiant	rad.	tile	ti.
rafter	raf.	timber	tbr.
range	rng.	toilet	toi.
recapture	recap.	tongue and groove	T & G
recreation	rec.	under construction	u.c.
redwood	rdwd.	underground	undgr.
refrigerator	refrig.	underlayment	undrlmt.
reinforced	reinf.	unfinished	unfin.
remodeled	rem.	unknown	unk.
replacement	repl.	urinal	ur.
residence	res.	utility	util.
resilient	resil.		
retaining	ret.	vacuum	vac.
revised	rev.	veneer	ven.
road	rd.	ventilator	vent.
roll roofing	r. rfg.	vertical	vert.
roof	rf.	vinyl	vnl.
room	rm.	vitreous (china)	vit.
roughed in	r.i.	volt	V
round	rd.	volume	vol.
rustic	rus.		
sales price	s.p.	wainscot	wscot.
second story	2nd. sty.	wall	w.
section	sect.	wallboard	w. bd.
shake	shk.	wallpaper	w. pa.
sheathing	shtg.	warranty deed	W.D.
sheet rock	sh. rk.	weatherstrip	ws.
shingle	shgl.	weight	wt.
shower over	s.o.	width	wid.
siding	sdg.	with	w/
single	sgl.	without	w/o
specification	spec.	wood	wd
sprinkler	spklr.	wrought iron	w.i.
square	sq.	yard	yd.
square feet (foot)	sq. ft. or S.F.	and	&
square yard	sq. yd. or S.Y.	at	@
stacked	stkcd.	by; times	×
stainless steel	s.s.	degree	°
stairway	stwy.	equal	=
standard	std.	foot	'
street	st.	inch	"
subject	subj.	minus	-
telephone	tel.	number, pounds	#
temporary	temp.	per	/
terra cotta	t.c.	percent	%
terrazzo	terr.	plus	+
thermostat	therm.	plus or minus	±
thousand	M	square foot	or sq. ft.

Glossary

Special instructions

These are definitions of general construction and appraisal terms, which most are used in this manual. This list does not include all construction and appraisal terms. These definitions reflect local use in the residential building construction and appraisal industry.

Accessory building A building subordinate to, and used in conjunction with, the main building.

Acoustical ceiling A ceiling designed to lessen sound reverberation through absorption, blocking or muffling. The most common materials are acoustical tile, made of porous mineral fibers or organic fibers, such as cane or wood, and acoustical plaster.

Adjustment cost factor The dollar amount added to, or subtracted from, the base cost factor to allow for deviations from the specified base building. It represents the cost difference per unit between the specified base and the deviation, not the cost of the deviation.

A-frame A structural support framework in the shape of the letter "A" having sloping sides which act as both walls and the roof, forming a steep gable that normally extends to the ground.

Aggregate The materials used in the manufacture of concrete or plaster except water and the bonding agents. Aggregates include items such as sand, gravel, cinders, rock, etc.

Air conditioning (system) Treating air for simultaneous control of temperature, humidity, cleanliness, and distribution.

Amenities Tangible and intangible features that enhance or add to a property's desirability and perceived value.

Architecture A style of construction, such as Elizabethan architecture. Also refers to the science, art, or profession of designing and constructing buildings.

Area The extent of the surface of a structural component in one plane, measured in units such as square feet or square yards.

Ashlar stone Veneer stone such as cut limestone, attached to a concrete block or stud back-up wall using metal wall ties. The stones are irregular in shape and may be finished with a split face and backed with sawed surfaces for top and bottom bed joints.

Asphaltic concrete An asphalt binder combined with stone or other aggregate used for paving.

Assembled cost The cost factor equal to the combined cost of the segregated items which comprise a major

structural component, such as the floors, exterior walls, plumbing, etc.

Atrium An interior courtyard sometimes with a glass roof to provide a greenhouse-like effect inside.

Attic Accessible space between the top of the ceiling joists and the roof.

Average area per unit Total building floor area divided by the number of individual living units in the structure.

Awning A light framework and cover shelter extending over a doorway, window, porch, etc., which provides protection from the sun or rain.

Backfill Material used in refilling an excavation for a foundation or in-ground pipe.

Backup Material in a masonry wall which is covered by a facing of material such as face brick, stone, marble, etc.

Balcony A balustraded or railed elevated platform projecting from the wall of a building; usually cantilevered or supported by columns.

Base cost factor The unit amount expressed in terms of dollars per square foot, apartment, parking space, etc., representing the cost proportioned to each unit of a base structure described by the specifications.

Base material The construction materials or items used in making up a building component, such as the exterior wall, roof, etc.

Baseboard heating A heating system in which the heating element, usually an electric resistance or circulating hot water, is located at the base of an outside wall.

Basement A full story-high space below the normal ground floor level.

Bay window A foundation-supported window structure projecting from a wall; commonly applied to a cantilevered oriel window.

Beam A principal horizontal load carrying structural timber or steel member of a building.

Bearing wall A wall that supports the building floors, roof or any vertical load in addition to its own weight.

Glossary (cont.)

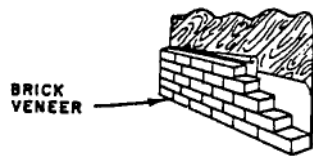
Beveled siding Wood siding that is tapered or beveled so it's thinner on the upper edge than the lower edge and lapped when applied to an exterior wall.

Black-top Asphaltic concrete, asphalt binder and stone, or other aggregate used to form a hard surface for driveways, walks, building floors, and other paved areas.

Board Lumber with a nominal thickness of one inch or less.

Board and batten Vertical wood siding with narrow wood strips (batten) used to cover joints between boards.

Brick veneer A single tier of brick laid against a wall of another material.



Building code Locally-enforced regulations controlling the design, construction, and quality of materials and use or related factors of structures within its jurisdiction.

Built-ins Cabinets of drawers and shelving attached as part of the building's interior construction.

Built-up roofing A roof covering consisting of layers of saturated asphalt-felts cemented together with hot asphalt roofing cement.

Cantilever A beam or slab supported at one end only, or which projects beyond its support.

Cape Code house An architectural style with the main cornice line at the second-story level and a gable roof with rooms in a finished attic. Dormer windows are used and there is a detailed entrance with pilasters and cornices. These houses are usually frame built with bevel or drop siding and painted white.

Carport A roofed automobile shelter that is not completely enclosed.

Casing Wide molding of various widths and thickness used to trim door and window openings.

Chimney The vertical masonry or metal structure housing the passageway or flue to carry smoke and fumes out of the structure.

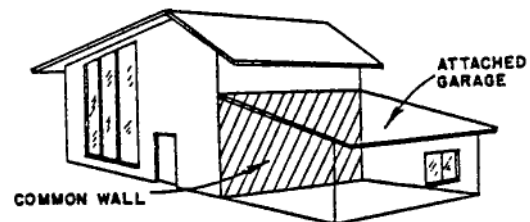
Cistern A large tank for storing domestic water supply, usually placed in the ground.

Clerestory window A lengthwise band of windows set in a vertical wall structure above the primary roof slope.

Coffering Recessed panels in a ceiling.

Colonial architecture Traditional design, most commonly following the characteristics of New England Colonial homes. These are usually two-story houses with balanced openings along the main façade with windows subdivided into small panes, shutters, and dormer windows. There is painstaking attention to detail, kept small in scale.

Common wall A single wall used jointly by two buildings. Not a partition.



Component cost The in-place cost of several items comprising a major structural feature, such as a wall, shingles, lavatory, etc.

Composition A covering material formed by impregnating heavy felt paper with hot asphalt and covering the upper surface with finely crushed slate.

Condenser An element in which high-pressure, high-temperature vapor is cooled and condensed to liquid ready to start the refrigeration cycle again. Heat absorbed in the evaporator and heat added during compression are liberated from the refrigerant to the coils in the condenser.

Contemporary architecture A type of modern architecture that takes many forms. It is designed to promote close relationship to the outdoors, utilize new construction methods and materials, and create new uses of old materials. Large windows, open planning, horizontal lines, and simple details characterize this style. It may be one or two stories or have split levels to harmonize with the site conditions. Roofs may be flat, shed, gabled, or combined styles.

Corbel A beam or bracket projecting from a wall to support some other object or an embellishment rather than a structural element of the building.

Cornice The top course or ornamental crowning member of a wall; that portion of a structure located at the top of the side walls under the eaves.

Glossary (cont.)

Cost The dollar amount required to replace or reproduce a new building or building item. The amount includes all building material, installation, profit, overhead, and any other pertinent direct or indirect expense.

Coved ceiling A ceiling which curves down at the edges where it meets the wall, creating a smooth transition from the ceiling to the wall.

Crawl space The space between the ground and the floor joists for servicing the building and ventilation.

Crown molding An ornamental ceiling boarder made of wood, plaster, polyurethane, etc.

Cupboards A cabinet with shelves for storing cups, plates, food, etc.

Cupola A small square or rectangular structure located along the roof ridge used for ventilation or ornamentation.

Curtain wall (panel wall) An exterior wall which encloses but does not support the structural frame of a building.

Deck Common reference to an open porch on the roof of a lower floor area, porch or a separate elevated floor type structure attached to an exterior wall.

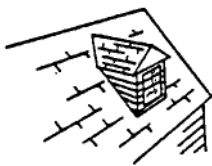
Design Refers to the structural arrangement of building components, such as walls, roof, floor, etc.

Dimension lumber Usually used to refer to planed 2" material used in framing a building.

Disposal An electric mechanical device fixed between the kitchen sink and its drain, used for chopping up food waste to be carried away into the sanitary sewer.

Distribution panel A panel board with fuses or circuit breakers which distribute incoming electricity to various circuits.

Dormer A gable or shed-like projection from the sloped surface of a roof which provides attic light, ventilation, and additional headroom. Contains one or more windows.



Double glazing A double-glass pane in a door or window, with an air space between the two panes.

Double hung window Two sashes in the same frame which provide an opening by each sash sliding vertically past the other.

Double wall An exterior frame wall with siding, sheathing, and interior lining.

Downspout A pipe for carrying rainwater from roof gutters.

Drainfield A system of trenches containing coarse, gravel and distribution tile through which septic effluent may be absorbed into the surrounding soil.

Drop siding A tongue and groove wood forming a weather tight wall used as siding.

Drywall Interior wall covered with material other than plaster, such as wall board material commonly composed of gypsum and paper, with taped seams and a coating of texture over entire surface.

Dutch Colonial architecture Style of home design featuring a gambrel roof, exterior walls of masonry or wood, with porches at the side; especially adapted to flat sites.

Dumbwaiter A small utility elevator used to transport items between floors.

Eaves The outer edge of a roof projecting beyond the wall line.

Electric wall heaters Individual electric unit in the wall capable of heating only small areas.

Elevation A flat scale drawing of the front, side, or rear of a building. The height above surface of the earth or the vertical distance from a given reference point.

English basement A basement with about one-half of its height above grade.

English half-timbered (Elizabethan) architecture Rustic, informal, picturesque English-style homes featuring interesting exterior treatment and ornamentation of half-timber effects, carved wood, stone, and brick. In the original Elizabethan type, the exposed exterior timbers were actually the structural frame of the building. Between the half-timbering there is usually plaster. Roof slopes are steep and project at the ends with barges rather than cornices.

Entry A way or passage by which to enter; a door, hall, etc. Also known as a foyer.

Evaporative cooler An electrically powered unit utilizing a water system to cool and circulate air.

Glossary (cont.)

Exposed aggregate Mineral fragments or small stones imbedded in concrete exposing the upper surface for a pleasing visual effect.

Exposed beams A main structural member not been covered by the ceiling material in open view.

Exterior plywood Plywood that has the veneer laminations bonded together with weather resistant glue.

Façade The exterior front of a building, usually given special architectural treatment, but is often applied to any important face of the building.

Face brick A clay brick made specially for exterior use, often only on the façade, selected for color, texture, and uniformity.

Fascia A horizontal board or material applied at the top of the wall, or the end of the eaves, to cover the rafter ends.

Factor A cost-estimating standard applicable to improvements (buildings and component items), listed by monetary amounts under appropriate units of measure in book section tables or schedules.

Factory built Assembled in a central plant as a commercial product, and then transferred to the building site.

Fiberboard A low-density interior wall or ceiling cover formed from wood fibers by a felting process, dried, and pressed to a specified thickness, length, and width.

Fiber cement A mixture of cement, sand, cellulose fibers, silica, and other additives that are autoclaved and molded into siding products.

Field stone Rough undressed rock native to the building site.

Fill The material, usually earth or gravel, used to raise the ground level up to a desired grade.

Finish grade Final elevation of lawns, walks, drives, etc., after backfilling is complete.

Finish hardware The exposed hardware in a structure, such as door knobs, door hinges, locks, clothes hooks, etc.

Finish plumbing The third and final step in the plumbing installation process. Includes traps, hot- and cold-water hook ups, screens, and the individual plumbing fixtures set in place.

Fire wall A brick or other incombustible wall built between buildings, or parts of a building, as a fire stop.

Fixed sash A stationary, non movable window.

Fixture Tangible property attached to the improvements, which usually cannot be removed without impairing normal utility of the property. Examples include plumbing and lighting fixtures built into the structure.

Flagstone Flat stone one to four inches thick used for rustic walks, steps, floor, etc.

Flashing Sheet metal or other impervious material used in roof and wall construction to protect a building from seeping water.

Floor area The total area of one story or building level measured on the outside of exterior walls.

Flue The space or passage in a chimney through which smoke, gas, or fumes pass.

Flue liner A smooth one-celled hollow pipe, usually clay tile or metal, which is placed in a chimney for added fire protection.

Foamed concrete Concrete in which bubbles of air are incorporated, producing a low weight concrete used in subflooring, insulation, blocks, roof tiles, and sound proofing.

Footing The wide projecting base of a foundation, pier, or column that transmits the building load to the ground.

Forced-air heating An air heating system in which circulation of air is accomplished by an electric fan. This system includes air-filtering devices and ductwork.

Formica A brand name for hard laminated plastic surfacing, used primarily on counter tops. Often used as a generic name for all hard laminated plastic surface finishes.

Foundation Base on which an improvement is built; usually supports bearing walls and partitions or superstructure frame.

Foundation wall A wall below the floor level and usually below or partly below grade, providing support for the exterior perimeter wall or other structural parts of a building.

Frame construction Commonly refers to wall, floor, and roof structures formed of wood studs, joists, and rafters nailed together in a conventional manner.

Framing The wood, steel, or concrete load-bearing skeleton of a structure.

Glossary (cont.)

French architecture Any of several styles originating in France. Most common is the small formal house, perfectly balanced, with a steep roof hipped at the ends, plastered walls on the first story, and dormer windows on the second floor. The French farmhouse style is informal and made up of stone, painted brick, or plaster. Sometimes half-timbering is used as an accent. Norman French architecture is large scale and usually distinguished by a round tower.

Furring strips Thin strips of wood or metal fastened to a masonry wall for attaching a cover material or to provide an air space.

Gable The triangular end of a building from cornice or eaves to ridge.

Georgian architecture A formal colonial style adapted from English design of the 18th century, characterized by simple lines, balanced window openings, doors and chimneys, and first-floor windows extending to the ground.

Girder The long heavy beam spanning from one foundation wall to the other. The girder may be supported at intervals by bearing posts on foundation piers.

Glulam A trade name used to describe glued laminated timber used for headers, beams, and columns, and as exposed architectural features.

Grade The vertical rise and fall of the surface of the earth. Grade is expressed as a percentage of the horizontal distance between two points.

Gravel base The rock foundation material laid and graded on the ground in preparation for a cement or asphalt cover, as in paving.

Gross floor area Total area of all stories or floor levels (measured on outside of walls) excluding specified ancillary areas such as equipment penthouses, attics, attached garages, etc.

Grout A thin concrete mixture used to fill spaces in masonry work.

Ground floor Level or story of a building predominantly at or near site grade.

Guite or shotcrete A trade name for pneumatically placed concrete. Guniting is “dry gunned” and shotcrete is “wet gunned.” Sometimes refers to pneumatically placed plaster.

Hardware The metal fittings of a building such as hinges, locks, doorknobs, latches, etc.

Hearth The floor of a fireplace often extending out into the room usually made of brick, tile, or stone.

Heat pump A refrigeration unit with reversible cycle so that it may function to cool the building or be reversed and heat the building.

Heating system The heat exchange unit plus any regulating equipment, duct work, fuel storage tanks and lines, or chimney in the building.

Hipped roof A pitched roof having sloping ends rather than gable ends.

HVAC An abbreviation for heating, ventilating, and air conditioning.

Humidifiers Electrically operated unit used to inject moisture into the air.

Insulation Any material used to resist the passage of sound, heat, vibration, or electricity from one place to another.

Integrated house wiring system A wiring system that allows control of security, phone, computer, multimedia, heating, lighting, satellite, etc., from touch pad or touchscreen remote.

Italian architecture A style which varies from a completely balanced design to an informal composition with formal treatment and openings. Typical details include high window openings that are completely framed, often with circular heads. Roofs are made of s-shaped red tile.

Job built Constructed on the building site with readily available material.

Joist One of several parallel beams comprising a floor or ceiling frame. It sometimes acts as both a ceiling joist and rafter, as in a flat roof.

Laminate flooring Usually made from high-density fiberboard and other materials, glued, and fused together into a plank.

Lath A building material of wood, metal, gypsum, or masonry material on which a plaster cover is spread.

Lean-to A smaller addition to a main building which shares a common wall and roof support.

Local cost modifier (LCM) A LCM is a market-derived modifier used to adjust cost estimation guides for local areas and appraisal dates.

Luminous ceiling A lighting system consisting of many rows of fluorescent light tubes above a suspended ceiling of translucent material, which makes the ceiling appear to be luminous.

Glossary (cont.)

Mantel A complete facing of wood, stone, marble, etc., around a fireplace, including a projecting shelf or slab above it.

Manufactured structure A factory built home designed with a frame and detachable wheel system for transportation to a permanent site.

Masonry Stone, brick, concrete, hollow-tile, concrete-block, or other similar building units bonded together with mortar to form a wall, pier, foundation, or similar mass.

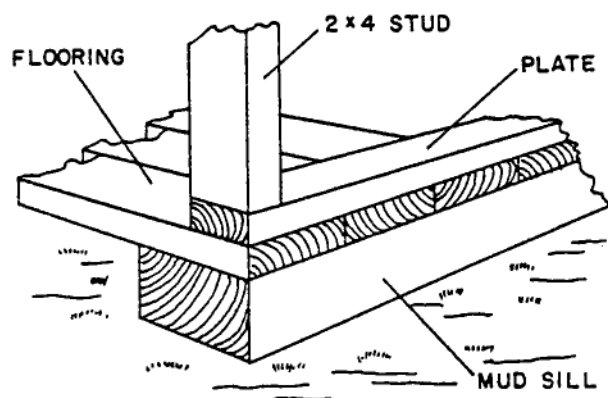
Millwork Generally includes building materials and components made of finish wood which are fabricated in woodworking plants or shops. Includes such items as sash and doors, their frames, mantels, panel work, stairways, moldings and interior trim. This does not include flooring, sealed covers, or siding.

Modifier Any multiplier used to adjust a base figure or standard upward or downward as current economic trends and influences warrant.

Modular home A construction system where pre-built sections are delivered to the building site and affixed to a permanent perimeter foundation.

Mortar A pasty mixture of cement, lime, sand, and water which gradually hardens on exposure; used as a bonding agent for brick, stone, or other masonry units.

Mud sill A foundation footing formed of heavy wood timbers laid out on the ground.



Newel The post at the bottom of a stair or the end of a flight of stairs, to which the balustrade is anchored. The center pole of a spiral staircase.

On center (O.C.) A term describing the spacing between studs, rafters, joists, nailing strips, etc. measured from the center of one member to the center of the next.

On site development These are improvements to the land such as site preparation, water supply, sewage disposal system, utility services, landscaping, permits, etc.

Openings Common term used to denote doors, windows, etc., in the exterior walls of buildings.

Oriented strand board (OSB) An engineered panel made of strands, flakes, or wafers of wood fibers combined with resin binders that is heated and pressed into panels. OSB is unique in that wood strands are oriented, not randomly placed.

Outlet A supply point on an electric circuit where electric current is tapped by the equipment using it.

Overhang A projection of an upper part (as a roof or upper story) of a building beyond the lower part.

Particle board A dense, hard, synthetic board manufactured of wood fibers and bonding resins that are pressed into specified thickness.

Parquet flooring Wood blocks or strips laid in decorative patterns.

Partition A wall that subdivides spaces within any story of a building.

Patio A ground level area, generally immediately adjacent to a building, used for outdoor living or entertaining. It's typically a concrete slab.

Perimeter The total length of the periphery of a given area; the lineal feet of exterior wall of a structure.

Picture window Usually a large fixed plane glass window located to take advantage of the outside view.

Pier A column of masonry, often rectangular in horizontal cross sections, or field stone used to support other structural members.

Plate Horizontal wood members located at the top and bottom of studs that provide bearing and anchorage for wall, floor joists, ceiling joists, and rafters.

Plumbing The system of pipes and fixtures carrying water and waste, including supply and sewerage hook-up.

Porch A floor extending beyond the exterior walls of a building. It may be covered and/or enclosed.

Port cochere A roof that extends from the entrance of a building over an adjacent driveway.

Portico A roof supported by columns; can be attached to a building or standing alone.

Glossary (cont.)

Post A vertical structural member resting on a foundation footing, etc., designed to carry compressive stresses and support beams, girders and trusses.

Post and beam plumbing The first step in the installation of plumbing. Includes all plumbing materials, braces, and brackets attached to post or beam located within the crawl space under the floor.

Prefabricated Factory-built components usually applied to a complete structure, trucked in packages to a site, and assembled on a conventional perimeter or slab foundation. Also referred to as premanufactured, prebuilt, modular, and sectionalized.

Protective finish Refers to paints, sealers, etc., applied to building materials as a preservative and protective covering.

Radiant heat A heating system in which heat is transmitted by radiation and convection from surfaces heated by hot water in pipes or electric wires embedded in the surfacing material.

Rafter One of a parallel series of structural members on a roof designed to support roof loads.

Ranch style house A one story house that is usually rambling, low to the ground, with low-pitched gable or hip roof. The room plan is open with respect to the interior layout and it may have a basement.

Refrigeration Withdrawing heat to produce and maintain the temperature of a substance or space at a lower value than the surrounding atmosphere.

Reinforcing, steel rods Steel rods imbedded in concrete slabs, footing, beams, or columns to increase strength.

Reinforcing, steel wire mesh Small diameter steel wire mesh placed in concrete paving and ground floors to increase the strength of the concrete.

Retaining wall A vertical wall, usually masonry, that restricts or confines earth or other material.

Roll roofing A lightweight fiber roofing material saturated with asphalt and applied in one layer.

Romex wiring Electrical wire in flexible nonmetallic sheathing such as plastic.

Roof covering Any type of material used on a roof for protection from the weather to make it water-tight.

Roof sheathing The covering over the roof structure used as a base for the roofing material.

Roof types

Flat: A roof with a slope just sufficient to provide drainage.

Gable: An inverted 'V' design forming a ridge at the top.

Gable-hip: A hip design with the upper part of the slope cropped to form a gable.

Gambrel: A gable with a broken slope, making two or more distinct pitches.

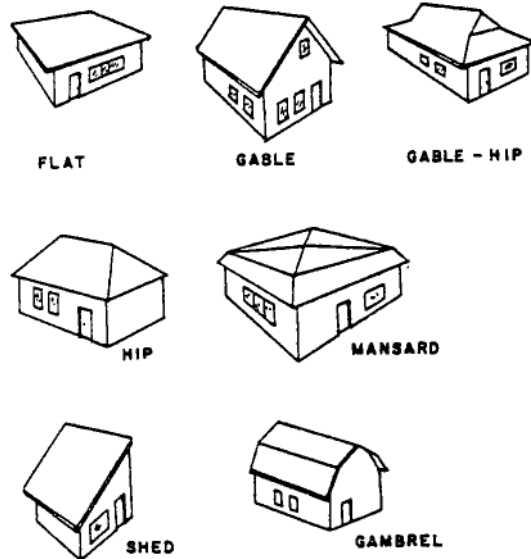
Hip: All four sides slope up toward the center of the building to form ridges and peaks.

Mansard: Two slopes on each of the four sides, the lower one is much steeper than the comparatively flat upper one.

Pyramid: A design of four triangle-shaped slopes meeting at a point.

Saw tooth: Design with cross sections resembling the teeth of a saw. The vertical side of the roof has windows for ventilation and light.

Shed: A single slope design reaching from wall to wall or eave.



Rough-in plumbing The second step in the plumbing installation process. Includes plumbing materials, braces, and brackets installed in the interior wall framing and fiberglass tub/shower installation.

Rough screened A rough surface finish on concrete floors or paving.

Rubble work Masonry work or rough undressed rock found locally.

Glossary (cont.)

R-value A system used to rate the insulating value of materials.

Sash A frame for holding panes of glass in a window or door.

Sanitary sewer An underground system of pipes or conduits used to carry waste material from the neighborhood buildings to a disposal plant.

Scuttle A framed opening in a ceiling, roof, or wall fitted with a lid or cover and used to gain access to the attic, roof, etc.

Segregated costs The apportioned cost attributed to individual items of construction, such as floor and roof coverings or plumbing fixtures.

Septic system External plumbing system to treat and dispose of waste discharge from a structure. Includes septic tank, cesspool, drain field, etc.

Service panel, electrical Electrical panel that distributes the main electrical current from the utility source.

Sewage system The network of waste disposal lines, such as drain lines from sinks, water closets, etc., that carries sewage to a point of disposal.

Sheathing The inner sub covering next to the wall studding or roof rafters of a building.

Shingles Roof covering of asphalt, asbestos, wood, or other material cut to stock lengths, widths, and thickness.

Shiplap Wood exterior sheathing, usually nominal 1-inch stock with lapped joints at the edges.

Shutters A movable screen or cover for a window, usually hinged and fitted with louvers. Today they are used mostly as a nonfunctional decorative attachment to the sides of window openings.

Siding The finish covering on the outside wall of a frame building.

Sill Wood structure on top of the foundation wall supporting the floor framing.

Single wall Exterior frame cover serving both as the sheathing and exterior wall cover.

Sleeper Timber laid on the ground to receive joists. Strips of wood imbedded in concrete to support finished floor.

Soffit The undersurface of a building member, such as an arch, cornice, overhang, or stairway.

Spanish architecture A residential architectural style characterized by a heavy tile roof and adobe or stucco walls. The style also features an enclosed patio designed for outdoor living.

Specification Description of the kind, quality, and quantity of materials and workmanship that govern the construction; a standard.

Sprinklers, lawn An underground lawn or landscape watering system of lines and distributions heads. May be operated automatically or manually.

Stairway One or more flights of stairs and landings or platforms connected to it that forms a continuous passage from one floor to another.

Standard A basis for comparison in measuring or judging capacity, quality, quantity, or value.

Storm window An extra window usually placed on the outside of an existing window as additional protection against cold weather.

Story Portion of a building between a floor and the ceiling or floor structure above.

Stucco Most commonly refers to cement plaster used to cover exterior surfaces. Stucco also includes synthetics, which are more durable in wetter climates.

Stud The parallel vertical wooden framing of walls and partitions.

Style A type of architecture based on distinctive qualities of appearance, such as Cape Cod, Colonial, Contemporary, Spanish, etc.

Subfloor Boards, planks, or sheet material laid on joist or beams over which a finished floor is to be laid. Also called floor sheathing.

Terrazzo A flooring material made of colored stone or marble embedded in concrete and polished to a high glaze.

Texture Decorative finish applied to gypsum drywall featuring a patterned rough surface.

Tile, cover Usually a thin square or rectangular piece of fired clay, stone, concrete, asphalt, plastics, vinyl, or fiberglass used for flooring, wall, ceiling, facing, and trim.

Timber Wood in forms suitable for heavy mill-type construction, specifically, sawed lumber 4 × 4 inches or more in breadth and thickness.

Tongue and groove Boards or planks with a groove on one edge and corresponding tongue on the other.

Glossary (cont.)

Trowled surface A smooth finished concrete surface.

Trussed rafter A light truss usually constructed of regular dimension material where the chord members also serve as rafters and ceiling joists, utilized in pitched roof construction.

U factor The heat transmission factor of a wall, roof, window, or floor assembly measured in B.T.U. per square foot per degree Fahrenheit.

Underpinning A building's ground floor supporting posts and beams.

Veneer An outer facing of brick, stone, or other material placed on a wall for protection or decoration and not for strength. A layer of material covering the base of another substance, such as walnut veneer on less valuable wood.

Vent A small opening serving as an outlet for air.

Wainscot The lower 3 or 4 feet of an interior wall when finished differently than the remainder of the wall.

Wall plate Plate on top or bottom of wall or partition framing. Further defined as top plate, at top, and sole plate, at bottom.

Water closet A toilet, or a room that contains a toilet.

Weatherstrip Narrow strips made of metal or other material that keep air, water, moisture, or dust from getting into the house through the door or window sash.

Wiring A structure's electrical circuitry.

Wrought iron A soft, pure form of iron easily molded into bars and worked into ornamental shapes; widely used for decorative railings, gates, panels, etc.

Yard improvements Construction items on the building site that are not part of the main structure, such as a driveway, walks, fences, retaining walls, etc.

Yard pole. A pole or timber on a building site that serves as a power distribution point from the main service panel. May also be used to mount a floodlight system.

Tables and Formulas

Special Instructions

The following tables and formulas are printed for your information.

Tables

Excavation Volume Factors

Trenching Excavation Cu. Yd. Content Per 100 Linear Ft.								Bulk Excavation	
Trench Width								Cubic Yards Per Square foot	
Trench Depth	12"	18"	24"	30"	36"	42"	48"	Depth	
6"	1.9	2.8	3.7	4.6	5.6	6.6	7.4	2"	.006
12"	3.7	5.6	7.4	9.3	11.1	13.0	14.8	4"	.012
18"	5.6	8.3	11.1	13.9	16.7	19.4	22.3	6"	.018
24"	7.4	11.1	14.8	18.5	22.2	26.0	29.6	8"	.025
30"	9.3	13.8	18.5	23.2	27.8	32.4	37.0	10"	.031
36"	11.1	16.6	22.2	27.8	33.3	38.9	44.5	1'-0"	.037
42"	13.0	19.4	25.9	32.4	38.9	45.4	52.0	1'-6"	.056
48"	14.8	22.2	29.6	37.0	44.5	52.0	59.2	2'-0"	.074
54"	16.7	25.0	33.3	41.6	50.0	58.4	66.7	2'-6"	.093
60"	18.6	27.8	37.0	46.3	55.5	64.9	74.1	3'-0"	.111
								3'-6"	.130
								4'-0"	.148
								4'-6"	.167
								5'-0"	.185
								5'-6"	.204
								6'-0"	.222
								6'-6"	.241
								7'-0"	.259
								7'-6"	.278
								8'-0"	.296
								8'-6"	.314
								9'-0"	.332
								9'-6"	.350
								10'-0"	.369

Tables and Formulas (cont.)

Masonry Content Factors

Concrete Footings

Size	Cubic Feet Per Linear Foot	Cubic Feet Per 100 Linear Feet	Cubic Yards Per 100 Linear Feet
6" × 12"	0.50	50.00	1.9
8" × 12"	0.67	66.67	2.5
× 16"	0.89	88.89	3.3
× 18"	1.00	100.00	3.7
10" × 12"	0.83	83.33	3.1
× 16"	1.11	111.11	4.1
× 18"	1.25	125.00	4.6
12" × 12"	1.00	100.00	3.7
× 16"	1.33	133.33	4.9
× 20"	1.67	166.67	6.1
× 24"	2.00	200.00	7.4

1 Barrel of cement = 4 ninety-four lb. bags of cement
 1 Bag of cement = 1 cubic foot, approximately

Concrete Walls

Wall Thickness	Per 100 Square feet of Wall	
	Cubic Feet	Cubic Yards
4"	33.3	1.24
6"	50.0	1.85
8"	66.7	2.47
10"	83.3	3.09
12"	100.0	3.70

Number of Square feet of Concrete Floor of Any Thickness from 1 Cubic Yard of Concrete

Thickness Inches	No. Sq. Ft.	Thickness Inches	No. Sq. Ft.	Thickness Inches	No. Sq. Ft.	Thickness Inches	No. Sq. Ft.
1	324	4	81	7	46	10	32
1 1/4	259	4 1/4	76	7 1/4	44	10 1/4	31
1 1/2	216	4 1/2	72	7 1/2	43	10 1/2	31
1 3/4	185	4 3/4	68	7 3/4	42	10 3/4	30
2	162	5	65	8	40	11	29 1/2
2 1/4	144	5 1/4	62	8 1/4	39	11 1/4	29
2 1/2	130	5 1/2	59	8 1/2	38	11 1/2	28
2 3/4	118	5 3/4	56	8 3/4	37	11 3/4	27 1/2
3	108	6	54	9	36	12	27
3 1/4	100	6 1/4	52	9 1/4	35	12 1/4	26 1/2
3 1/2	93	6 1/2	50	9 1/2	34	12 1/2	26
3 3/4	86	6 3/4	48	9 3/4	33	12 3/4	25 1/2

Tables and Formulas (cont.)

Weights and Measures

Units of Measure

Linear		Square	
12 inches	= 1 foot	144 square inches	= 1 square foot
36 inches	= 1 yard	1,296 square inches	= 1 square yard
3 feet	= 1 yard	9 square feet	= 1 square yard
		100 square feet	= 1 "square"
Cubic		Volume	
1,728 cubic inches	= 1 cubic foot	.8036 bushel	= 1 cubic foot
46,656 cubic inches	= 1 cubic yard	7.481 gallons	= 1 cubic foot
27 cubic feet	= 1 cubic yard	2,150.42 cubic inches	= 1 bushel
		1.2445 cubic foot	= 1 bushel
		231 cubic inches	= 1 U.S. gallon
		.1337 cubic foot	= 1 U.S. gallon
		31.5 U.S. gallons	= 1 barrel of water

Lumber Conversion Factors

Lineal Feet to Board Feet

Material Size	Board Feet Per Lineal Foot	Material Size	Board Feet Per Lineal Foot
2" × 4"	.67	6" × 6"	3.0
× 6"	1.00	× 8"	4.0
× 8"	1.33	× 10"	5.0
× 10"	1.67	× 12"	6.0
× 12"	2.00	× 14"	7.0
3" × 6"	1.5	8" × 8"	5.3
× 8"	2.0	× 10"	6.7
× 10"	2.5	× 12"	8.0
× 12"	3.0	× 14"	9.3
× 14"	3.5	× 16"	10.7
4" × 4"	1.33	10" × 10"	8.3
× 6"	2.00	× 12"	10.0
× 8"	2.67	× 14"	11.6
× 10"	3.33	× 16"	13.3
× 12"	4.00	× 18"	15.0

Board Foot (B.F.) = Length in feet x width in feet x thickness in inches

Tables and Formulas (cont.)

Roof Area Conversion Factors

Horizontal Measure to Roof Surface Area

To arrive at the square foot area in the roof, apply the modifier to the ground floor square foot area.

Rise/Ft.	Modifier	Rise/Ft.	Modifier
3"	1.031	8"	1.202
3 1/2"	1.042	8 1/2"	1.225
4"	1.054	9"	1.250
4 1/2"	1.068	9 1/2"	1.275
5"	1.083	10"	1.302
5 1/2"	1.100	10 1/2"	1.329
6"	1.118	11	1.357
6 1/2"	1.137	11 1/2"	1.385
7"	1.158	12"	1.414
7 1/2"	1.179		

Example

House 30' x 45' with 2' overhang at eaves; Roof Pitch 6" per foot

FORMULA: Pitch Modifier x Eave Line Area = Roof Surface Area

1.118 x 1666 sq. ft. (34' x 49') = 1862.58 or 1863 sq. ft.

Also see Component Cost Section 700, Roof Pitch Modifier

Tables and Formulas (cont.)**Formulas**

Areas**Squares and Rectangles**

Area equals product of length and width.

$$A = L \times W$$

Triangle

Area equals 1/2 the product of base and height.

$$\frac{A = B \times H}{2}$$

Parallelogram

Area equals the product of base and height.

$$A = B \times H$$

Trapezoid

Area equals the product of the height and 1/2 the sum of the two parallel sides.

$$\frac{A = (A + B) \times H}{2}$$

Circle

Area equals the product of the circumference and 1/4 of the diameter.

$$\begin{aligned} C &= D \times 3.1416 \text{ or } D / .3183 \\ D &= C \times .3183 \text{ or } C / 3.1416 \\ A &= C \times 1/4D \text{ or } D^2 \times .7854 \\ &C^2 \times .07958 \text{ or } R^2 \times 3.1416 \end{aligned}$$

Tables and Formulas (cont.)

Volumes

Cube or Rectangular Solid

Volume equals the product of the base area and height.

$$V = L \times W \times H \text{ or } A \times H$$

Cylinder

Volume equals the product of the base area and height.

$$V = (C / 2) \times R \times H \text{ or } D^2 \times .7854 \times H$$

Tanks and pipes, doubling the diameter increases the capacity four times, tripling the diameter increases the capacity nine times, etc.

Height or Length of a Structure

Height Use a hand-held optical instrument or estimated height with this formula:

$$\text{Formula: } H = \frac{D \times h}{d}$$

H = Estimate of height in feet

D = Measurement from eye to structure in feet

h = Measurement of structure on ruler in inches

d = Measurement from eye to ruler in inches

Example

$$D = 90'; h = 8''; d = 26''$$

$$H = 90' \times (8'' / 26'')$$

$$H = 90' \times .308 = 27.72$$

say 28 feet

Length To estimate the length of a structure, substitute a horizontal ruler measurement of the length of the structure, "l," for "h" in the above formula.

$$\text{Formula: } L = \frac{D \times l}{d}$$

Tables and Formulas (cont.)

Rules of Thumb

Cabinets

To compute the square foot area to be finished (varnishing, painting, etc.)

$$\text{Area} = 5 \times \text{Length} \times \text{Height}$$

Heating Requirements

1 1/2 Watts per cubic foot— Modern home with good insulation and minimal areas of exposed glass, or a modern home with large areas of thermal pane glass.

2 Watts per cubic foot— Older home with minimal insulation or modern home with large areas of exposed glass.

Refrigeration

1 Ton or H.P. Refrigeration = 12,000 BTUs per hour

A house of average construction requires 1.75 tons of cooling per 1,000 square feet.

Square Foot Lump Sum Tables

CLASS 1 SINGLE FAMILY

	Sq. Ft.	Lump Sum
1st Floor	26.72	10,729
2nd Floor	22.11	5,138
Basement		
Unfinished	21.31	5,634
Low Cost	N/A	N/A
Finished	34.98	6,718
Attic:		
Unfinished	8.76	3,883
Low Cost	N/A	N/A
Finished	22.41	4,425
Garage:		
Attached:		
Unfinished	N/A	N/A
Detached:		
Unfinished	N/A	N/A
Carport:		
Attached:		
Flat	N/A	N/A
Same As House	N/A	N/A
Detached:		
Flat	N/A	N/A
Same As House	N/A	N/A

CLASS 3 SINGLE FAMILY

	Sq. Ft.	Lump Sum
1st Floor	39.98	21,918
2nd Floor	34.21	8,295
Basement		
Unfinished	25.35	9,527
Low Cost	34.84	10,458
Finished	44.06	11,213
Attic:		
Unfinished	13.89	5,913
Low Cost	23.44	6,277
Finished	32.79	6,558
Garage:		
Attached:		
Unfinished	26.26	5,557
Detached:		
Unfinished	29.23	5,265
Carport:		
Attached:		
Flat	19.79	573
Same As House	22.19	496
Detached:		
Flat	19.99	574
Same As House	22.38	499

CLASS 2 SINGLE FAMILY

	Sq. Ft.	Lump Sum
1st Floor	32.89	14,026
2nd Floor	27.57	6,576
Basement		
Unfinished	22.67	6,355
Low Cost	30.85	6,982
Finished	38.52	7,526
Attic:		
Unfinished	10.65	4,887
Low Cost	18.91	5,171
Finished	26.18	5,516
Garage:		
Attached:		
Unfinished	19.96	3,770
Detached:		
Unfinished	22.13	3,669
Carport:		
Attached:		
Flat	N/A	N/A
Same As House	N/A	N/A
Detached:		
Flat	N/A	N/A
Same As House	N/A	N/A

CLASS 4 SINGLE FAMILY

	Sq. Ft.	Lump Sum
1st Floor	51.95	28,786
2nd Floor	43.56	9,832
Basement		
Unfinished	30.45	10,592
Low Cost	42.65	11,409
Finished	54.96	11,976
Attic:		
Unfinished	17.02	7,543
Low Cost	29.45	7,680
Finished	41.73	7,788
Garage:		
Attached:		
Unfinished	33.83	7,043
Detached:		
Unfinished	37.57	6,575
Carport:		
Attached:		
Flat	26.66	512
Same As House	30.00	456
Detached:		
Flat	26.87	518
Same As House	30.21	463

Square Foot Lump Sum Tables (cont.)

CLASS 5 SINGLE FAMILY

	Sq. Ft.	Lump Sum
1st Floor	60.70	53,945
2nd Floor	50.73	15,204
Basement		
Unfinished	31.63	15,503
Low Cost	45.09	16,613
Finished	60.61	17,054
Attic:		
Unfinished	19.42	10,610
Low Cost	33.07	10,880
Finished	48.06	10,824
Garage:		
Attached:		
Unfinished	39.75	11,890
Detached:		
Unfinished	46.70	11,133
Carpport:		
Attached:		
Flat	31.37	623
Same As House	35.18	565
Detached:		
Flat	31.64	614
Same As House	35.45	558

CLASS 7 SINGLE FAMILY

	Sq. Ft.	Lump Sum
1st Floor	137.94	255,596
2nd Floor	98.72	58,384
Basement		
Unfinished	41.70	49,429
Low Cost	67.23	50,720
Finished	103.83	48,823
Attic:		
Unfinished	28.84	44,994
Low Cost	54.04	45,935
Finished	87.43	44,650
Garage:		
Attached:		
Unfinished	N/A	N/A
Detached:		
Unfinished	N/A	N/A
Carpport:		
Attached:		
Flat	N/A	N/A
Same As House	N/A	N/A
Detached:		
Flat	N/A	N/A
Same As House	N/A	N/A

CLASS 6 SINGLE FAMILY

	Sq. Ft.	Lump Sum
1st Floor	87.70	127,027
2nd Floor	69.56	27,485
Basement		
Unfinished	38.55	21,334
Low Cost	55.67	22,643
Finished	78.96	22,433
Attic:		
Unfinished	24.57	21,218
Low Cost	41.45	21,993
Finished	63.34	21,404
Garage:		
Attached:		
Unfinished	53.18	16,690
Detached:		
Unfinished	62.90	15,260
Carpport:		
Attached:		
Flat	36.55	866
Same As House	44.32	756
Detached:		
Flat	36.92	787
Same As House	44.68	688

CLASS 8 SINGLE FAMILY

	Sq. Ft.	Lump Sum
1st Floor	239.67	515,133
2nd Floor	164.92	124,020
Basement		
Unfinished	48.67	95,821
Low Cost	95.59	93,725
Finished	162.43	89,560
Attic:		
Unfinished	38.95	93,236
Low Cost	84.98	93,105
Finished	144.52	91,135
Garage:		
Attached:		
Unfinished	N/A	N/A
Detached:		
Unfinished	N/A	N/A
Carpport:		
Attached:		
Flat	N/A	N/A
Same As House	N/A	N/A
Detached:		
Flat	N/A	N/A
Same As House	N/A	N/A

Square Foot Lump Sum Tables (cont.)

CLASS 3 MULTIFAMILY—DUPLEX

	Sq. Ft.	Lump Sum
1st Floor	40.14	32,943
2nd Floor	33.96	13,809
Basement		
Unfinished	26.41	14,085
Low Cost	35.77	15,418
Finished	44.81	16,499
Attic:		
Unfinished	13.59	10,295
Low Cost	23.01	10,794
Finished	32.19	11,198

CLASS 3 MULTIFAMILY—TRIPLEX

	Sq. Ft.	Lump Sum
1st Floor	39.24	48,311
2nd Floor	32.96	20,066
Basement		
Unfinished	25.91	20,728
Low Cost	34.98	22,623
Finished	43.74	24,159
Attic:		
Unfinished	12.99	15,142
Low Cost	22.12	15,828
Finished	31.01	16,390

CLASS 3 MULTIFAMILY—FOURPLEX

	Sq. Ft.	Lump Sum
1st Floor	38.35	62,942
2nd Floor	31.96	25,914
Basement		
Unfinished	25.41	27,105
Low Cost	34.20	29,491
Finished	42.67	31,425
Attic:		
Unfinished	12.49	19,682
Low Cost	21.34	20,532
Finished	29.93	21,231

CLASS 3 MULTIFAMILY GARAGE & CARPORT

	Sq. Ft.	Lump Sum
Garage:		
Attached:		
Unfinished	26.26	5,557
Detached:		
Unfinished	29.23	5,265
Carport:		
Attached:		
Flat	19.79	573
Same As House	22.19	496
Detached:		
Flat	19.99	574
Same As House	22.38	499

Square Foot Lump Sum Tables (cont.)

CLASS 4 MULTIFAMILY—DUPLEX

	Sq. Ft.	Lump Sum
1st Floor	51.72	42,178
2nd Floor	43.26	15,898
Basement		
Unfinished	30.20	15,445
Low Cost	42.16	16,582
Finished	54.20	17,364
Attic:		
Unfinished	16.63	12,756
Low Cost	28.88	12,776
Finished	40.89	12,847

CLASS 4 MULTIFAMILY—TRIPLEX

	Sq. Ft.	Lump Sum
1st Floor	50.71	61,905
2nd Floor	42.11	23,165
Basement		
Unfinished	29.64	22,615
Low Cost	41.29	24,222
Finished	53.00	25,327
Attic:		
Unfinished	15.99	18,727
Low Cost	27.89	18,721
Finished	39.57	18,806

CLASS 4 MULTIFAMILY—FOURPLEX

	Sq. Ft.	Lump Sum
1st Floor	49.69	80,913
2nd Floor	40.95	30,006
Basement		
Unfinished	29.07	29,613
Low Cost	40.39	31,640
Finished	51.77	33,034
Attic:		
Unfinished	15.43	24,323
Low Cost	26.99	24,293
Finished	38.32	24,390

CLASS 4 MULTIFAMILY GARAGE & CARPORT

	Sq. Ft.	Lump Sum
Garage:		
Attached:		
Unfinished	33.83	7,043
Detached:		
Unfinished	37.57	6,575
Carport:		
Attached:		
Flat	26.66	512
Same As House	30.01	456
Detached:		
Flat	26.87	518
Same As House	30.21	463

Square Foot Lump Sum Tables (cont.)

CLASS 5 MULTIFAMILY—DUPLEX

	Sq. Ft.	Lump Sum
1st Floor	62.37	73,884
2nd Floor	50.04	24,488
Basement		
Unfinished	32.66	19,522
Low Cost	45.93	20,861
Finished	61.14	21,380
Attic:		
Unfinished	18.88	17,817
Low Cost	32.34	17,976
Finished	47.04	17,708

CLASS 5 MULTIFAMILY—TRIPLEX

	Sq. Ft.	Lump Sum
1st Floor	61.35	108,905
2nd Floor	48.83	35,720
Basement		
Unfinished	32.05	28,670
Low Cost	44.98	30,568
Finished	59.83	31,303
Attic:		
Unfinished	18.20	26,123
Low Cost	31.31	26,311
Finished	45.64	25,907

CLASS 5 MULTIFAMILY—FOURPLEX

	Sq. Ft.	Lump Sum
1st Floor	60.31	142,885
2nd Floor	47.60	46,465
Basement		
Unfinished	31.44	37,585
Low Cost	44.01	39,981
Finished	58.50	40,911
Attic:		
Unfinished	17.62	33,936
Low Cost	30.36	34,149
Finished	44.31	33,625

CLASS 5 MULTIFAMILY GARAGE & CARPORT

	Sq. Ft.	Lump Sum
Garage:		
Attached:		
Unfinished	39.75	11,890
Detached:		
Unfinished	46.70	11,133
Carport:		
Attached:		
Flat	31.37	623
Same As House	35.18	565
Detached:		
Flat	31.64	614
Same As House	35.45	558

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