



# 2015 NATIONAL BUILDING COST MANUAL

39th Edition

Edited by  
**Ben Moselle**



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## Explanation of the Cost Tables

This manual shows construction or replacement costs for a wide variety of residential, commercial, industrial, public, agricultural and military buildings. For your convenience and to minimize the chance of an error, all the cost and reference information you need for each building type is brought together on two or three pages. After reading pages 4 to 6, you should be able to turn directly to any building type and create an error-free estimate or appraisal of the construction or replacement cost.

The costs are per square foot of floor area for the basic building and additional costs for optional or extra components that differ from building to building. Building shape, floor area, design elements, materials used, and overall quality influence the basic structure cost. These and other cost variables are isolated for the building types. Components included in the basic square foot cost are listed with each building type. Instructions for using the basic building costs are included above the cost tables. These instructions include a list of components that may have to be added to the basic cost to find the total cost for your structure.

The figures in this manual are intended to reflect the amount that would be paid by the first user of a building completed in mid 2015.

Costs in the tables include all construction costs: labor, material, equipment, plans, building permit, supervision, overhead and profit. Cost tables do not include land value, site development costs, government mandated fees (other than the building permit) or the cost of modifying unusual soil conditions or grades. Construction expense may represent as much as 60% or as little as 40% of the cost to the first building owner. Site preparation, utility lines, government fees and mandates, finance cost and marketing are not part of the construction cost and may be as much as 20% of the cost to the first building owner.

### Building Quality

---

Structures vary widely in quality and the quality of construction is the most significant variable in the finished cost. For estimating purposes the structure should be placed in one or more quality classes. These classes are numbered from 1 which is the highest quality generally encountered. Each section of this manual has a page describing typical specifications which define the quality class.

Each number class has been assigned a word description (such as best, good, average or low) for convenience and to help avoid possible errors.

The quality specifications do not reflect some design features and construction details that can make a building both more desirable and more costly. When substantially more than basic design elements are present, and when these elements add significantly to the cost, it is appropriate to classify the quality of the building as higher than would be warranted by the materials used in construction.

Many structures do not fall into a single class and have features of two quality classes. The tables have "half classes" which apply to structures which have some features of one class and some features of a higher or lower class. Classify a building into a "half class" when the quality elements are fairly evenly divided between two classes. Generally, quality elements do not vary widely in a single building. For example, it would be unusual to find a top quality single family residence with minimum quality roof cover. The most weight should be given to quality elements that have the greatest cost. For example, the type of wall and roof framing or the quality of interior finish are more significant than the roof cover or bathroom wall finish. Careful evaluation may determine that certain structures fall into two distinct classes. In this case, the cost of each part of the building should be evaluated separately.

### Building Shapes

---

Shape classification considers any cost differences that arise from variations in building outline. Shape classification considerations vary somewhat with different building types. Where the building shape often varies widely between buildings and shape has a significant effect on the building cost, basic building costs are given for several shapes. Use the table that most closely matches the shape of the building you are evaluating. If the shape falls near the division between two basic building cost tables, it is appropriate to average the square foot cost from those two tables.

## Explanation of the Cost Tables

### Area of Buildings

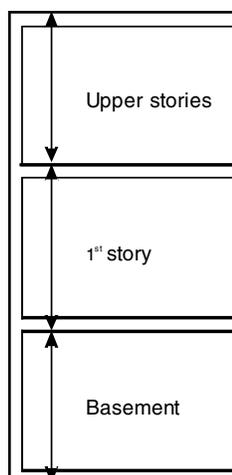
The basic building cost tables reflect the fact that larger buildings generally cost less per square foot than smaller buildings. The cost tables are based on square foot areas which include the following:

1. All floor area within and including the exterior walls of the main building.
2. Inset areas such as vestibules, entrances or porches outside of the exterior wall but under the main roof.
3. Any enclosed additions, annexes or lean-tos with a square foot cost greater than three-fourths of the square foot cost of the main building.

Select the basic building cost listed below the area which falls closest to the actual area of your building. If the area of your building falls nearly midway between two listed building areas, it is appropriate to average the square foot costs for the listed areas.

### Wall Heights

Building costs are based on the wall heights given in the instructions for each building cost table. Wall height for the various floors of a building are computed as follows: The basement is measured from the bottom of floor slab to the bottom of the first floor slab or joist. The main or first floor extends from the bottom of the first floor slab or joist to the top of the roof slab or ceiling joist. Upper floors are measured from the top of the floor slab or floor joist to the top of the roof slab or ceiling joist. These measurements may be illustrated as follows:



Square foot costs of most building design types must be adjusted if the actual wall height differs from the listed wall height. Wall height adjustment tables are included for buildings requiring this adjustment. Wall height adjustment tables list square foot costs for a foot of difference in perimeter wall height of buildings of various areas. The amount applicable to the actual building area is added or deducted for each foot of difference from the basic wall height.

Buildings such as residences, medical-dental buildings, funeral homes and convalescent hospitals usually have a standard 8-foot ceiling height except in chapels or day room areas. If a significant cost difference exists due to a wall height variation, this factor should be considered in establishing the quality class.

### Other Adjustments

A common wall exists when two buildings share one wall. Common wall adjustments are made by deducting the in-place cost of the exterior wall finish plus one-half of the in-place cost of the structural portion of the common wall area.

If an owner has no ownership in a wall, the in-place cost of the exterior wall finish plus the in-place cost of the structural portion of the wall should be deducted from the total building costs. Suggested common wall and no wall ownership costs are included for many of the building types.

Some square foot costs include the cost of expensive veneer finishes on the entire perimeter wall. When these buildings butt against other buildings, adjustments should be made for the lack of this finish. Where applicable, linear foot cost deductions are provided.

The square foot costs in this manual are based on composite costs of total buildings including usual work room or storage areas. They are intended to be applied on a 100% basis to the total building area even though certain areas may or may not have interior finish. Only in rare instances will it be necessary to modify the square foot cost of a portion of a building.

Multiple story buildings usually share a common roof structure and cover, a common foundation and common floor or ceiling structures. The costs of these components are included in the various floor levels as follows:

## Explanation of the Cost Tables

The first or main floor includes the cost of a floor structure built at ground level, foundation costs for a one-story building, a complete ceiling and roof structure, and a roof cover. The basement includes the basement floor structure and the difference between the cost of the first floor structure built at ground level and its cost built over a basement. The second floor includes the difference between the cost of a foundation for a one-story building and the cost of a foundation for a two-story building and the cost of the second story floor structure.

### Location Adjustments

The figures in this manual are intended as national averages for metropolitan areas of the United States. Use the information on page 7 to adapt the basic building costs to any area listed. Frequently building costs outside metropolitan areas are 2% to 6% lower if skilled, productive, lower cost labor is available in the area. The factors on page 7 can be applied to nearly all the square foot costs and some of the "additional" costs in this book.

Temporary working conditions in any community can affect construction and replacement costs. Construction which must be done under deadline pressure or in adverse weather conditions or after a major fire, flood, or hurricane or in a thin labor market can temporarily inflate costs 25% to 50%. Conditions such as these are usually temporary and affect only a limited area. But the higher costs are real and must be considered, no matter how limited the area and how transient the condition.

### Depreciation

Depreciation is the loss in value of a structure from all causes and is caused primarily by three forms of obsolescence: (1) physical (2) functional, and (3) economic.

Physical obsolescence is the deterioration of building components such as paint, carpets or roofing. Much of this deterioration is totally curable. The physical life tables on pages 43, 235 and 269 assume normal physical obsolescence. Good judgment is required to evaluate how deferred maintenance or rehabilitation will reduce or extend the anticipated physical life of a building.

Functional obsolescence is due to some deficiency or flaw in the building. For example, too few bathrooms for the number of bedrooms or an

exceptionally high ceiling can reduce the life expectancy of a residence. Some functional obsolescence can be cured. The physical life tables do not consider functional obsolescence.

Economic obsolescence is caused by conditions that occur off site and are beyond control of the owner. Examples of economic obsolescence include a store in an area of declining economic activity or obsolescence caused by governmental regulation (such as a change in zoning). Because this kind of obsolescence is particularly difficult to measure, it is not considered in the physical life tables.

"Effective age" considers all forms of depreciation. It may be less than chronological age, if recently remodeled or improved, or more than the actual age, if deterioration is particularly bad. Though effective age is not considered in the physical life tables, it may yield a better picture of a structure's life than the actual physical age. Once the effective age is determined, considering physical, functional and economic deterioration, use the percent good tables on pages 43, 235 or 269 to determine the present value of a depreciated building. Present value is the result of multiplying the replacement cost (found by using the cost tables) by the appropriate percent good.

### Limitations

This manual will be a useful reference for anyone who has to develop budget estimates or replacement costs for buildings. Anyone familiar with construction estimating understands that even very competent estimators with complete working drawings, full specifications and precise labor and material costs can disagree on the cost of a building. Frequently exhaustive estimates for even relatively simple structures can vary 10% or more. The range of competitive bids on some building projects is as much as 20%. Estimating costs is not an exact science and there's room for legitimate disagreement on what the "right" cost is. This manual can not help you do in a few minutes what skilled estimators may not be able to do in many hours. This manual will help you determine a reasonable replacement or construction cost for most buildings. It is not intended as a substitute for judgment or as a replacement for sound professional practice, but should prove a valuable aid to developing an informed opinion of value.

# Area Modification Factors

Construction costs are higher in some cities than in other cities. Add or deduct the percentage shown on this page or page 8 to adapt the costs in this book to your job site. Adjust your estimated total project cost by the percentage shown for the appropriate city in this table to find your total estimated cost. Where 0% is shown it means no modification is required. Factors for Canada adjust to Canadian dollars.

These percentages were compiled by comparing the construction cost of buildings in nearly 600 communities throughout North America. Because these percentages are based on completed projects, they consider all con-

struction cost variables, including labor, equipment and material cost, labor productivity, climate, job conditions and markup.

Modification factors are listed alphabetically by state and city, followed by the first three digits of the postal zip code.

These percentages are composites of many costs and will not necessarily be accurate when estimating the cost of any particular part of a building. But when used to modify costs for an entire structure, they should improve the accuracy of your estimates.

<b>Alabama Average</b> -6%	Salinas 939 3%	Atlanta 303 13%	Muncie 473 -9%	Camden 047 -11%
Anniston 362 -9%	San Bernardino 923-924 4%	Augusta 308-309 -4%	South Bend 466 -3%	Cutler 048 -10%
Auburn 368 -6%	San Diego 919-921 7%	Buford 305 -4%	Terre Haute 478 -3%	Dexter 049 -8%
Bellamy 369 -3%	San Francisco 941 28%	Calhoun 307 -11%		Northern Area 050 -10%
Birmingham 350-352 3%	San Jose 950-951 18%	Columbus 318-319 -6%	<b>Iowa Average</b> -4%	Portland 051 0%
Dothan 363 -6%	San Mateo 943-944 20%	Dublin/Fort Valley 310 -9%	Burlington 526 -3%	
Evergreen 364 -12%	Santa Barbara 931 6%	Hinesville 313 -6%	Carroll 514 -11%	<b>Maryland Average</b> 2%
Gadsden 359 -13%	Santa Rosa 954 6%	Kings Bay 315 -4%	Cedar Falls 506 -4%	Annapolis 214 8%
Huntsville 358 -3%	Stockton 952 1%	Macon 312 -3%	Cedar Rapids 522-524 3%	Baltimore 210-212 8%
Jasper 355 -11%	Sunnyvale 940 20%	Marietta 300-302 4%	Cherokee 510 -1%	Bethesda 208-209 13%
Mobile 365-366 -3%	Van Nuys 913-916 8%	Savannah 314 -5%	Council Bluffs 515 -1%	Church Hill 216 -4%
Montgomery 360-361 -2%	Whittier 906 8%	Statesboro 304 -11%	Creston 508 -8%	Cumberland 215 -10%
Scottsboro 357 -6%		Valdosta 316 -3%	Davenport 527-528 3%	Elkton 219 -2%
Selma 367 -6%	<b>Colorado Average</b> 1%		Decorah 521 -7%	Frederick 217 5%
Sheffield 356 -1%	Aurora 800-801 6%	<b>Hawaii Average</b> 24%	Des Moines 500-503 4%	Laurel 206-207 9%
Tuscaloosa 354 -5%	Boulder 803-804 3%	Aliamanu 968 25%	Dubuque 520 -3%	Salisbury 218 6%
	Colorado Springs 808-809 -1%	Ewa 967 23%	Fort Dodge 505 -3%	
<b>Alaska Average</b> 21%	Denver 802 6%	Halawa Heights 967 23%	Mason City 504 -3%	<b>Massachusetts Average</b> 13%
Anchorage 995 27%	Durango 813 0%	Hilo 967 23%	Ottumwa 525 -6%	Ayer 015-016 8%
Fairbanks 997 24%	Fort Morgan 807 -3%	Honolulu 968 25%	Sheldon 512 -8%	Bedford 017 18%
Jenau 998 22%	Glenwood Springs 816 4%	Kailua 968 25%	Shenandoah 516 -13%	Boston 021-022 34%
Ketchikan 999 11%	Grand Junction 814-815 -1%	Lualualei 967 23%	Sioux City 511 3%	Brockton 023-024 21%
King Salmon 996 24%	Greeley 806 4%	Mililani Town 967 23%	Spencer 513 -8%	Cape Cod 026 4%
	Longmont 805 2%	Pearl City 967 23%	Waterloo 507 -5%	Chicopee 010 8%
<b>Arizona Average</b> -4%	Pagosa Springs 811 -6%	Waianae 967 23%		Dedham 019 17%
Chambers 865 -4%	Pueblo 810 2%	Wailuku (Maui) 967 23%	<b>Kansas Average</b> -7%	Fitchburg 014 13%
Douglas 855 -3%	Salida 812 -5%		Colby 677 -7%	Hingham 020 20%
Flagstaff 860 -9%		<b>Idaho Average</b> -9%	Concordia 669 -13%	Lawrence 018 16%
Kingman 864 -5%	<b>Connecticut Average</b> 12%	Boise 837 -2%	Dodge City 678 -6%	Nantucket 025 11%
Mesa 852 1%	Bridgeport 066 12%	Coeur d'Alene 838 -11%	Emporia 668 -5%	New Bedford 027 10%
Phoenix 850 1%	Bristol 060 12%	Idaho Falls 834 -8%	Fort Scott 667 -8%	Northfield 013 1%
Prescott 863 -7%	Fairfield 064 14%	Lewiston 835 -12%	Hays 676 -13%	Pittsfield 012 1%
Show Low 859 -9%	Hartford 061 14%	Meridian 836 -9%	Hutchinson 675 -7%	Springfield 011 9%
Tucson 856-857 -6%	New Haven 065 12%	Pocatello 832 -10%	Independence 673 0%	
Yuma 853 0%	Norwich 063 8%	Sun Valley 833 -10%	Liberal 679 -7%	
	Stamford 068-069 16%		Salina 674 -8%	<b>Michigan Average</b> 1%
	Waterbury 067 12%	<b>Illinois Average</b> 5%	Wichita 670 -5%	Battle Creek 490-491 -1%
	West Hartford 062 9%	Arlington Heights 600 16%		Detroit 481-482 8%
<b>Arkansas Average</b> -7%		Aurora 605 15%	<b>Kentucky Average</b> -4%	Flint 484-485 -5%
Batesville 725 -10%	<b>Delaware Average</b> 2%	Belleville 622 0%	Ashland 411-412 -6%	Grand Rapids 493-495 1%
Camden 717 -5%	Dover 199 -5%	Bloomington 617 1%	Bowling Green 421 -5%	Grayling 497 -8%
Fayetteville 727 -5%	Newark 197 7%	Carbondale 629 -5%	Campton 413-414 -10%	Jackson 492 -2%
Fort Smith 729 -7%	Wilmington 198 5%	Carol Stream 601 15%	Covington 410 1%	Lansing 488-489 2%
Harrison 726 -14%		Centralia 628 -3%	Elizabethtown 427 -9%	Marquette 498-499 1%
Hope 718 -1%	<b>District of Columbia Average</b> 12%	Champaign 618 0%	Frankfort 406 -1%	Pontiac 483 10%
Hot Springs 719 -13%	Washington 200-205 12%	Chicago 606-608 17%	Hazard 417-418 -6%	Royal Oak 480 8%
Jonesboro 724 -8%		Decatur 623 -8%	Hopkinsville 422 -7%	Saginaw 486-487 -6%
Little Rock 720-722 -3%	<b>Florida Average</b> -7%	Galesburg 614 -6%	Lexington 403-405 2%	Traverse City 496 -1%
Pine Bluff 716 -2%	Altamonte Springs 327 -6%	Granite City 620 3%	London 407-409 -7%	
Russellville 728 -6%	Bradenton 342 -8%	Green River 612 4%	Louisville 400-402 1%	<b>Minnesota Average</b> 0%
West Memphis 723 -6%	Brooksville 346 -9%	Joliet 604 16%	Owensboro 423 -3%	Bemidji 566 -5%
	Daytona Beach 321 -12%	Kankakee 609 1%	Paducah 420 -2%	Brainerd 564 -1%
<b>California Average</b> 8%	Fort Lauderdale 333 -1%	Lawrenceville 624 -6%	Pikeville 415-416 -4%	Duluth 556-558 1%
Alhambra 917-918 9%	Fort Myers 339 -9%	Oak Park 603 19%	Somerset 425-426 -10%	Fergus Falls 565 -8%
Bakersfield 932-933 3%	Fort Pierce 349 -13%	Peoria 615-606 7%	White Plains 424 -5%	Magnolia 561 -9%
El Centro 922 -1%	Gainesville 326 -9%	Peru 613 3%		Mankato 560 -3%
Eureka 955 -4%	Jacksonville 322 -4%	Quincy 602 17%	<b>Louisiana Average</b> 0%	Minneapolis 553-555 12%
Fresno 936-938 -1%	Lakeland 338 -8%	Rockford 610-611 4%	Alexandria 713-714 -4%	Rochester 559 -2%
Herlong 961 -1%	Melbourne 329 -10%	Springfield 625-527 0%	Baton Rouge 707-708 10%	St Cloud 563 5%
Inglewood 902-905 9%	Miami 330-332 -2%	Urbana 619 -3%	Houma 703 6%	St Paul 550-551 11%
Irvine 926-927 13%	Naples 341 -5%		Lafayette 705 2%	Thief River Falls 567 -1%
Lompoc 934 6%	Ocala 344 -13%	<b>Indiana Average</b> -2%	Lake Charles 706 0%	Willmar 562 -3%
Long Beach 907-908 10%	Orlando 328 -2%	Aurora 470 -4%	Mandeville 704 -1%	
Los Angeles 900-901 8%	Panama City 324 -12%	Bloomington 474 -1%	Minden 710 -6%	<b>Mississippi Average</b> -8%
Marysville 959 -1%	Pensacola 325 -9%	Columbus 472 -4%	Monroe 712 -9%	Clarksdale 386 -9%
Modesto 953 -1%	Saint Augustine 320 -7%	Elkhart 465 -4%	New Orleans 700-701 2%	Columbus 397 -1%
Mojave 935 6%	Saint Cloud 347 -5%	Evansville 476-477 4%	Shreveport 711 -4%	Columbus 387 -15%
Novato 949 13%	St Petersburg 337 -7%	Fort Wayne 467-468 -3%		Greenwood 389 -11%
Oakland 945-947 19%	Tallahassee 323 -9%	Gary 463-464 20%	<b>Maine Average</b> -7%	Gulfport 395 -2%
Orange 928 12%	Tampa 335-336 -3%	Indianapolis 460-462 7%	Auburn 042 -5%	Jackson 390-392 -5%
Oxnard 930 4%	West Palm Beach 334 -3%	Jasper 475 -8%	Augusta 043 -8%	Laurel 394 -8%
Pasadena 910-912 9%		Jeffersonville 471 -4%	Bangor 044 -8%	McComb 396 -11%
Rancho Cordova 956-957 6%	<b>Georgia Average</b> -4%	Kokomo 469 -8%	Bath 045 -7%	Meridian 393 -4%
Redding 960 -3%	Albany 317 -9%	Lafayette 479 -6%	Brunswick 046 -2%	Tupelo 388 -9%
Richmond 948 19%	Athens 306 -6%			
Riverside 925 3%				
Sacramento 958 6%				

# Area Modification Factors

<b>Missouri Average</b>	<b>-4%</b>	Binghamton	137	0%	<b>Oregon Average</b>	<b>-5%</b>	Corpus Christi	783-784	5%	Lewisburg	249	-15%					
Cape Girardeau	637	-4%	Bronx	104	16%	Adrian	977	-14%	Dallas	751-753	5%	Martinsburg	254	-6%			
Caruthersville	638	-9%	Brooklyn	112	14%	Bend	979	-8%	Del Rio	788	-8%	Morgantown	265	-5%			
Chillicothe	646	-8%	Buffalo	142	2%	Eugene	974	-3%	El Paso	798-799	-12%	New Martinsville	262	-10%			
Columbia	652	-5%	Elmira	149	-1%	Grants Pass	975	-6%	Fort Worth	761-762	1%	Parkersburg	261	2%			
East Lynne	647	-6%	Flushing	113	23%	Klamath Falls	976	-10%	Galveston	775	10%	Romney	267	-8%			
Farmington	636	-9%	Garden City	115	21%	Pendleton	978	-4%	Giddings	789	-1%	Sugar Grove	268	-8%			
Hannibal	634	-2%	Hicksville	118	20%	Portland	970-972	10%	Greenville	754	4%	Wheeling	260	-1%			
Independence	640	5%	Ithaca	148	-3%	Salem	973	-3%	Houston	770-772	12%						
Jefferson City	650-651	-5%	Jamaica	114	22%				Huntsville	773	11%						
Joplin	648	-8%	Jamestown	147	-5%	<b>Pennsylvania Average</b>	<b>-1%</b>	Longview	756	-1%	<b>Wyoming Average</b>	<b>-2%</b>					
Kansas City	641	7%	Kingston	124	-3%	Allentown	181	4%	Lubbock	793-794	-7%	Casper	826	2%			
Kirksville	635	-13%	Long Island	111	36%	Altoona	166	-8%	Lufkin	759	-6%	Cheyenne/Laramie	820	-3%			
Knob Noster	653	-7%	Montauk	119	13%	Beaver Springs	178	-5%	McAllen	785	-13%	Gillette	827	2%			
Lebanon	654-655	-13%	New York (Manhattan)	100	37%	Bethlehem	180	6%	Midland	797	9%	Powell	824	-8%			
Poplar Bluff	639	-7%	New York City	100-102	37%	Bradford	167	-8%	Palestine	758	-6%	Rawlins	823	2%			
Saint Charles	633	2%	Newcomb	128	1%	Butler	160	-2%	Plano	750	6%	Riverton	825	-7%			
Saint Joseph	644-645	2%	Niagara Falls	143	-6%	Chambersburg	172	-8%	San Angelo	769	-8%	Rock Springs	829-831	2%			
Springfield	656-658	-9%	Plattsburgh	129	-1%	Clearfield	168	-2%	San Antonio	780-782	-1%	Sheridan	828	-5%			
St Louis	630-631	7%	Poughkeepsie	125-126	2%	East Stroudsburg	158	-10%	Texasarkana	755	-9%	Wheatland	822	-7%			
			Queens	110	25%	Erie	164-165	-7%	Tyler	757	-7%						
<b>Montana Average</b>	<b>-4%</b>	Rochester	144-146	2%	Genesee	169	-7%	Victoria	779	0%							
Billings	590-591	0%	Rockaway	116	18%	Greensburg	156	-2%	Waco	765-767	-6%						
Butte	597	-5%	Rome	133-134	-4%	Harrisburg	170-171	3%	Wichita Falls	763	-10%						
Fairview	592	3%	Staten Island	103	15%	Hazleton	182	-5%	Woodson	764	-6%						
Great Falls	594	-4%	Stewart	127	-3%	Johnstown	159	-9%									
Havre	595	-10%	Syracuse	130-132	2%	Kittanning	162	-6%	<b>Utah Average</b>	<b>-4%</b>							
Helena	596	-3%	Tonawanda	141	-1%	Lancaster	175	1%	Clearfield	840	-1%	<b>UNITED STATES TERRITORIES</b>					
Kalispell	599	-7%	Utica	135	-6%	Meadville	163	-11%	Green River	845	-2%	Guam		18%			
Miles City	593	-7%	Watertown	136	2%	Montrose	188	2%	Ogden	843-844	-10%	Puerto Rico		-21%			
Missoula	598	-7%	West Point	109	9%	New Castle	161	-3%	Provo	846-847	-9%						
			White Plains	105-108	19%	Philadelphia	190-191	13%	Salt Lake City	841	1%	<b>VIRGIN ISLANDS (U.S.)</b>					
<b>Nebraska Average</b>	<b>-9%</b>	<b>North Carolina Average</b>	<b>-5%</b>	Asheville	287	-8%	Pittsburgh	152	5%	<b>Vermont Average</b>	<b>-5%</b>	St. Croix		2%			
Alliance	693	-10%	Charlotte	280-282	6%	Pottsville	179	-8%	Albany	058	-7%	St. John		20%			
Columbus	686	-6%	Durham	277	1%	Punxsutawney	157	-2%	Battleboro	053	-4%	St. Thomas		5%			
Grand Island	688	-7%	Elizabeth City	279	-8%	Reading	195-196	2%	Beecher Falls	059	-8%						
Hastings	689	-9%	Fayetteville	283	-7%	Scranton	184-185	-1%	Bennington	052	-8%						
Lincoln	683-685	-5%	Goldsboro	275	-1%	Somerset	155	-9%	Burlington	054	3%						
McCook	690	-11%	Greensboro	274	-4%	Southeastern	193	10%	Montpelier	056	-4%	<b>CANADIAN AREA MODIFIERS</b>					
Norfolk	687	-9%	Hickory	286	-10%	Uniontown	154	-5%	Rutland	057	-8%	These figures assume an					
North Platte	691	-10%	Kinston	285	-10%	Valley Forge	194	13%	Springfield	051	-7%	exchange rate of \$1.00					
Omaha	680-681	-1%	Raleigh	276	2%	Warminster	189	11%	White River			Canadian to \$0.93 U.S.					
Valentine	692	-15%	Rocky Mount	278	-7%	Warrendale	150-151	6%	Junction	050	-6%						
			Wilmington	284	-8%	Washington	153	8%				<b>Alberta Average</b>	<b>13%</b>				
<b>Nebraska Average</b>	<b>4%</b>	<b>North Dakota Average</b>	<b>5%</b>	Winston-Salem	270-273	-6%	Wilkes Barre	186-187	-3%	Abingdon	242	-9%	Calgary		14%		
Carson City	897	-6%	Bismarck	585	4%	<b>Rhode Island Average</b>	<b>6%</b>	Williamsport	177	-2%	Alexandria	220-223	11%	Edmonton		14%	
Elko	898	21%	Dickinson	586	10%	Bristol	028	7%	York	173-174	2%	Charlottesville	229	-6%	Fort McMurray		11%
Ely	893	1%	Fargo	580-581	3%	Coventry	028	7%	Chesapeake	233	-3%	Chesapeake	233	-3%			
Fallon	894	2%	Grand Forks	582	1%	Cranston	029	6%	Culpeper	227	-5%	Fredericksburg	239	-13%	<b>British Columbia Average</b>	<b>7%</b>	
Las Vegas	889-891	3%	Jamestown	584	-3%	Davisville	028	7%	Farmville	239	-13%	Fraser Valley		6%			
Reno	895	1%	Minot	587	11%	Narragansett	028	7%	Fredericksburg	224-225	-5%	Okanagan		6%			
			Nekoma	583	-8%	Newport	028	7%	Galax	243	-12%	Vancouver		9%			
<b>New Hampshire Average</b>	<b>0%</b>	<b>Ohio Average</b>	<b>0%</b>	Williston	588	21%	Providence	029	6%	Harrisonburg	228	-8%					
Charlestown	036	-4%	Akron	442-443	1%	Warwick	028	7%	Lynchburg	245	-9%	<b>Manitoba Average</b>	<b>0%</b>				
Concord	034	-1%	Canton	446-447	-1%	<b>South Carolina Average</b>	<b>-4%</b>	Reston	201	8%	North Manitoba		0%				
Dover	038	3%	Chillicothe	456	-4%	Aiken	298	2%	Richmond	232	2%	South Manitoba		0%			
Lebanon	037	-2%	Cincinnati	450-452	4%	Beaufort	299	-6%	Roanoke	240	-10%	Selkirk		0%			
Littleton	035	-3%	Cleveland	440-441	3%	Charleston	294	-1%	Staunton	244	-9%	Winnipeg		0%			
Manchester	032-033	3%	Columbus	432	6%	Columbia	290-292	-5%	Tazewell	246	-6%						
New Boston	030-031	5%	Dayton	453-455	-1%	Greenville	296	-4%	Virginia Beach	234	-5%	<b>Manitoba Average</b>	<b>0%</b>				
			Jamestown	584	-3%	Myrtle Beach	295	-9%	Williamsburg	230-231	-4%	North Manitoba		0%			
			Minot	587	11%	Rock Hill	297	-8%	Winchester	226	-5%	South Manitoba		0%			
			Nekoma	583	-8%	Spartanburg	293	-4%				Selkirk		0%			
			Williston	588	21%	<b>South Dakota Average</b>	<b>-8%</b>				Williamsburg	230-231	-4%				
						Aberdeen	574	-7%	<b>Washington Average</b>	<b>0%</b>	Winchester	226	-5%				
						Mitchell	573	-8%	Clarkston	994	-6%						
						Mobridge	576	-11%	Clarkston	994	-6%	<b>New Brunswick Average</b>	<b>-13%</b>				
						Pierre	575	-13%	Everett	982	3%	Average		-13%			
						Rapid City	577	-8%	Olympia	985	-1%	Moncton		-13%			
						Sioux Falls	570-571	-2%	Pasco	993	2%						
						Watertown	572	-8%	Seattle	980-981	12%	<b>Nova Scotia Average</b>	<b>-8%</b>				
						<b>Tennessee Average</b>	<b>-3%</b>	Spokane	990-992	-3%	Amherst		-8%				
						Chattanooga	374	0%	Tacoma	983-984	3%	Nova Scotia		-7%			
						Clarksville	370	1%	Vancouver	986	2%	Sydney		-8%			
						Cleveland	373	-2%	Wenatchee	988	-5%						
						Columbia	384	-7%	Yakima	989	-4%	<b>Newfoundland/Labrador Average</b>	<b>-3%</b>				
						Cookeville	385	-10%				Average		-3%			
						Jackson	383	-4%	<b>West Virginia Average</b>	<b>-5%</b>							
						Kingsport	376	-5%	Beckley	258-259	-6%	<b>Ontario Average</b>	<b>7%</b>				
						Knoxville	377-379	-1%	Bluefield	247-248	0%	London		7%			
						McKenzie	382	-8%	Charleston	250-253	6%	Thunder Bay		6%			
						Memphis	380-381	2%	Clarksburg	263-264	-4%	Toronto		7%			
						Nashville	371-372	5%	Fairmont	266	-11%						
						<b>Texas Average</b>	<b>-1%</b>	Huntington	255-257	-1%	<b>Quebec Average</b>	<b>-1%</b>					
						Abilene	795-796	-3%				Montreal		-1%			
						Amarillo	790-791	-2%	<b>Wisconsin Average</b>	<b>1%</b>	Quebec City		-1%				
						Arlington	760	1%	Amery	540	0%						
						Austin	786-787	4%	Beloit	535	6%	<b>Saskatchewan Average</b>	<b>3%</b>				
						Bay City	774	23%	Clam Lake	545	-6%	Average		3%			
						Beaumont	776-777	8%	Eau Claire	547	-3%	La Ronge		2%			
						Brownwood	768	-9%	Green Bay	541-543	2%	Prince Albert		3%			
						Bryan	778	-5%	La Crosse	546	-1%	Saskatoon		5%			
						Childress	792	-14%	Ladysmith	548	1%						
									Madison	537	8%						
									Milwaukee	530-534	7%						
									Oshkosh	549	3%						
									Portage	539	4%						
									Prairie du Chien	538	-6%						
									Wausau	544	-2%						

## Building Cost Historical Index

Use this table to find the approximate current dollar building cost when the actual cost is known for any year since 1948. Multiply the figure listed below for the building type and year of construction by the known cost. The result is the estimated 2015 construction cost.

Year	Masonry Buildings	Concrete Buildings	Steel Buildings	Wood-Frame Buildings	Agricultural Buildings	Year of Construction
1948	14.58	15.62	18.33	13.60	12.22	1948
1949	14.66	15.44	18.25	13.77	12.60	1949
1950	13.95	14.74	17.90	13.16	11.71	1950
1951	13.05	13.92	16.25	12.31	10.87	1951
1952	12.58	13.58	15.90	12.10	10.77	1952
1953	12.41	13.13	15.18	11.80	10.54	1953
1954	12.18	12.66	15.18	11.80	10.54	1954
1955	11.68	12.08	14.38	11.17	10.08	1955
1956	11.08	11.55	13.24	10.70	9.66	1956
1957	10.76	11.11	12.71	10.63	9.43	1957
1958	10.46	10.69	12.10	10.60	11.24	1958
1959	10.13	10.35	11.81	10.15	9.01	1959
1960	9.89	10.16	11.62	10.00	8.83	1960
1961	9.69	10.12	11.43	9.81	8.80	1961
1962	9.48	9.82	11.15	9.70	8.67	1962
1963	9.33	9.57	11.02	9.51	7.86	1963
1964	9.06	9.46	10.86	9.19	8.26	1964
1965	8.77	9.21	10.49	8.99	8.04	1965
1966	8.38	8.95	10.09	8.60	7.81	1966
1967	8.18	8.52	9.44	8.18	7.50	1967
1968	7.84	8.05	9.01	7.73	7.17	1968
1969	7.41	7.69	8.70	7.45	6.76	1969
1970	7.11	7.35	8.26	7.08	6.43	1970
1971	6.67	6.73	7.67	6.09	5.99	1971
1972	6.20	6.23	7.17	6.11	5.57	1972
1973	5.66	5.91	6.37	5.64	5.23	1973
1974	5.04	5.42	5.98	5.27	4.86	1974
1975	4.58	4.78	5.38	4.96	4.33	1975
1976	4.29	4.56	5.10	4.77	4.10	1976
1977	4.00	4.27	4.85	4.43	3.86	1977
1978	3.72	4.00	4.46	4.08	3.49	1978
1979	3.42	3.56	4.00	3.74	3.31	1979
1980	3.10	3.23	3.56	3.35	2.99	1980
1981	2.92	3.05	3.26	3.20	2.80	1981
1982	2.83	2.92	3.16	3.09	2.69	1982
1983	2.69	2.83	3.10	2.95	2.54	1983
1984	2.52	2.65	2.96	2.72	2.47	1984
1985	2.45	2.52	2.88	2.64	2.43	1985
1986	2.39	2.50	2.83	2.60	2.38	1986
1987	2.38	2.45	2.80	2.55	2.36	1987
1988	2.33	2.36	2.74	2.53	2.32	1988
1989	2.27	2.32	2.61	2.48	2.24	1989
1990	2.14	2.22	2.48	2.30	2.14	1990
1991	2.32	2.19	2.36	2.18	2.03	1991
1992	2.07	2.16	2.33	2.17	2.01	1992
1993	2.02	2.14	2.24	2.14	1.98	1993
1994	1.97	2.00	2.16	2.06	1.84	1994
1995	1.87	1.83	2.00	1.94	1.73	1995
1996	1.81	1.80	1.95	1.89	1.70	1996
1997	1.74	1.74	1.87	1.85	1.66	1997
1998	1.66	1.66	1.80	1.77	1.64	1998
1999	1.60	1.60	1.75	1.75	1.61	1999
2000	1.56	1.56	1.68	1.69	1.56	2000
2001	1.51	1.51	1.65	1.63	1.52	2001
2002	1.47	1.47	1.61	1.61	1.49	2002
2003	1.45	1.45	1.57	1.60	1.46	2003
2004	1.39	1.39	1.53	1.56	1.42	2004
2005	1.29	1.29	1.37	1.39	1.39	2005
2006	1.21	1.21	1.26	1.25	1.24	2006
2007	1.17	1.17	1.20	1.16	1.15	2007
2008	1.10	1.10	1.14	1.11	1.09	2008
2009	1.09	1.09	1.10	1.11	1.09	2009
2010	1.07	1.07	1.04	1.10	1.08	2010
2011	1.08	1.08	1.07	1.12	1.11	2011
2012	1.07	1.07	0.96	1.08	1.09	2012
2013	1.02	1.02	1.02	1.02	1.02	2013
2014	1.01	1.01	1.01	1.01	1.01	2014
2015	1.00	1.00	1.00	1.00	1.00	2015

## Residential Structures Section

The figures in this section include all costs associated with normal construction:

Foundations as required for normal soil conditions. Excavation for foundations, piers, and other foundation components given a fairly level construction site. Floor, wall, and roof structures. Interior floor, wall, and ceiling finishes. Exterior wall finish and roof cover. Interior partitions as described in the quality class. Finish carpentry, doors, windows, trim, etc. Electric wiring and fixtures. Rough and finish plumbing as described in applicable building specifications. Built-in appliances as described in applicable building specifications. All labor

and materials including supervision. All design and engineering fees, if necessary. Permits and fees. Utility hook-ups. Contractors' contingency, overhead and profit.

The square foot costs do not include heating and cooling equipment or the items listed in the section "Additional Costs for Residential Structures" which appear on pages 27 to 31. The costs of the following should be figured separately and added to the basic structure cost: porches, basements, balconies, exterior stairways, built-in equipment beyond that listed in the quality classifications, garages and carports.

### Single Family Residences

Single family residences vary widely in quality and the quality of construction is the most significant factor influencing cost. Residences are listed in six quality classes. Class 1 is the most expensive commonly encountered and Class 6 is the minimum required under most building codes. Nearly all homes built from stock plans or offered to the public by residential tract developers will fall into Class 3, 4, 5, or 6. For convenience, these classes are labeled *Best Standard*, *Good Standard*, *Average Standard* or *Minimum Standard*. Class 1 residences are labeled *Luxury*. Class 2 residences are labeled *Semi-Luxury*. Class 1 and 2 residences are designed by professional architects, usually to meet preferences of the first owner.

The shape of the outside perimeter also has a significant influence on cost. The more complex the shape, the more expensive the structure per square foot of floor. The shape classification of multiple story or split-level homes should be based on the outline formed by the outer-most exterior walls, including the garage area, regardless of the story level. Most residences that fall into Classes 3, 4, 5 or 6 have 4, 6, 8 or 10 corners, as illustrated below. Small insets that do not require a change in the roof line can be ignored when evaluating the outside perimeter.

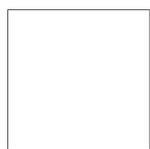
Class 1 and 2 (*Luxury* and *Semi-Luxury*) residences have more than ten corners and are best evaluated by counting the "building masses." A building mass is a group of contiguous rooms on one or more levels with access at varying angles from a common point or

hallway. The illustration at the right below represents a residence with two building masses. Most Class 1 and Class 2 residences have from one to four building masses, ignoring any attached garage. For convenience, cost tables for Class 1 and 2 single family residences with one, two, three or four building masses have been appended to cost tables for Class 3, 4, 5 and 6 residences with 4, 6, 8 and 10 building corners.

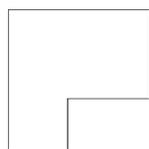
Residences on larger lots often include a separate housekeeping unit, either remote from the main structure (as illustrated below at the right) or joined to the main structure by a hallway (no common wall). Evaluate any separate housekeeping unit as a separate residence. The quality class of separate housekeeping units will usually be the same as the main residence if designed and built at the same time as the main residence.

Residences which have features of two or more quality classes can be placed between two of the six labeled classes. The tables have five half-classes (1 & 2, 2 & 3, etc.) which can be applied to residences with some characteristics of two or more quality classes. If a portion of a residence differs significantly in quality from other portions, evaluate the square footage of each portion separately.

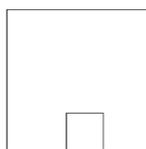
These figures can be applied to nearly all single-family residences built using conventional methods and readily available materials, including the relatively small number of highly decorative, starkly original or exceptionally well-appointed residences.



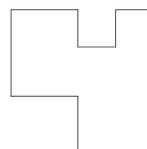
4 corners



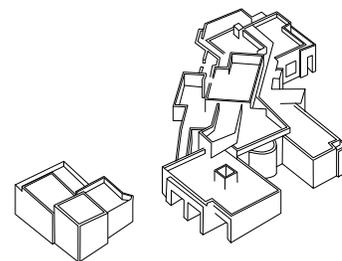
6 corners



8 corners



10 corners



2 building masses and one separate unit

## Single Family Residences

### Quality Classification

	Class 1 Luxury	Class 2 Semi-Luxury	Class 3 Best Std.	Class 4 Good Std.	Class 5 Average Std.	Class 6 Minimum Std.
<b>Foundation</b> (9% of total cost)	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete or concrete block.	Reinforced concrete or concrete block.	Reinforced concrete.
<b>Floor Structure</b> (12% of total cost)	Engineered wood or steel exceeding code minimums.	Engineered wood or steel or reinforced concrete slab.	Engineered wood or steel or reinforced concrete slab.	Wood frame or slab on grade, changes in shape and elevation.	Standard wood frame or slab on grade with elevation changes.	Slab on grade. No changes in elevation.
<b>Wall Framing and Exterior Finish</b> (14% of total cost)	Wood or steel, very irregular walls, stone veneer, many architectural doors and windows.	Wood or steel, irregular shape, masonry veneer, better grade doors and windows.	Wood or steel, several wall offsets, wood or masonry accents, good grade doors and windows.	Wood or steel, stucco or wood siding, some trim or veneer, average doors and windows.	Wood or steel, stucco or wood siding, few offsets, commodity grade doors and windows.	Wood or steel, stucco or hardboard siding, minimum grade doors and windows.
<b>Roof</b> (10% of total cost)	Complex plan, tile, slate or metal, highly detailed.	Multi-level, slate, tile or flat surface, decorative details.	Multi-pitch, shake, tile or flat surface, large closed soffit.	Wood trusses, tile or good shingles, closed soffit.	Wood frame, shingle or built-up cover, open 24" soffit.	Wood frame, composition shingle cover, open soffit.
<b>Floor Finish</b> (5% of total cost)	Terrazzo, marble, granite, or inlaid hardwood or best carpet throughout.	Marble or granite entry, hardwood, good carpet or sheet vinyl elsewhere.	Simulated marble tile entry, good carpet, hardwood or vinyl elsewhere.	Better sheet vinyl and average carpet, some areas with masonry or tile.	Good sheet vinyl and standard carpet, small area with tile or hardwood.	Composition tile or minimum grade sheet vinyl.
<b>Interior Wall and Ceiling Finish</b> (8% of total cost)	Plaster or gypsum wallboard with artistic finish, many offsets and wall openings, decorative details in nearly all rooms.	Plaster on gypsum or metal lath or 2 layers of 5/8" gypsum wallboard, decorative details, many irregular wall openings.	Gypsum wallboard with putty or texture coat finish, some irregular walls, decorative details in living room, entry and kitchen.	1/2" gypsum wallboard with textured finish, several irregular walls and wall openings, some decorative details.	1/2" gypsum wallboard with textured finish, most walls are rectangular, doors and windows are the only openings.	1/2" gypsum wallboard, smooth or orange peel finish. Nearly all walls are regular, no decorative details.
<b>Interior Detail</b> (5% of total cost)	Exposed beams or decorative ceiling, 12' to 16' ceiling in great room, many sky windows, built-in shelving and alcoves for art.	Great room has 12' to 16' ceiling, most rooms have windows on two sides, formal dining area, several framed openings.	Cathedral ceiling at entry, one or more floor level changes, several wall openings or pass-throughs, formal dining area.	8' or 9' ceiling throughout, walk-in closet in master bedroom, separate dining area, some decorative wood trim.	8' or 9' ceiling throughout, sliding mirrored closet doors, standard grade molding and trim, breakfast bar or nook.	Drop ceiling in kitchen, other rooms have 7'6" to 8' ceiling, minimum grade molding and trim.
<b>Bath Detail</b> (4% of total cost)	Custom large tile showers, separate elevated spa in master bathroom.	Large tile showers, at least one bathtub, glass block or large window by each bath.	Tile or fiberglass shower, at least one built-in bathtub, window in bathroom.	Good plastic tub and shower in at least one bathroom, one small window in each bath.	Average plastic tub and shower in at least one bathroom.	Minimum plastic tub and shower in one bathroom.
<b>Kitchen Detail</b> (8% of total cost)	Over 30 LF of deluxe wall and base cabinets, stone counter top, island work area, breakfast bar.	Over 25 LF of good custom base and wall cabinets, synthetic stone counter top, desk and breakfast bar.	Over 20 LF of good stock wall and base cabinets, tile or acrylic counter top, desk and breakfast bar or nook.	Over 15 LF of stock standard grade wall and base cabinets, low-cost tile or acrylic counter top, breakfast nook.	Over 10 LF of stock standard grade wall and base cabinets, low-cost acrylic or laminated plastic counter top.	Less than 10 LF of low-cost wall and base cabinets, laminated plastic counter top, space for table.
<b>Plumbing</b> (12% of total cost)	4 deluxe fixtures per bathroom, more bathrooms than bedrooms.	4 good fixtures per bathroom, more bathrooms than bedrooms.	3 good fixtures per bathroom, as many bathrooms as bedrooms.	3 standard fixtures per bathroom, less bathrooms than bedrooms.	3 standard fixtures per bathroom, less bathrooms than bedrooms.	3 minimum fixtures per bathroom, 2 bathrooms.
<b>Special Features</b> (3% of total cost)	10 luxury built-in appliances, wet bar, home theater, pantry, wine cellar.	8 good built-in appliances, wet bar, walk-in pantry, central vacuum.	6 good built-in appliances, walk-in pantry, wet bar, central vacuum.	5 standard built-in appliances, sliding glass or French doors, laundry room.	4 standard grade kitchen appliances.	4 minimum grade kitchen appliances.
<b>Electrical System</b> (10% of total cost)	Over 100 recessed or track lights, security system, computer network.	80 to 100 recessed lighting fixtures, security system, computer network.	Ample recessed lighting on dimmers, computer network, multiple TV outlets.	Limited recessed lighting on dimmers, multiple TV outlets.	12 lighting fixtures, switch-operated duplex plug outlets in bedrooms.	10 or less lighting fixtures, switch-operated plug outlets in most rooms.
<b>If Exterior Walls are Masonry</b>	Reinforced split face concrete block or brick with face brick veneer.	Reinforced block or brick with masonry veneer or stucco coat.	Textured or coated concrete block or good quality detailed brick.	Colored or coated concrete block or good quality brick.	Colored concrete block or painted common brick.	Painted concrete block or common brick.

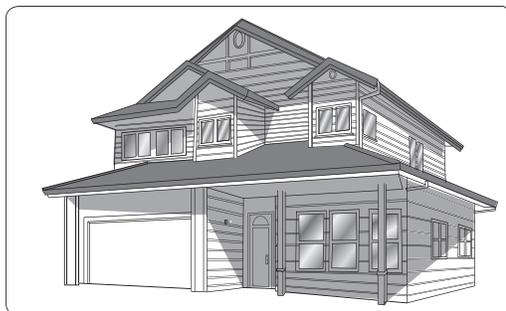
**Note:** Use the percent of total cost to help identify the correct quality classification.

# Single Family Residences

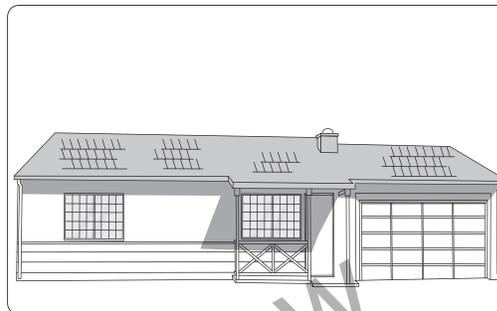
## 4 Corners (Classes 3, 4, 5 and 6) or One Building Mass (Classes 1 and 2 Only)

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 11.
2. Multiply the structure floor area (excluding the garage) by the appropriate square foot cost below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a porch, garage, heating and cooling equipment, basement, fireplace, carport, appliances and plumbing fixtures beyond that listed in the quality classification. See the cost of these items on pages 27 to 31.



Single Family Residence, Class 4



Single Family Residence, Class 6

### Square Foot Area

Quality Class	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	2,000
1, Luxury	504.17	483.07	465.64	450.58	438.86	428.39	419.12	410.79	404.55	398.43	392.86	388.12	379.29
1, & 2	438.42	420.06	404.90	391.82	381.63	372.46	364.48	357.19	351.79	346.49	341.55	337.44	329.80
2, Semi-Luxury	306.41	293.59	282.99	273.83	266.71	260.36	254.74	249.68	245.87	242.04	238.74	235.91	230.46
2 & 3	224.91	215.54	207.73	201.05	195.82	191.12	186.98	183.27	180.44	177.71	175.19	173.17	169.19
3, Best Std.	196.25	188.10	181.26	175.46	170.80	166.76	163.17	159.95	157.48	155.11	152.94	151.07	147.63
3 & 4	167.84	160.73	154.96	150.03	146.03	142.56	139.52	136.69	134.65	132.49	130.75	129.15	126.27
4, Good Std.	144.62	138.45	133.53	129.23	125.88	122.88	120.17	117.77	115.94	114.21	112.63	111.16	108.77
4 & 5	130.26	124.78	120.34	116.42	113.36	110.60	108.20	106.14	104.47	102.87	101.47	100.26	97.91
5 Avg. Std.	117.23	112.38	108.31	104.85	102.14	99.67	97.51	95.50	94.05	92.62	91.34	90.25	88.18
5 & 6	101.79	97.53	94.02	91.01	88.60	86.48	84.60	82.87	81.65	80.37	79.40	78.33	76.55
6, Min. Std.	92.54	88.65	85.45	82.70	80.55	78.60	76.92	75.38	74.21	73.06	72.12	71.18	69.54

### Square Foot Area

Quality Class	2,200	2,400	2,600	2,800	3,000	3,200	3,400	3,600	4,000	4,200	4,400	4,600	5,000
1, Luxury	372.68	366.43	361.39	356.89	353.71	350.74	347.53	345.19	340.34	337.26	334.56	332.23	328.90
1, & 2	324.15	318.64	314.24	310.34	307.55	305.00	302.21	300.15	295.96	293.26	290.92	288.89	286.01
2, Semi-Luxury	226.63	222.69	219.65	216.91	214.93	213.11	211.17	209.79	206.84	204.96	203.31	201.91	199.89
2 & 3	166.28	163.49	161.24	159.24	157.76	156.39	155.05	153.98	151.84	150.47	149.25	148.21	146.73
3, Best Std.	145.11	142.63	140.64	138.97	137.71	136.54	135.29	134.35	132.47	132.49	131.42	130.51	129.21
3 & 4	124.07	121.98	120.33	118.85	117.71	116.67	115.72	114.93	113.31	112.30	111.38	110.61	109.50
4, Good Std.	106.90	105.06	103.68	102.34	101.47	100.56	99.69	98.93	97.59	96.71	95.91	95.26	94.31
4 & 5	96.26	94.69	93.25	92.19	91.32	90.61	89.69	89.16	87.95	87.14	86.47	85.85	85.00
5 Avg. Std.	86.69	85.28	84.09	82.95	82.29	81.56	80.82	80.27	79.17	78.02	77.84	77.31	76.55
5 & 6	75.26	74.01	72.96	72.04	71.45	70.74	70.10	69.60	68.72	68.02	67.58	67.05	66.44
6, Min. Std.	68.32	67.23	66.34	65.55	64.93	64.34	63.79	63.31	62.46	61.82	61.42	60.95	60.38

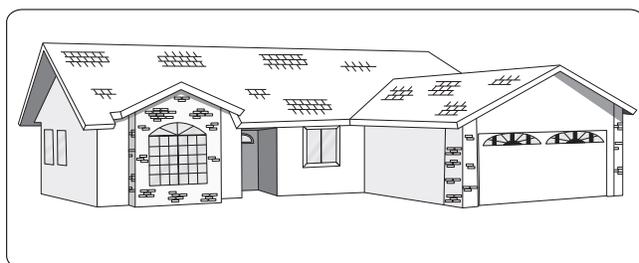
**Note:** Tract work and highly repetitive jobs may reduce the cost 8 to 12%. Add 4% to the square foot cost of floors above the second floor level. Work outside metropolitan areas may cost 2 to 6% less. When the exterior walls are masonry, add 9 to 10% for class 2 and 1 structures and 5 to 8% for class 3, 4, 5 and 6 structures. The building area includes all full story (7'6" to 9' high) areas within and including the exterior walls of all floor areas of the building, including small inset areas such as entrances outside the exterior wall but under the main roof. For areas with a ceiling height of less than 80", see the section on half-story areas on page 30.

## Single Family Residences

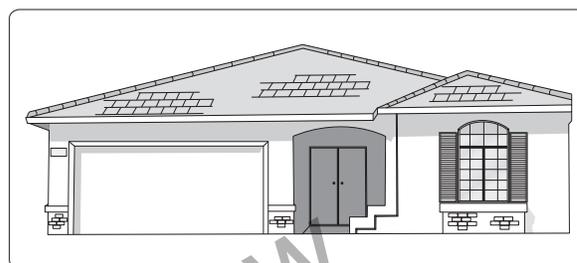
### 6 Corners (Classes 3, 4, 5, and 6) or Two Building Masses (Classes 1 and 2 Only)

#### Estimating Procedure

1. Establish the structure quality class by applying the information on page 11.
2. Multiply the structure floor area (excluding the garage) by the appropriate square foot cost below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a porch, garage, heating and cooling equipment, basement, fireplace, carport, appliances and plumbing fixtures beyond that listed in the quality classification. See the cost of these items on pages 27 to 31.



Single Family Residence, Class 5



Single Family Residence, Class 5

#### Square Foot Area

Quality Class	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	2,000
1, Luxury	513.86	492.34	474.59	459.24	447.32	436.94	428.39	419.94	413.28	407.20	401.63	396.66	388.21
1, & 2	446.83	428.14	412.69	399.34	388.94	379.87	372.46	365.19	359.38	354.08	349.30	344.94	337.56
2, Semi-Luxury	312.36	299.29	288.22	279.53	271.82	265.52	260.36	255.21	251.13	247.43	244.13	241.03	235.97
2 & 3	229.26	219.69	211.56	205.20	199.51	194.86	191.12	187.34	184.33	181.63	179.18	176.88	173.19
3, Best Std.	200.06	191.68	184.63	179.00	174.13	170.07	166.76	163.49	160.92	158.49	156.36	154.45	151.13
3 & 4	171.04	163.95	157.78	153.09	148.93	145.35	142.64	139.76	137.63	135.47	133.71	131.98	129.17
4, Good Std.	147.39	141.24	135.96	131.87	128.28	125.27	122.88	120.43	118.44	116.75	115.27	113.76	111.25
4 & 5	132.83	127.25	122.40	118.78	115.51	112.80	110.60	108.43	106.81	105.14	103.79	102.44	100.31
5 Avg. Std.	119.57	114.61	110.27	107.00	104.07	101.57	99.67	97.79	96.22	94.74	93.45	92.27	90.26
5 & 6	103.78	99.39	95.76	92.88	90.25	88.11	86.48	84.79	83.43	82.20	81.10	80.00	78.38
6, Min. Std.	94.38	90.44	87.04	84.40	82.08	80.17	78.60	77.08	75.80	74.67	73.68	72.76	71.22

#### Square Foot Area

Quality Class	2,200	2,400	2,600	2,800	3,000	3,200	3,400	3,600	4,000	4,200	4,400	4,600	5,000
1, Luxury	381.95	376.08	370.85	366.43	362.86	359.36	356.41	353.71	350.00	346.85	344.07	343.00	339.57
1, & 2	332.13	327.09	322.54	318.64	315.57	312.44	309.94	307.55	304.41	301.65	300.62	298.51	295.52
2, Semi-Luxury	232.22	228.52	225.36	222.69	220.48	218.36	216.59	214.93	212.72	210.80	209.10	207.65	205.56
2 & 3	170.40	167.75	165.46	163.49	161.86	160.28	158.99	157.76	156.11	154.94	153.02	151.85	150.79
3, Best Std.	148.66	146.39	144.31	142.63	141.30	139.87	138.74	137.71	136.25	135.03	133.94	133.01	131.67
3 & 4	127.11	125.16	123.39	121.98	120.74	119.55	118.57	117.71	116.42	115.36	114.45	113.66	112.52
4, Good Std.	109.51	107.78	106.30	105.06	104.04	102.99	102.23	101.47	100.38	99.49	98.71	97.99	97.02
4 & 5	98.67	97.07	95.76	94.69	93.65	92.80	92.05	91.32	90.41	89.60	88.88	88.25	87.37
5 Avg. Std.	88.81	87.45	86.32	85.28	84.37	83.57	82.88	82.29	81.42	80.69	80.02	79.49	78.67
5 & 6	77.08	75.80	74.79	74.01	73.21	72.57	71.97	71.45	70.61	69.97	69.41	68.95	68.24
6, Min. Std.	70.07	69.01	68.05	67.23	66.59	65.94	65.40	64.93	64.22	63.63	63.14	62.69	62.06

**Note:** Tract work and highly repetitive jobs may reduce the cost 8 to 12%. Add 4% to the square foot cost of floors above the second floor level. Work outside metropolitan areas may cost 2 to 6% less. When the exterior walls are masonry, add 9 to 10% for class 2 and 1 structures and 5 to 8% for class 3, 4, 5 and 6 structures. The building area includes all full story (7'6" to 9' high) areas within and including the exterior walls of all floor areas of the building, including small inset areas such as entrances outside the exterior wall but under the main roof. For areas with a ceiling height of less than 80", see the section on half-story areas on page 30.

## Single Family Residences

### 8 Corners (Classes 3, 4, 5, and 6) or Three Building Masses (Classes 1 and 2 only)

#### Estimating Procedure

1. Establish the structure quality class by applying the information on page 11.
2. Multiply the structure floor area (excluding the garage) by the appropriate square foot cost below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a porch, garage, heating and cooling equipment, basement, fireplace, carport, appliances and plumbing fixtures beyond that listed in the quality classification. See the cost of these items on pages 27 to 31.



Single Family Residence, Class 1



Single Family Residence, Class 2 & 3

#### Square Foot Area

Quality Class	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	2,000
1, Luxury	524.31	502.69	484.07	468.83	456.39	446.11	436.94	428.68	421.33	415.70	410.29	405.57	397.13
1, & 2	455.89	437.19	420.91	407.72	396.83	387.92	379.87	372.82	366.40	361.48	356.77	352.66	345.38
2, Semi-Luxury	317.46	304.53	293.73	284.72	277.34	271.09	265.49	260.52	256.06	252.63	249.38	246.43	241.36
2 & 3	233.05	223.53	215.57	208.97	203.59	199.00	194.86	191.23	187.97	185.46	183.00	180.93	177.18
3, Best Std.	203.36	195.07	188.17	182.40	177.64	173.67	170.07	166.85	164.02	161.85	159.71	157.94	154.63
3 & 4	173.84	166.74	160.79	155.86	151.85	148.52	145.35	142.71	140.18	138.38	136.54	135.00	132.18
4, Good Std.	149.79	143.64	138.56	134.39	130.75	127.93	125.27	122.98	120.80	119.28	117.62	116.30	113.87
4 & 5	134.96	129.45	124.79	121.05	117.77	115.18	112.80	110.81	108.82	107.38	105.95	104.73	102.53
5 Avg. Std.	121.53	116.56	112.42	109.01	106.09	103.79	101.57	99.77	97.92	96.72	95.40	94.41	92.36
5 & 6	105.46	101.15	97.54	94.57	92.09	90.10	88.11	86.58	85.05	83.93	82.81	81.85	80.17
6, Min. Std.	95.86	91.97	88.67	85.98	83.67	81.85	80.17	78.73	77.30	76.29	75.31	72.62	71.27

#### Square Foot Area

Quality Class	2,200	2,400	2,600	2,800	3,000	3,200	3,400	3,600	4,000	4,200	4,400	4,600	5,000
1, Luxury	390.45	389.61	379.29	375.36	371.85	368.73	365.03	362.96	358.43	355.21	352.35	349.90	346.40
1, & 2	339.52	332.13	329.80	326.39	323.35	320.66	317.40	315.67	311.78	308.95	306.47	304.32	301.29
2, Semi-Luxury	237.24	232.22	230.46	228.10	226.08	224.10	221.79	220.52	217.87	215.94	214.19	212.72	210.55
2 & 3	174.15	170.40	169.19	167.45	165.89	164.51	162.83	161.92	159.95	158.51	157.25	156.15	154.60
3, Best Std.	151.95	148.66	147.63	146.11	144.74	143.54	142.11	141.31	140.76	139.52	138.43	137.47	136.08
3 & 4	129.80	127.11	126.27	124.89	123.77	122.76	121.54	120.80	119.35	118.27	117.34	116.51	115.33
4, Good Std.	111.95	109.51	108.77	107.65	106.65	105.84	104.73	104.05	102.83	101.88	101.08	100.35	99.37
4 & 5	100.87	98.67	97.91	96.94	96.13	95.27	94.21	93.76	92.62	91.26	90.51	89.88	88.98
5 Avg. Std.	90.81	88.81	88.18	87.33	86.47	85.78	84.93	84.47	83.40	82.67	81.99	81.42	80.62
5 & 6	78.86	77.08	76.55	75.75	75.11	74.44	73.67	73.24	72.42	71.78	71.19	70.69	69.99
6, Min. Std.	70.08	68.62	68.14	67.50	66.89	66.33	65.71	65.29	64.57	63.99	63.49	64.11	62.41

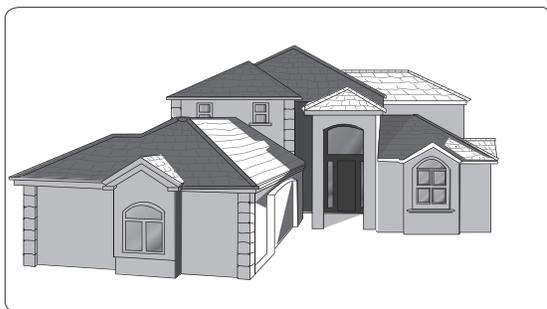
**Note:** Tract work and highly repetitive jobs may reduce the cost 8 to 12%. Add 4% to the square foot cost of floors above the second floor level. Work outside metropolitan areas may cost 2 to 6% less. When the exterior walls are masonry, add 9 to 10% for class 2 and 1 structures and 5 to 8% for class 3, 4, 5 and 6 structures. The building area includes all full story (7'6" to 9' high) areas within and including the exterior walls of all floor areas of the building, including small inset areas such as entrances outside the exterior wall but under the main roof. For areas with a ceiling height of less than 80", see the section on half-story areas on page 30.

# Single Family Residences

## 10 Corners (Classes 3, 4, 5 and 6) or Four Building Masses (Classes 1 and 2 only)

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 11.
2. Multiply the structure floor area (excluding the garage) by the appropriate square foot cost below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a porch, garage, heating and cooling equipment, basement, fireplace, carport, appliances and plumbing fixtures beyond that listed in the quality classification. See the cost of these items on pages 27 to 31.



**Single Family Residence, Class 2 & 3**



**Single Family Residence, Class 1**

### Square Foot Area

Quality Class	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	2,000
1, Luxury	535.27	512.88	494.35	479.75	465.95	455.15	446.24	438.69	431.34	425.28	419.94	415.05	406.35
1, & 2	465.47	446.10	429.91	417.20	405.17	395.83	388.02	381.50	375.07	370.26	365.21	360.94	353.36
2, Semi-Luxury	322.50	309.72	299.30	290.14	283.18	276.62	271.20	266.61	262.15	258.45	255.21	252.19	246.92
2 & 3	236.76	227.38	219.71	213.04	207.85	203.04	199.03	195.65	192.43	189.63	187.34	185.11	181.27
3, Best Std.	206.59	198.38	191.72	185.86	181.36	177.22	173.71	170.76	167.95	165.54	163.49	161.59	158.16
3 & 4	176.64	169.49	163.95	158.92	155.11	151.45	148.54	145.97	143.52	141.52	139.76	138.16	135.29
4, Good Std.	152.22	146.14	141.33	136.93	133.54	130.53	127.93	125.85	123.67	121.98	120.43	118.98	116.54
4 & 5	137.09	131.62	127.27	123.36	120.37	117.59	115.27	113.33	111.44	109.91	108.43	107.16	105.00
5 Avg. Std.	123.49	118.45	114.65	111.10	108.39	105.94	103.83	102.05	100.38	98.89	97.79	96.56	94.57
5 & 6	107.10	102.85	99.41	96.41	94.05	91.89	90.14	88.56	87.05	85.83	84.79	83.69	82.08
6, Min. Std.	97.43	93.49	90.45	87.66	85.49	83.53	81.88	80.53	79.12	77.98	77.08	76.12	74.58

### Square Foot Area

Quality Class	2,200	2,400	2,600	2,800	3,000	3,200	3,400	3,600	4,000	4,200	4,400	4,600	5,000
1, Luxury	399.80	398.04	388.67	384.00	380.64	377.52	374.44	371.99	367.22	363.91	360.99	358.47	354.83
1, & 2	347.67	342.42	338.02	333.88	331.10	328.28	325.64	323.46	319.42	315.63	313.13	310.97	307.89
2, Semi-Luxury	242.94	239.32	236.19	233.41	231.36	229.41	227.57	226.13	223.19	221.20	219.39	217.87	215.68
2 & 3	178.32	175.62	173.37	171.32	169.79	168.43	167.02	165.93	163.86	157.43	156.19	155.08	153.54
3, Best Std.	155.63	153.33	151.34	149.47	148.16	146.91	145.74	144.81	143.00	141.71	140.57	139.59	138.19
3 & 4	133.01	131.07	129.37	127.83	126.70	125.60	124.66	123.80	122.15	121.07	120.10	119.27	118.06
4, Good Std.	114.65	112.95	111.57	110.07	109.12	108.21	107.38	106.81	105.32	104.38	103.18	102.11	101.09
4 & 5	103.33	101.70	100.40	99.18	98.31	97.51	96.72	96.14	94.82	93.97	93.21	92.58	91.63
5 Avg. Std.	92.92	91.60	90.44	89.33	88.49	87.85	87.10	86.62	85.38	84.60	83.93	83.34	82.52
5 & 6	80.69	79.50	78.43	77.48	76.76	76.21	75.60	75.12	74.14	73.48	72.88	72.37	71.66
6, Min. Std.	73.39	72.23	71.34	70.45	69.83	69.30	68.72	68.29	67.40	66.79	66.26	65.78	65.15

**Note:** Tract work and highly repetitive jobs may reduce the cost 8 to 12%. Add 4% to the square foot cost of floors above the second floor level. Work outside metropolitan areas may cost 2 to 6% less. When the exterior walls are masonry, add 9 to 10% for class 2 and 1 structures and 5 to 8% for class 3, 4, 5 and 6 structures. The building area includes all full story (7'6" to 9' high) areas within and including the exterior walls of all floor areas of the building, including small inset areas such as entrances outside the exterior wall but under the main roof. For areas with a ceiling height of less than 80", see the section on half-story areas on page 30.

# Manufactured Housing

## Quality Classification

	<b>Class 1 Best Quality</b>	<b>Class 2 Good Quality</b>	<b>Class 3 Average Quality</b>	<b>Class 4 Low Quality</b>	<b>Class 5 Lowest Quality</b>
<b>Roof</b> (11% of total cost)	Gable accented roof; asphalt shingles; min roof pitch of 3" in 12"; front and rear overhangs	One piece white baked enamel; asphalt shingles, gable accents; front and rear overhangs	One piece white baked enamel metal; asphalt shingles on gable accented roof	One piece fabricated steel; minimum pitch; small overhang in front; or asphalt shingles	Painted lightweight galvanized steel with minimum pitch; or asphalt shingles
<b>Exterior Walls</b> (16% of total cost)	Pre-finished shi lap aluminum siding or 1/2" masonite siding; stone accent; matching skirting; coordinated exterior colors; 6" exterior wall construction	Pre-finished shi lap alum. siding or flush-type masonite with concealed fasteners; coordinated exterior colors; exterior walls 4" thick; aluminum skirting	Pre-finished aluminum siding and/or flush-type masonite panels with concealed fasteners; 4" exterior wall thickness; aluminum skirting	Covering is pre-finished aluminum siding or flush-type masonite panels with some concealed fasteners; exterior wall thickness is 3" to 4"; skirting is lightweight	Pre-finished aluminum panels with exposed hex-heads; panels of modified corrugated pattern; exterior wall thickness 3" to 4"; lightweight skirting
<b>Trim and Sash</b> (8% of total cost)	Painted aluminum and/or imitation stone trim; many sash; picture/bay windows; sliding glass doors; recessed entry; dual glazed vinyl windows	Painted aluminum and/or imitation stone (fiberglass) trim; large amount of good house-type sash; picture windows; sliding glass door; recessed entry	Little or no trim; two-tone exterior coverings; large, good, house-type sash; some picture windows; optional 6' sliding glass door	No trim; exterior decoration two types of color; coordinated exterior covering; tract house windows; optional 6' sliding glass door	No ornamental trim; minimum window area and sash
<b>Interior</b> (5% of total cost)	Expensive hardwood paneling/gypsum board; careful workmanship throughout; coffered/vaulted/beamed ceiling; plank-type acoustical tile; 8' min ceiling; mirrored walls; built-in buffet cabinet; custom drapes; raised panel doors; skylights; window sills	Pre-finished and grooved hardwood paneling or gypsum board; careful workmanship throughout; vaulted/beamed, ceilings; 8' min ceiling height; floor to ceiling drapes over sheer underlays in living room and dining room; raised panel doors; window sills	Pre-finished and grooved hardwood, plywood paneling, or gypsum board; 8' acoustical plank-type ceilings; decorator coordinated drapes in all rooms except kitchen and baths; optional vaulted ceilings with decorative beams	Pre-finished fire rated plywood paneling or partial gypsum board; acoustical tile ceiling, 8' height; drapes in living room, dining room, and bedrooms	Walls are pre-finished 3/16" fire rated paneling; hardboard or firtex ceiling cover with exposed fasteners and/or stapled holding strips; 7' 6" ceiling heights
<b>Floors</b> (7% of total cost)	Hardwood or ceramic tile entry, deluxe carpet; vinyl tile in utility and guest bath. Good tile or hardwood flooring in kitchen.	Carpet with 1/2" thick pads in all rooms except guest bath and utility room; vinyl tile in kitchen, utility, and guest bath	Carpet with 1/2" thick pad in all rooms except baths and kitchen; vinyl in kitchen and baths	Carpet with 1/2" thick pad in living, dining, and bedrooms; vinyl in other areas	Vinyl; lightweight carpet in living room and master bedroom only
<b>Heating</b> (6% of total cost)	110,000 BTU upflow air-condition-ready forced air furnace with exterior access door; ducting to all rooms; optional air conditioning and fireplace; dual-zone heating in larger units	80,000 to 110,000 BTU upflow or downflow air-condition-ready furnace with exterior access door; ducting to all rooms; optional air conditioning and fireplace	80,000 BTU upflow or downflow forced air furnace; ducting to all rooms; optional air conditioning and fireplace	Forced air furnace; ducting in all rooms; perimeter floor return system; optional air conditioning	Forced air furnace; minimum ducting and outlets
<b>Kitchen</b> (21% of total cost)	18± linear foot plastic laminate or ceramic tile counter top; quality wood cabinets and hardware; dropped luminous ceiling; island work space; walk-in pantry; good quality vinyl tile	Circular or elaborate kitchen; walk-in pantry; 16± linear feet of plastic laminate counter; quality wood cabinets; dropped luminous ceiling; island work space; microwave oven	14± linear foot plastic laminate counter; good quality cabinets; built-in range and oven with a hood and fan; optional dishwasher and pantry	12± linear foot plastic laminate counter; average quality plywood cabinets with raised panel doors; built-in range and oven, hood and fan; optional dishwasher	10± linear foot plastic laminate counter; minimum quality plywood cabinets; built-in or drop-in range and oven
<b>Baths and Plumbing</b> (13% of total cost)	2 to 2½ baths; 8 fixtures; master bath with two basins, sunken tub, fiberglass shower with glass door; quality medicine cabinets; 4± feet of mirror over 8± feet of cultured marble or ceramic tile lavatory top; decorative faucets; 40-gal. water heater; separate commode closet	2 baths; vent fans; master bath will have two basins, sunken tub, and stall shower; quality medicine cabinets and fixtures; cultured marble vanities; good cabinets; fiberglass shower in guest bath; 30- to 40-gallon water heater; separate commode closet	2 baths; vent fans; fiberglass shower with glass or plastic door; fiberglass or enameled steel tub; 6 to 8 linear foot cultured marble vanity, twin basin master bath; good cabinets; 30- to 40-gallon water heater	1½ baths; fiberglass shower with glass or plastic door; fiberglass or enameled steel tub; 4 to 5 linear foot cultured marble vanity single basin; average quality cabinets; 30-gallon hot water heater	One bath; fiberglass tub or shower with curtain; small 4' plastic marble vanity; minimum quality cabinets
<b>Bedrooms</b> (4% of total cost)	9 to 14 linear foot floor-to-ceiling sliding mirrored wardrobe doors, or large walk-in closets	9 to 14 linear foot floor-to-ceiling mirrored sliding wardrobe doors in master bedroom, or walk-in closets	10± linear foot wardrobe; floor-to-ceiling mirrored sliding doors in master bedroom	8± linear foot wardrobe; pre-finished and grooved plywood doors; mirrored wardrobe door in master bedroom	Five to six linear foot wardrobe; plain plywood sliding doors
<b>Exterior features</b> (9% of total cost)	Set on concrete and/or metal piers; axle and wheel assembly for each towable section	Set on concrete and/or metal piers; axle and wheel assembly for each towable section	Set on concrete and/or metal piers; axle and wheel assembly for each towable section	Set on concrete and/or metal piers; axle and wheel assembly for each towable section	Set on concrete and/or metal piers; axle and wheel assembly for each towable section

# Manufactured Housing

A manufactured home is a structure in one or more sections that is transportable, with or without a permanent foundation. No recreational vehicle or method of transporting is included in these costs. They can be from 8 to 36 feet wide and up to 80 feet long. Manufactured homes assembled from two or three attached sections are referred to as double wide or triple wide.

Tip-out, expando, or tag-a-long units have one or more telescoping or attached rooms to the side. All sections are to be included in the total square footage computations.

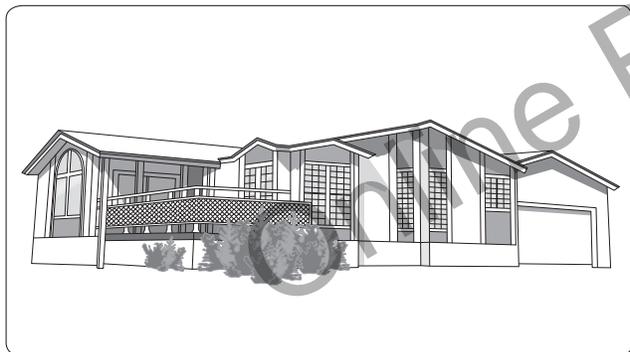
Area modification factors should not be used when computing the cost of manufactured housing.

### Estimating Procedure

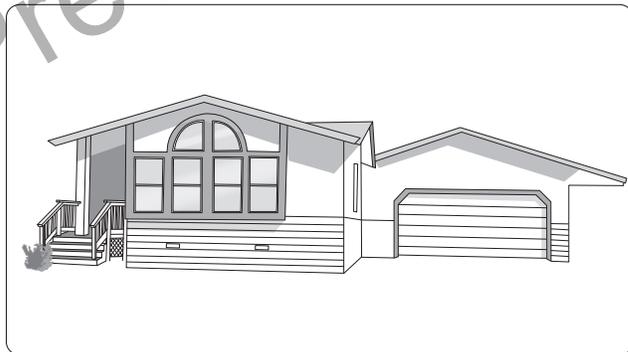
1. Establish the structure quality class by applying the information on page 16.
2. Multiply the structure floor area (excluding the garage) by the appropriate square foot cost below.
3. Add, when appropriate, the cost of foundation, air conditioning, built-ins, porch, skirting, tie-downs, carport, screen walls and roof snow load capability. See the following page.

### Square Foot Area

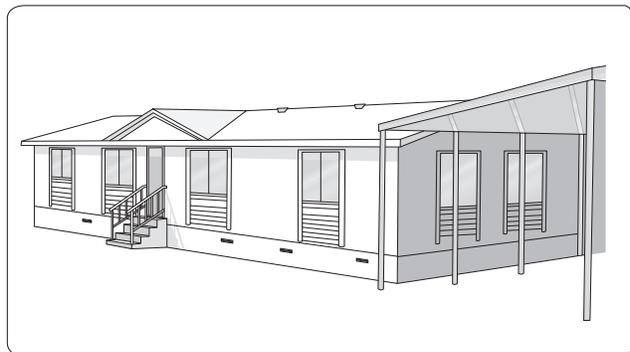
Quality Class	500	700	900	1100	1300	1500	1700	1900	2100	2300	2500
1, Best	108.51	107.16	105.84	104.47	103.14	101.79	100.48	99.10	97.79	96.46	95.10
1, & 2	102.15	100.80	99.49	98.20	96.78	95.43	94.05	92.78	91.41	90.11	88.74
2, Good	95.74	94.42	93.10	89.20	87.95	86.68	85.30	84.04	82.68	81.43	80.14
2 & 3	89.45	88.05	86.76	81.50	80.20	78.94	77.66	76.40	75.11	73.80	72.59
3, Average	83.39	82.10	80.64	75.75	72.36	71.07	69.89	68.65	67.39	66.18	64.91
3 & 4	78.03	76.66	75.38	70.69	67.39	66.18	64.91	63.66	62.41	61.18	59.91
4, Low Average	72.65	71.35	69.99	65.55	62.41	61.18	59.91	58.67	57.46	56.20	54.96
4 & 5	68.30	66.91	65.62	61.34	58.37	57.14	55.92	54.66	53.43	52.21	50.89
5 Lowest	64.26	62.97	61.62	55.92	54.66	53.43	52.21	50.89	49.66	48.45	47.22



**Manufactured Housing, Class 1**



**Manufactured Housing, Class 3**



**Manufactured Housing, Class 4**



**Manufactured Housing, Class 5**

# Manufactured Housing

## Additional Costs

### Permanent Foundation

Single Story	
Less than 1,000 square feet of floor area	\$8,260 to \$14,430
Over 1,000 square feet to 1,800 square feet of floor area	\$14,430 to \$26,320
Over 1,800 square feet to 2,500 square feet of floor area	\$26,320 to \$43,200

For two-story units, use the footprint of the first floor and select a figure higher in the range of costs. For difficult site conditions, such as a high water table, heavy clay soil, over 3' foundation depth or a sloping site, use a figure in the higher range of costs.

### Air Conditioning

Central air for use by existing furnace and ducts	
2 ton, up to 1,100 S.F.	\$3,565
2-1/2 to 3 ton, over 1,100 to 1,600 S.F.	\$4,090
4 to 5 ton, over 1,600 to 2,500 S.F.	\$4,490 to \$5,290.
Cost per unit	
Thru-wall small unit 1/2 H.P., 6,000 Btu	\$1,240
Thru-wall large unit 1 H.P., 12,000 Btu	\$1,645
Evaporative cooler, roof mounted	\$1,170 to \$1,850
Wiring for air conditioning	\$225 to \$474

### Built-Ins

Dishwasher (included in classes 1, 2 & 3)	\$940 - \$1,250
Garbage disposal (included in all base cost, deduct if missing)	\$190 - \$1,160
Built-in microwave oven	\$525 - \$730
Trash compactor	\$855 - \$1,080
Wet bar (walk-up – if not included in class)	\$750 - \$900
Wet bar (walk behind – if not included in class)	\$2,465 - \$2,690
Separate shower in master bath	\$855 - \$1,080
One-half bath: toilet, sink, and pullman	\$1,695 - \$1,800
Bathroom sink or laundry sink	\$360
Fireplace (permanent – includes flue)	\$3,300 - \$4,485
Fireplace (free standing – includes flue)	\$1,505 - \$2,695
Built-in buffet-hutch (included in classes 1 and 2)	\$1,140 - \$1,435
Whirlpool tub in master bath	\$1,380 - \$1,685

### Porches and Decks (no roofs included)

Wood deck at home floor level with handrail, skirting, steps and outdoor carpet, per square foot of porch or deck	\$18.38 to \$25.76
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### Skirting, cost per linear foot of skirt

Lightweight aluminum panels	\$8.38
Lap aluminum siding	\$14.95
Painted hardboard panels	\$19.19
Flagstone-type aluminum panels	\$14.95
Concrete composite panels	\$25.05 - \$31.31
Vinyl panels	\$16.67
Brick or stone	\$26.26

### Storage Buildings, per S.F. of floor

Aluminum exterior	\$20.01
Enameled steel exterior	\$16.06
Hardboard panel exterior	\$35.05

### Tie Downs

Cork screw anchor and straps, per each	\$105 - \$155
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### Steps And Rails, per flight to 36" high

Fiberglass steps	\$265 - \$415
Handrail	\$60 - \$90

### Upgraded Components

Upgraded Carpets	\$1,575 - \$3,920
Upgraded Drapes	\$1,620 - \$3,365

### Carpport, Porch, or Deck Roof, per S.F. covered

Aluminum supports and roof cover, free standing	\$15.05 - \$20.00
Aluminum supports and roof cover, attached to house	\$9.70 - \$14.05
Wood supports and enameled steel cover, free standing	\$17.65 - \$22.00

### Screen Wall Enclosure, per linear foot of 8' wall

Wood frame with screen walls and door	\$69.00
Wood or aluminum frame with screen and glass walls, with door	\$120.00

### Roof Snowload Capability

Cost per square foot of roof	
30 pound design load	\$.76 - \$1.21
40 pound design load	\$1.20 - \$2.18
50 pound design load	\$2.18 - \$2.89
60 pound design load	\$2.88 - \$3.85
80 pound design load	\$3.65 - \$5.80
100 pound design load	\$4.81 - \$6.65
175 pound design load	\$6.10 - \$7.35

## Multi-Family Residences – Apartments

### Quality Classification

	Class 1 Best Quality	Class 2 Good Quality	Class 3 High Average Quality	Class 4 Low Average Quality	Class 5 Minimum Quality
<b>Foundation</b> (9% of total cost)	Conventional crawl space built on a sloping site.	Conventional crawl space built on a sloping site.	Conventional crawl space, footing over 40" deep.	Concrete slab or crawl space with 30" footing.	Concrete slab.
<b>Floor Structure</b> (12% of total cost)	Engineered wood, steel or concrete exceeding code requirements, complex plan, changes in elevation.	Engineered wood or steel built to meet code requirements, changes in shape and elevation.	Standard wood frame with irregular shape and changes in elevation.	Standard wood frame or concrete slab, simple floor plan.	Simple slab on grade with no changes in elevation.
<b>Walls and Exterior Finish</b> (12% of total cost)	Complex wood or light steel frame, stone or masonry veneer, 10' average wall height.	Wood or light steel frame, masonry veneer at entrance, good wood or stucco siding.	Wood or light steel frame, decorative trim at entrance, plywood or stucco siding, simple framing plan.	Wood frame, some ornamental details at entrance, plywood or hardboard siding.	Wood frame, little or no ornamentation, inexpensive stucco or hardboard siding.
<b>Roof &amp; Cover</b> (10% of total cost)	Complex roof plan, good insulation, tile or good shake cover.	Good insulation, good shake, tile or 5-ply built-up roof.	4-ply built-up roof, some portions heavy shake or tile.	4-ply built-up roof, some portions shake or composition shingles.	4-ply built-up roof or minimum grade composition single.
<b>Windows and Doors</b> (5% of total cost)	Many large, good quality vinyl or metal windows, architectural grade doors.	Large, good-quality vinyl or metal windows, commercial grade doors.	Good quality vinyl or metal windows, residential grade doors.	Standard residential-grade doors and windows.	Minimum grade doors and windows.
<b>Interior Finish</b> (8% of total cost)	Gypsum board with heavy texture or plaster, some paneled walls, cathedral ceiling at entry, built-in cases, several wall offsets and level changes.	Textured gypsum board, some paneled walls, decorative or stain grade trim at entrance or living room, several irregular walls and wall openings.	Textured 1/2" gypsum board, several irregular walls or wall openings, few ornamental details, standard grade trim and wall molding.	Textured 1/2" gypsum board, some wall-cover or hardboard paneling, most walls are rectangular, standard grade trim and wall molding.	1/2" gypsum board with smooth finish, no ornamental details, doors and windows are the only wall openings.
<b>Floor Finish</b> (5% of total cost)	Masonry or stone tile entry, good hardwood or deluxe carpet in most rooms, good sheet vinyl in other rooms.	Masonry or tile at entry, hardwood or good carpet in most rooms, sheet vinyl in other rooms.	Hardwood or tile at entry, standard carpet in most rooms, sheet vinyl in kitchen and bath.	Average quality carpet or hardwood in most rooms, sheet vinyl or resilient tile in kitchen.	Minimum carpet or resilient tile throughout.
<b>Interior Features</b> (5% of total cost)	Breakfast bar or nook, formal dining room, one walk-in closet, linen closet utility room or pantry.	Formal dining room ample closet space linen closet and utility closet, extra shelving.	Separate dining area, good closet space, linen closet and small utility closet.	Dining area is in the kitchen, small closet in each bedroom, linen closet.	Dining area is part of kitchen, minimum closet space, minimum shelving.
<b>Bath Detail</b> (4% of total cost)	Good tile shower, 8' simulated marble top.	Tile shower, 6' vanity cabinet and top.	Better vanity cabinet and good wall cabinet.	Good vanity cabinet, good medicine cabinet.	Vanity and one small medicine cabinet.
<b>Kitchen</b> (8% of total cost)	16 LF of better hardwood wall and base cabinets, synthetic stone top, 6 very good built-in appliances.	12 LF of good hardwood wall and base cabinets, tile or acrylic top, 5 good built-in appliances.	8 LF of standard hardwood wall and base cabinets, acrylic top, 4 standard grade built-in appliances.	6 LF of low-cost wall and base cabinets, laminate counter top, 4 standard grade appliances.	5 LF of low-cost wall & base cabinets, laminate counter top, low cost appliances.
<b>Electrical</b> (10% of total cost)	Ample recessed lighting, task lighting in kitchen and bath, security & computer, networks, good chandelier.	Recessed lighting in most rooms, good task lighting in kitchen & bath, security & computer networks.	Recessed lighting in kitchen and living room, switched receptacles in bedrooms, wired for cable TV.	Low-cost recessed lighting in kitchen and living room, switched receptacles in other rooms, cable TV.	Fluorescent ceiling fixture in kitchen, switched receptacles in other rooms.
<b>Plumbing</b> (12% of total cost)	Four excellent fixtures per bathroom, copper supply and drain lines.	Three good fixtures per bathroom, copper supply and drain lines.	Three standard fixtures per bathroom, copper supply and plastic drain lines.	Three low cost fixtures per bathroom, plastic supply and drain lines.	Three minimum-grade fixtures per bathroom, plastic supply & drains.
Plumbing costs assume 1 bathroom per unit. See page 30 for the costs of additional bathrooms.					
<b>For Masonry Walls</b>	Good textured block, tile or decorative brick.	Colored or detailed block tile or decorative brick.	Colored concrete block, tile or decorative brick.	Colored concrete block or brick.	Concrete block or common brick.
When masonry walls are used in lieu of wood or light steel frame walls, add 9% to the appropriate S.F. cost.					

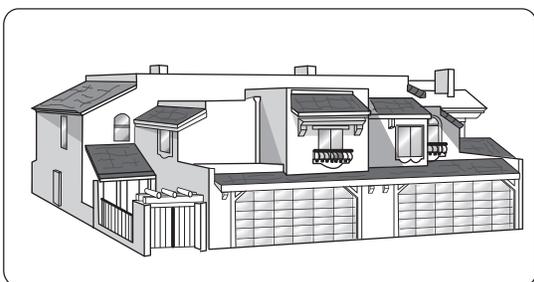
**Note:** Use the percent of total cost to help identify the correct quality classification. Exceptional class multi-family residences have architectural details and features uncommon in conventional apartment buildings. Many exceptional class multi-family structures are designed for sale or conversion to condominium ownership.

# Multi-Family Residences – Apartments

## 2 or 3 Units

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 19.
2. Multiply the average unit area by the appropriate square foot cost below. The average unit area is found by dividing the building area on all floors by the number of units in the building. The building area should include office and utility rooms, interior hallways and interior stairways.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of balconies, porches, garages, heating and cooling equipment, basements, fireplaces, carports, appliances and plumbing fixtures beyond that listed in the quality classification. See the cost of these items on pages 27 to 31.
5. Costs assume one bathroom per unit. Add the cost of additional bathrooms from page 30.



Multi-Family, Class 2



Multi-Family, Class 4

### Average Unit Area in Square Feet

Quality Class	400	450	500	550	600	650	700	750	800	900	1,000
Exceptional	221.89	212.17	206.88	202.16	198.57	195.29	192.84	190.02	188.38	185.13	182.10
1, Best	194.94	186.35	181.71	177.59	174.35	171.59	169.43	166.94	165.51	162.55	160.01
1, & 2	170.96	163.43	159.33	155.68	152.96	150.49	148.54	146.49	145.12	142.49	140.25
2, Good	149.59	143.07	139.44	136.33	133.86	131.63	130.01	128.16	126.99	124.72	122.77
2 & 3	136.81	130.76	127.59	124.60	122.39	120.49	118.90	117.28	116.16	114.16	112.30
3, Hi Average	125.20	119.61	116.66	114.10	112.03	110.22	108.70	107.34	106.27	104.36	102.73
3 & 4	115.59	110.48	107.78	105.28	103.38	101.82	100.48	99.03	98.16	96.38	94.87
4, Lo Average	106.78	102.03	99.47	97.20	95.50	93.96	92.67	91.43	90.65	89.05	87.56
4 & 5	98.61	94.21	91.87	89.79	88.12	86.73	85.66	84.43	83.70	82.15	80.82
5 Minimum	91.00	87.05	84.85	82.92	81.49	80.13	79.02	78.05	77.30	75.80	74.66

### Average Unit Area in Square Feet

Quality Class	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,200
Exceptional	180.02	178.09	176.50	175.18	174.06	173.03	172.15	171.37	170.63	170.07	169.53
1, Best	158.01	156.54	154.98	153.88	152.84	151.96	151.17	150.63	149.90	149.36	148.95
1, & 2	138.60	137.19	135.94	134.90	134.12	133.28	132.56	132.04	131.45	131.09	130.65
2, Good	121.26	120.07	119.00	118.09	117.37	116.62	116.05	115.51	115.04	114.60	114.32
2 & 3	111.02	109.72	108.93	108.01	107.35	106.68	106.14	105.77	105.23	104.91	104.57
3, Hi Average	101.52	100.48	99.59	98.76	98.17	97.58	97.07	96.78	96.22	95.94	95.65
3 & 4	93.76	92.70	91.91	91.19	90.68	90.08	89.73	89.22	88.86	88.64	88.33
4, Lo Average	86.58	85.66	84.86	84.22	83.72	83.21	82.77	82.40	82.05	81.81	81.55
4 & 5	79.93	79.12	78.46	77.74	77.32	76.83	76.43	76.15	75.76	75.55	75.31
5 Minimum	73.73	73.06	72.38	71.85	71.35	70.90	70.59	70.22	70.01	69.69	69.54

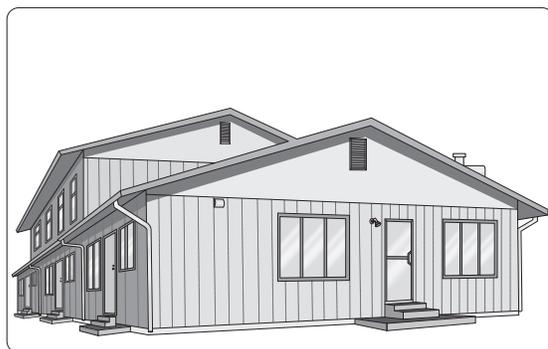
**Note:** Work outside metropolitan areas may cost 2 to 6% less. Add 2% to the costs for second floor areas and 4% for third floor areas. Add 9% when the exterior walls are masonry.

# Multi-Family Residences – Apartments

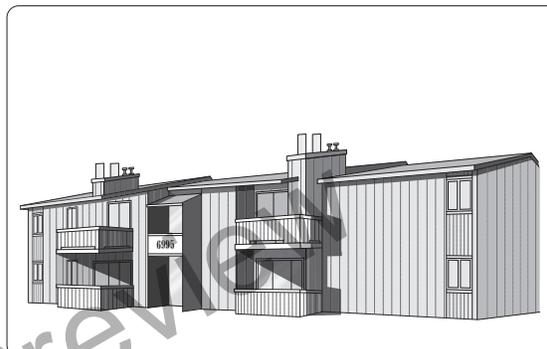
## 4 to 9 Units

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 19.
2. Multiply the average unit area by the appropriate square foot cost below. The average unit area is found by dividing the building area on all floors by the number of units in the building. The building area should include office and utility rooms, interior hallways and interior stairways.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of balconies, porches, garages, heating and cooling equipment, basements, fireplaces, carports, appliances and plumbing fixtures beyond that listed in the quality classification. See the cost of these items on pages 27 to 31.
5. Costs assume one bathroom per unit. Add the cost of additional bathrooms from page 30.



Multi-Family, Class 3 & 4



Multi-Family, Class 3

### Average Unit Area in Square Feet

Quality Class	400	450	500	550	600	650	700	750	800	900	1,000
Exceptional	208.96	199.72	194.63	190.52	186.89	183.96	181.75	179.22	177.56	174.14	171.37
1, Best	183.65	175.48	170.98	167.36	164.28	161.62	159.63	157.44	156.00	153.08	150.63
1, & 2	160.95	153.87	149.89	146.80	143.97	141.71	140.03	138.02	136.81	134.24	132.04
2, Good	140.87	134.68	131.23	128.41	126.04	124.03	122.50	120.71	119.61	117.41	115.51
2 & 3	128.89	123.16	120.07	117.47	115.28	113.42	112.07	110.46	109.51	107.37	105.77
3, Hi Average	117.92	112.74	109.77	107.42	105.33	103.74	102.54	100.97	100.20	98.18	96.78
3 & 4	108.93	104.04	101.32	99.16	97.38	95.86	94.61	93.21	92.53	90.75	89.22
4, Lo Average	100.52	96.02	93.70	91.61	89.90	88.45	87.31	86.17	85.42	83.77	82.40
4 & 5	92.80	88.71	86.52	84.59	82.98	81.67	80.74	79.57	78.85	77.36	76.15
5 Minimum	85.71	81.89	79.78	78.13	76.65	75.43	74.58	73.49	72.74	71.39	70.22

### Average Unit Area in Square Feet

Quality Class	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,200
Exceptional	169.67	167.83	166.33	164.98	163.96	162.84	162.04	161.39	160.58	160.02	159.63
1, Best	148.98	147.48	146.10	144.92	144.07	143.08	142.38	141.75	141.04	140.60	140.25
1, & 2	130.67	129.26	128.16	127.09	126.24	125.43	124.86	124.29	123.70	123.32	122.95
2, Good	114.36	113.16	112.15	111.18	110.48	109.81	109.29	108.76	108.26	107.88	107.59
2 & 3	104.64	103.49	102.54	101.68	101.15	100.52	99.96	99.53	98.98	98.65	98.42
3, Hi Average	95.73	94.61	93.78	93.13	92.53	91.87	91.42	91.00	90.57	90.34	90.01
3 & 4	88.40	87.31	86.60	85.87	85.37	84.85	84.43	84.07	83.70	83.30	83.16
4, Lo Average	81.57	80.74	79.98	79.37	78.85	78.34	78.05	77.65	77.30	76.96	76.76
4 & 5	75.33	74.58	73.88	73.23	72.74	72.35	71.96	71.68	71.30	71.05	70.85
5 Minimum	69.58	68.87	68.22	67.61	67.22	66.83	66.48	66.23	65.89	65.56	65.47

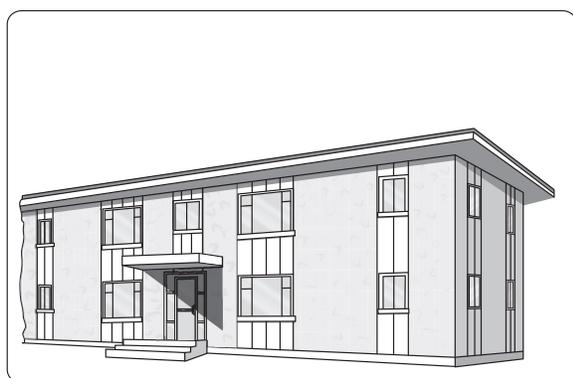
**Note:** Work outside metropolitan areas may cost 2 to 6% less. Add 2% to the costs for second floor areas and 4% for third floor areas. Add 9% when the exterior walls are masonry.

# Multi-Family Residences – Apartments

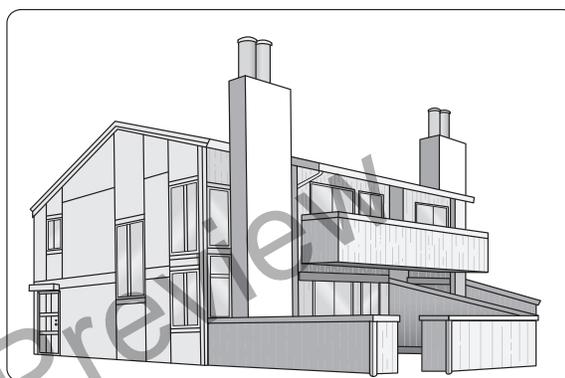
## 10 or More Units

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 19.
2. Multiply the average unit area by the appropriate square foot cost below. The average unit area is found by dividing the building area on all floors by the number of units in the building. The building area should include office and utility rooms, interior hallways and interior stairways.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of balconies, porches, garages, heating and cooling equipment, basements, fireplaces, carports, appliances and plumbing fixtures beyond that listed in the quality classification. See the cost of these items on pages 27 to 31.
5. Costs assume one bathroom per unit. Add the cost of additional bathrooms from page 30.



Multi-Family, Class 4



Multi-Family, Class 3 & 4

### Average Unit in Square Feet

Quality Class	400	450	500	550	600	650	700	750	800	900	1,000
Exceptional	197.56	187.83	183.96	180.12	176.50	173.75	171.37	169.25	167.54	164.60	162.20
1, Best	173.46	165.03	161.62	158.18	154.98	152.67	150.63	148.69	147.12	144.67	142.47
1, & 2	152.09	144.72	141.71	138.74	135.94	133.92	132.04	130.32	129.08	126.73	124.97
2, Good	133.10	126.61	124.03	121.35	119.00	117.20	115.51	114.11	112.97	110.97	109.30
2 & 3	121.76	115.85	113.42	111.12	108.93	107.22	105.77	104.39	103.37	101.52	99.99
3, Hi Average	111.38	105.90	103.74	101.60	99.59	98.01	96.78	95.50	94.50	92.80	91.48
3 & 4	102.88	97.93	95.86	93.78	91.91	90.46	89.22	88.12	87.26	85.75	84.50
4, Lo Average	94.95	90.38	88.45	86.60	84.86	83.67	82.40	81.49	80.69	79.13	78.08
4 & 5	87.75	83.50	81.67	79.98	78.46	77.19	76.15	75.13	74.40	73.07	72.02
5 Minimum	80.98	77.06	75.43	73.88	72.38	71.28	70.22	69.43	68.67	67.48	66.50

### Average Unit in Square Feet

Quality Class	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,200
Exceptional	160.17	158.57	157.03	155.85	154.62	153.79	153.16	152.41	151.75	151.07	150.75
1, Best	140.69	139.28	138.01	136.81	135.80	135.06	134.56	133.87	133.39	132.70	132.38
1, & 2	123.36	122.11	120.99	120.07	119.10	118.52	117.99	117.43	116.89	116.44	116.03
2, Good	107.98	106.91	105.90	105.00	104.13	103.69	103.19	102.74	102.21	101.82	101.60
2 & 3	98.86	97.82	96.89	96.11	95.20	94.82	94.47	93.96	93.58	93.16	92.93
3, Hi Average	90.38	89.50	88.64	87.88	87.17	86.73	86.43	85.97	85.62	85.26	84.92
3 & 4	83.50	82.59	81.88	81.16	80.44	80.13	79.69	79.43	79.02	78.68	78.53
4, Lo Average	77.06	76.29	75.55	74.93	74.38	73.99	73.61	73.25	73.05	72.66	72.52
4 & 5	71.17	70.54	69.81	69.24	68.65	68.25	67.99	67.72	67.39	67.14	66.92
5 Minimum	65.70	65.02	64.46	63.95	63.38	63.02	62.83	62.50	62.26	61.96	61.83

**Note:** Work outside metropolitan areas may cost 2 to 6% less. Add 2% to the costs for second floor areas and 4% for third floor areas. Add 9% when the exterior walls are masonry.

# Motels

## Quality Classification

	Class 1 Best Quality	Class 2 Good Quality	Class 3 Average Quality	Class 4 Low Quality
<b>Foundation</b> (4%) Foundation costs will vary greatly with substrate, type, and location.	Concrete slab	Concrete slab	Concrete slab	Concrete slab
<b>Framing*</b> (20% of total Cost)	Wood frame.	Wood frame.	Wood frame.	Wood frame.
<b>Windows</b> (2% of total Cost)	Large, good quality.	Average number and quality.	Average number and quality.	Small, few, low cost.
<b>Roofing</b> (8% of total Cost)	Heavy, shake, tile or slate.	Medium shake or good built-up with large rock, inexpensive tile.	Wood or good composition shingle, light shake, or good built-up with rock.	Inexpensive shingles or built-up with rock.
<b>Overhang</b> (2% of total Cost)	36" open or 24" closed.	30" open or small closed.	16" open.	12" to 16" open.
<b>Exterior Walls</b> (10% of total Cost)	Good wood or stucco, masonry veneer on front.	Good wood siding or stucco with some veneer.	Hardboard, wood shingle, plywood or stucco.	Low cost stucco, hardboard or plywood.
<b>Flooring</b> (5% of total Cost)	Good carpet, good sheet vinyl.	Good carpet, sheet vinyl or inlaid resilient.	Average carpet, average resilient tile in bath.	Minimum tile or low cost carpet.
<b>Interior Finish</b> (23% of total cost including finish carpentry, wiring, lighting, etc.)	Gypsum board with heavy texture or plaster with putty coat. Some good sheet wall cover or paneling.	Gypsum board, taped, textured and painted or plaster. Some wall-paper.	Gypsum board taped and textured or colored interior stucco.	Minimum gypsum board.
<b>Baths</b> (15% of total Cost)	Vinyl or foil wall cover, ceramic tile over tub with glass shower door, ample mirrors.	Ceramic tile over tub with glass shower door.	Plastic coated hardboard with low cost glass shower door.	Plastic coated hardboard with one small mirror.
<b>Plumbing**</b> (9% of total Cost)	Copper tube, good quality fixtures.	Galvanized pipe, good fixtures.	Average cost fixtures.	Plastic pipe, low cost fixtures.
<b>Special Features</b> (2% of total Cost)	8' sliding glass door, 8' to 10' tile pullman in bath.	8' sliding glass door, good tile or plastic top pullman in bath.	Small tile or plastic pullman in bath.	None.
<b>*For Masonry Walls</b>	8" textured face reinforced masonry.	8" colored or detailed reinforced masonry.	8" colored block or common brick, reinforced.	8" painted concrete block.
<b>Note:</b> When masonry walls are used in lieu of wood frame walls add 8% to the appropriate cost				
<b>**Add the Following Amounts per Kitchen Unit</b>				
<b>Kitchens</b>	Good sink, 8' to 10' of good cabinets and drainboard - \$3,700	Average sink and 6' to 8' average cabinet and drainboard - \$3,430	Low cost sink, and 5' of cabinets and drainboard - \$2,460	Minimum sink, cabinets and drainboard - \$2,090
Add the cost of built-in kitchen fixtures from the table of costs for built-in appliances on page 29.				

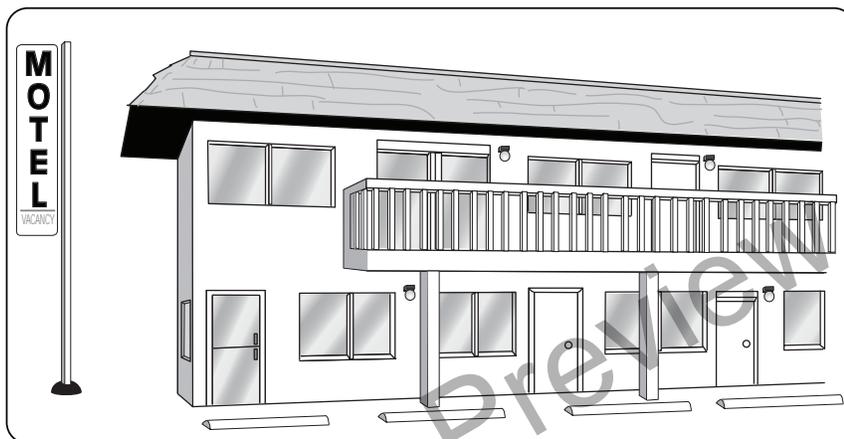
**Note:** Use the percent of total cost to help identify the correct quality classification.

# Motels

## 9 Units or Less

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 23.
2. Multiply the average unit area by the appropriate cost below. The average unit area is found by dividing the total building area on all floors (including office and manager's area, utility rooms, interior hallways and stairway area) by the number of units in the building.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of heating and cooling equipment, porches, balconies, exterior stairs, garages, kitchens, built-in kitchen appliances and fireplaces. See pages 23 and 27 to 31.



Motel, Class 3 & 4

### Average Unit Area in Square Feet

Quality Class	200	225	250	275	300	330	375	425	500	600	720
1, Best	165.64	159.71	155.05	151.11	147.87	144.67	140.79	137.38	133.58	129.93	126.94
1 & 2	152.16	146.69	142.41	138.82	135.88	132.87	129.25	126.17	122.67	119.38	116.57
2, Good	141.20	136.17	132.17	128.86	126.08	123.35	120.01	117.16	113.85	110.76	108.20
2 & 3	129.74	125.15	121.42	118.39	115.86	113.32	110.23	107.63	104.63	101.82	99.47
3, Average	120.40	116.10	112.72	109.86	107.49	105.12	102.32	99.82	97.07	94.44	92.28
3 & 4	110.50	106.57	103.44	100.83	98.69	96.50	93.88	91.68	89.07	86.71	84.66
4, Low	101.02	97.36	94.50	92.17	90.16	88.22	85.82	83.78	81.40	79.20	77.37

**Note:** Add 2% for work above the first floor. Work outside metropolitan areas may cost 2 to 6% less. Add 8% when the exterior walls are masonry. Deduct 2% for area built on a concrete slab.

# Motels

## 10 to 24 Units

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 23.
2. Multiply the average unit area by the appropriate cost below. The average unit area is found by dividing the total building area on all floors (including office and manager's area, utility rooms, interior hallways and stairway area) by the number of units in the building.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of heating and cooling equipment, porches, balconies, exterior stairs, garages, kitchens, built-in kitchen appliances and fireplaces. See pages 23 and 27 to 31.



Motel, Class 3

### Average Unit Area in Square Feet

Quality Class	200	225	250	275	300	330	375	425	500	600	720
1, Best	160.49	154.79	150.18	146.47	143.33	140.17	136.39	133.14	129.44	125.89	123.00
1 & 2	147.42	142.19	137.97	134.53	131.62	128.75	125.28	122.28	118.90	115.69	112.95
2, Good	136.93	132.08	128.10	124.91	122.25	119.56	116.33	113.52	110.36	107.40	104.94
2 & 3	125.75	121.26	117.60	114.70	112.25	109.72	106.84	104.25	101.34	98.60	96.32
3, Average	116.64	112.48	109.19	106.40	104.12	101.87	99.09	96.73	94.04	91.54	89.35
3 & 4	107.06	103.24	100.21	97.69	95.61	93.49	90.94	88.82	86.27	84.00	82.05
4, Low	97.87	94.33	91.59	89.30	87.38	85.50	83.13	81.16	78.92	76.79	75.01

**Note:** Add 2% for work above the first floor. Work outside metropolitan areas may cost 2 to 6% less. Add 8% when the exterior walls are masonry. Deduct 2% for area built on a concrete slab.

# Motels

## Over 24 Units

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 23.
2. Multiply the average unit area by the appropriate cost below. The average unit area is found by dividing the total building area on all floors (including office and manager's area, utility rooms, interior hallways and stairway area) by the number of units in the building.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of heating and cooling equipment, porches, balconies, exterior stairs, garages, kitchens, built-in kitchen appliances and fireplaces. See pages 23 and 27 to 31.



Motel, Class 2 & 3

### Average Unit Area in Square Feet

Quality Class	200	225	250	275	300	330	375	425	500	600	720
1, Best	155.21	149.66	145.22	141.63	138.53	135.52	131.87	128.74	125.18	121.78	119.00
1 & 2	142.64	137.54	133.42	130.13	127.30	124.50	121.13	118.27	114.98	111.88	109.30
2, Good	132.39	127.73	123.91	120.83	118.25	115.63	112.57	109.80	106.81	103.89	101.52
2 & 3	121.62	117.24	113.80	110.97	108.52	106.17	103.32	100.79	98.04	95.42	93.22
3, Average	112.80	108.76	105.56	102.92	100.68	98.54	95.87	93.59	90.97	88.50	86.49
3 & 4	103.53	99.80	96.83	94.37	92.39	90.42	87.91	85.83	83.47	81.22	79.34
4, Low	94.65	91.24	88.52	86.29	84.45	82.64	80.37	78.46	76.30	74.28	72.51

**Note:** Add 2% for work above the first floor. Work outside metropolitan areas may cost 2 to 6% less. Add 8% when the exterior walls are masonry. Deduct 2% for area built on a concrete slab.

## Additional Costs for Residential Structures

### Covered Porches

Estimate covered porches by applying a fraction of the main building square foot cost.

Porch Description	Suggested Fraction
Ground level floor (usually concrete) without banister, with no ceiling and shed-type roof.	1/4 to 1/3
High (house floor level) floor (concrete or wood) with light banister, no ceiling and shed-type roof.	1/3 to 1/2
Same as above with a finished ceiling and roof like the residence (most typical).	1/2
Same as above but partially enclosed with screen or glass.	1/2 to 2/3
Enclosed lean-to (sleeping porch, etc.) with lighter foundation, wall structure, interior finish or roof than that of house to which it is attached.	1/2 to 3/4
Roofed, enclosed, recessed porch, under the same roof as the main building and with the same type and quality foundation (includes shape costs).	3/4
Roofed, enclosed, recessed porch with the same type roof and foundation as the main building (includes shape costs).	4/4
Good arbor or pergola with floor.	1/4 to 1/3

### Uncovered Concrete Decks, cost per square foot, 4" thick concrete

	On Grade	1' High	2' High	3' High	4' High
Less than 100 square feet	\$7.99	\$11.17	\$17.96	\$25.21	\$36.75
100 to 200 square feet	7.27	10.08	14.56	20.48	27.30
200 to 400 square feet	6.18	7.99	12.47	18.16	23.52
Over 400 square feet	5.99	7.27	10.97	14.56	18.96

### Uncovered Wood Decks, cost per square foot, 2" thick deck with typical steps and railing

1' to 4' above ground.	\$23.07 to \$26.89
Over 4' to 6' above ground	26.80 to 34.54
Over 6' to 9' above ground	27.96 to 36.55
Over 9' to 12' above ground	28.98 to 38.24
Over 12' above ground	30.50 to 39.82

### Porch Roofs, cost per square foot based on wood shingle cover

Type	Cost per Square Foot	Alternate Roof Covers	Cost Difference per S.F.
Unceiled shed roof	\$9.13 to \$10.87	Corrugated aluminum	Deduct \$.78 to \$.98
Ceiled shed roof	15.43 to 17.41	Roll asphalt	Deduct .79 to .88
Unceiled gable roof	10.29 to 13.35	Fiberglass shingles	Deduct .98 to 1.09
Ceiled gable roof	17.40 to 19.29	Wood shakes	Add 1.13 to 1.75
(See the figures at the right for other roof cover)		Clay or concrete tile	Add 6.40 to 7.80
		Slate	Add 6.92 to 9.54

### Residential Basements, cost per square foot, including stairs

Size	Unfinished Basements	Finished Basements
Less than 400 square feet	\$25 to \$42	\$38 to \$57
400 - 1,000 square feet	19 to 28	32 to 38
Over 1,000 square feet	16 to 19	29 to 34

These basement costs assume normal soil conditions, 7' headroom, no plumbing, partitions or windows. Unfinished basements have reinforced concrete floors and concrete or concrete block walls, a floor drain, stairway with a landing and handrail, open ceilings and one switched fluorescent fixture. Finished residential basements have a tile ceiling, resilient flooring, wood panel walls and lighting similar to Class 5 residences. Residential basements are common in climates where footing depths must be 4' or more to prevent frost heaving. These figures assume the residence is in an area where minimum footing depth is 4 feet. Where climate doesn't influence footing depth, unfinished basement costs will be 20% to 50% higher.

## Additional Costs for Residential Structures

### Balconies, Standard Wood Frame, cost per square foot, including foundations

Supported by 4" x 4" posts, 2" wood floor, open on underside, open 2" x 4" railing.	\$20.50 to \$22.30
Supported by 4" x 4" posts, 2" wood floor, sealed on underside, solid stucco or wood siding on railing.	24.14 to 26.01
Supported by steel columns, lightweight concrete floor, sealed on underside, solid stucco or open grillwork railing	36.60 to 40.60

### Heating and Cooling Equipment

Prices include wiring and minimum duct work.

Use the higher figures for smaller residences and in more extreme climates where greater heating and cooling density is required. Cost per square foot of heated or cooled area.

Type	Perimeter Outlets	Overhead Outlets
Central Ducted Air Systems, Single Family		
Forced air heating	\$5.36 to \$5.93	\$4.19 to \$4.79
Forced air heating and cooling	6.03 to 7.18	5.76 to 6.08
Gravity heat	3.86 to 5.20	—
Central Ducted Air Systems, Multi-Family		
Forced air heating	4.61 to 5.08	4.41 to 5.07
Forced air heating and cooling	6.38 to 7.03	5.62 to 6.01
Motel Units		
Forced air heating	5.52 to 5.84	5.31 to 5.76
Forced air heating and cooling	6.51 to 7.03	6.32 to 6.51
Circulating hot and cold water system	12.80 to 15.06	12.80 to 15.06

### Floor and Wall Furnaces, cost each

Single floor unit	\$1,240 to \$1,415
Dual floor unit	2,205 to 2,370
Single wall unit	795 to 1,020
Dual wall unit	1,475 to 1,705
Thermostat control, add	115 to 138

### Electric Baseboard Units, cost each

500 watts, 3'	\$296 to \$332
1,000 watts, 4'	411 to 456
1,500 watts, 6'	442 to 489
2,000 watts, 8'	536 to 614
2,500 watts, 10'	624 to 681
3,000 watts, 12'	750 to 815

### Outside Stairways, cost per square foot of horizontal step area

Standard wood frame, wood steps with open risers, open on underside, open 2" x 4" railing, unpainted.	\$18.28 to \$20.11
Standard wood frame, solid wood risers, sealed on underside, solid stucco or wood siding on railing.	22.01 to 26.00
Precast concrete steps with open risers, steel frame, pipe rail with ornamental grillwork.	47.98 to 53.50

### Window Type or Thru-the-Wall

#### Refrigerated Room Coolers, cost each

1/3 ton	\$453 to \$532
1/2	535 to 665
3/4	540 to 849
1	670 to 825
1-1/2	866 to 920
2	927 to 1130
Ton = 12,000 Btu	

#### Electric Wall Heaters, cost each

1,000 watts	\$410 to \$480
2,000	477 to 515
3,000	500 to 647
3,500	580 to 714
4,000	682 to 750
4,500	750 to 955
Add for circulating fan	79 to 115
Add for thermostat	52 to 115

## Additional Costs for Residential Structures

**Appliances.** Add these costs only when the appliance is not included in the quality class. Includes installation.

Built-in single wall oven with broiler	\$561 to \$677	Range hood and fan	\$168 to \$397
Built-in double wall oven with microwave	1,015 to 1,910	Franklin or Buck stove	
Drop-in range with single oven, economy	449 to 677	Steel, cast iron front	1,345 to 2,030
Drop-in range with single oven, excellent	1,122 to 2,100	Steel, cast iron front, glass door	2,030 to 2,810
Range top, four elements		All cast iron, glass panel door	3,490 to 5,060
Residential grade, without grill	505 to 950	Under counter 5 CF refrigerator	622 to 902
Residential grade, with grill	835 to 1,410	Central vacuum, 3 to 5 outlets	1,915 to 3,830
Commercial grade	3,830 to 6,410	Dishwasher	306 to 1,130
Hot water circulator	622 to 673	Garbage disposal	204 to 476
Instant hot water dispenser	510 to 720	Trash compactor	385 to 645

**Fireplaces,** cost each, including reinforced foundation, flue, cap, gas line and valve.

	1 Story	2 Story
Freestanding wood burning heat circulating prefab metal fireplace with interior flue, base and cap	\$2,005	\$2,450
36" wide zero-clearance enclosed metal firebox, brick face, wood mantel	2,340	2,660
48" wide zero-clearance enclosed metal firebox, raised hearth, brick face and mantel	3,230	3,668
Masonry, 5' base, common brick or block on interior face, wood or brick mantle	5,125	5,780
Masonry, 6' base, used brick or natural stone on interior face, raised hearth	10,240	12,110
Masonry, 8' base, used brick or natural stone on interior face, raised hearth	12,240	17,770

### Residential Garages and Carports

Attached and detached garages for single family dwellings usually fall in the same quality class as the main structure. Costs are per SF of floor based on wood or light steel construction. Add 8% if exterior walls are masonry. Attached garages assume a 20 foot wall in common with the main structure. Multiply the square foot cost below by the correct location factor on page 7 or 8 to find the square foot cost for any garage. Costs include interior finish and one light fixture per 300 SF of floor. Deduct 10% to 18% if interior walls are unfinished. Where dwelling and exterior garage walls are in vertical alignment with second floor walls, the garage cost per SF will be about 2/3 of the main dwelling cost per SF if finished and 1/2 of the main dwelling cost if unfinished. Carports with wood or steel posts, an asphalt floor, and built-up or metal roof will cost \$15.80 to \$18.30 per SF.

#### Square Foot Area for Attached Garages for Single Family Dwellings

Quality Class	220	260	280	320	360	400	440	480	540	600	720
1, Luxury	157.23	149.81	146.65	142.04	136.69	133.31	129.33	126.13	123.01	119.94	116.96
1, & 2	136.39	130.08	127.47	123.27	119.04	116.06	112.62	109.83	107.08	104.44	101.83
2, Semi-Luxury	102.53	97.91	96.05	92.92	89.73	87.51	84.90	82.80	80.75	78.72	76.76
2 & 3	82.94	77.69	76.49	75.48	72.88	71.08	68.95	67.27	65.58	63.95	62.37
3, Best Std.	68.94	65.93	64.73	62.67	60.72	59.21	57.46	56.00	54.63	53.26	51.94
3 & 4	58.38	56.01	55.06	53.39	51.46	50.17	48.68	47.47	46.29	45.14	44.03
4, Good Std.	51.68	49.31	48.43	47.11	45.55	44.41	43.08	42.01	40.97	39.96	38.97
4 & 5	48.77	46.14	45.09	43.61	42.05	41.01	39.77	38.79	37.82	36.90	35.97
5 Avg. Std.	45.67	42.87	41.86	40.27	38.54	37.58	36.46	35.55	34.68	33.80	32.97
5 & 6	40.53	38.27	37.41	35.96	34.63	33.75	32.74	31.94	31.15	30.38	29.61
6, Min. Std.	35.51	33.66	33.13	32.04	30.82	30.04	29.16	28.42	27.70	27.04	26.35

#### Square Foot Area for Detached Garages for Single Family Dwellings

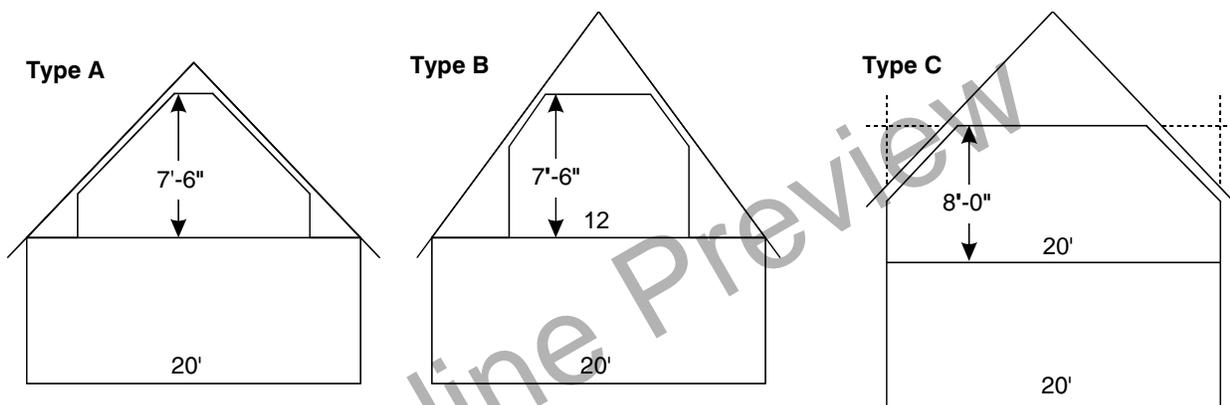
Quality Class	220	260	280	320	360	400	440	480	540	600	720
1, Luxury	178.84	165.28	160.36	151.80	148.80	144.08	137.81	134.39	131.05	127.80	124.62
1, & 2	154.08	142.87	138.30	131.22	128.85	124.75	119.33	116.37	113.47	110.64	107.90
2, Semi-Luxury	114.85	106.79	103.63	98.35	96.65	93.59	89.49	87.29	85.12	83.00	80.93
2 & 3	92.85	86.24	83.62	79.42	78.13	75.63	72.35	70.56	68.79	67.09	65.43
3, Best Std.	76.87	71.38	69.29	65.89	64.82	62.77	60.02	58.54	57.07	55.67	54.29
3 & 4	68.09	63.38	61.47	58.52	57.65	55.79	53.38	52.06	50.76	49.49	48.27
4, Good Std.	60.05	55.93	54.25	51.58	50.82	49.19	47.06	45.88	44.75	43.64	42.55
4 & 5	55.48	51.64	50.14	47.23	47.04	45.55	43.55	42.47	41.42	40.38	39.38
5 Avg. Std.	52.43	48.00	46.29	43.64	42.69	41.35	39.54	38.55	37.59	36.65	35.75
5 & 6	44.11	40.74	39.34	37.31	36.68	35.52	33.96	33.12	32.30	31.50	30.70
6, Min. Std.	38.43	35.50	34.49	32.72	32.28	31.25	29.89	29.16	28.41	27.69	27.04

## Additional Costs for Residential Structures

### Costs for Multi-Family Residential Bathrooms beyond 1 per unit

	Class 1 Best Quality	Class 2 Good Quality	Class 3 High Average	Class 4 Low Average	Class 5 Minimum Quality
<b>2 or 3 units</b>					
2 fixture bath	\$8,277	\$6,661	\$5,634	\$4,694	\$3,973
3 fixture bath	12,015	10,243	8,497	7,314	5,855
4 fixture bath	15,287	13,214	11,797	9,665	8,275
<b>4 to 9 units</b>					
2 fixture bath	7,639	6,333	5,293	4,423	3,647
3 fixture bath	10,810	9,389	8,082	6,718	5,406
4 fixture bath	14,959	12,666	10,471	8,725	7,208
<b>10 or more units</b>					
2 fixture bath	6,879	5,855	4,970	3,865	3,188
3 fixture bath	10,593	8,846	7,427	5,853	4,806
4 fixture bath	13,977	12,015	9,609	7,863	6,006

### Half Story Areas



Use a fraction of the basic square foot cost for figuring the reduced headroom floor area.  
Type "C" includes typical dormers.

Type	Same Finish As Main Area	Lesser Quality Finish
A	1/3	1/4
B	1/2	1/3
C	2/3	1/2

### Elevators, per shaft cost for car and machinery

**Hydraulic** based on two stops

Capacity	100 F.P.M.	200 F.P.M.
2,000 lbs.	\$44,370	\$73,460
2,500 lbs.	47,678	76,625
3,000 lbs.	49,520	82,110
3,500 lbs.	—	86,700
4,000 lbs.	—	89,800

Add for deluxe car, \$9,125. Add for each additional stop over 2: \$3,500, baked enamel doors \$9,410, stainless steel doors \$9,910.

**Electric** based on six stops

Capacity	200 F.P.M.	250 F.P.M.	300 F.P.M.
2,000 lbs.	\$111,412	\$117,900	\$122,460
2,500 lbs.	117,980	124,550	132,135
3,000 lbs.	126,670	138,435	142,940
3,500 lbs.	138,535	147,225	154,862
4,000 lbs.	147,345	159,245	166,805

Add \$8,630 for a deluxe car. Add \$9,370 for each additional stop over 6.

## Multi-Family and Motel Garages Cost Per Square Foot

**Garages built at ground level under a multi-family or motel unit.** The costs below include the following components:

1. A reinforced concrete floor in all areas.
2. Exterior walls, on one long side and two short sides, made up of a wood frame and good quality stucco, wood siding or masonry veneer.
3. A finished ceiling in all areas.
4. The difference between the cost of a standard wood frame floor structure at second floor level and one at ground level.
5. An inexpensive light fixture for each 600 square feet.

Where no exterior walls enclose the two short sides, use  $\frac{2}{3}$  of the square foot cost.

**Garages built as separate structures for multi-family or motel units.** The costs below include the following components:

1. Foundations.
2. A reinforced concrete floor in all areas.
3. Exterior walls on one long side and two short sides, made up of a wood frame and good quality stucco, wood siding or masonry veneer.
4. Steel support columns supporting the roof.

5. A wood frame roof structure with composition tar and gravel, wood shingle or light shake cover. No interior ceiling finish.
6. An inexpensive light fixture for each 600 square feet.

Use the location modifiers on page 7 or 8 to adjust garage costs to any area.

### Basement Garages

Costs listed below are per square foot of floor, including the horizontal area of stairs and the approach ramp. These costs assume a single-level garage is built on one level, approximately 5 feet below grade, directly below 2 to 4 story multi-family structure with perimeter walls in vertical alignment. These costs include:

1. Excavation to 5' below ground line.
2. Full wall enclosure.
3. Typical storage facilities.
4. Minimum lighting.
5. Concrete floors.

Use the location modifiers on page 7 or 8 to adjust garage costs to the site.

### Ground Level Garages

Area	400	800	1,200	2,000	3,000	5,000	10,000	20,000
Cost	35.75	31.99	28.58	25.10	23.50	22.54	21.91	20.88

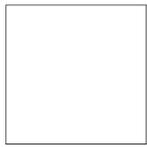
### Separate Structure Garages

Area	400	800	1,200	2,000	3,000	5,000	10,000	20,000
Cost	41.00	36.50	33.50	31.79	30.43	29.20	27.96	27.35

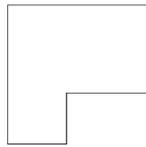
### Basement Garages

Type	5,000	7,500	10,000	15,000	20,000	30,000	40,000	60,000
Reinforced concrete exterior walls and columns.								
Flat concrete roof slab.	54.59	49.93	47.78	47.10	45.71	45.17	44.53	44.04
Concrete block exterior walls, reinforced concrete columns. Flat concrete roof slab.	54.26	50.85	47.53	46.23	45.25	44.64	44.00	42.54
Concrete block exterior walls, steel posts and beams, light concrete/metal roof fireproofed with spray plaster.	50.90	46.55	44.32	38.40	36.72	41.19	39.90	39.28
Concrete block exterior walls, wood posts and beams, light concrete/metal roof fireproofed with spray plaster.	45.42	43.15	40.47	37.69	36.50	36.00	35.43	34.78
Add for each security gate	3.41	2.48	2.09	1.55	1.31	1.06	.92	.81

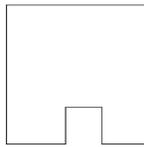
## Cabins and Recreational Dwellings



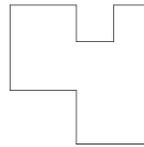
4 corners



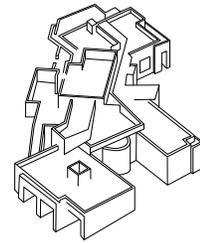
6 corners



8 corners



10 corners



2 building masses

### Example of Dwelling Shapes

Cabins and recreational dwellings are designed for single family occupancy, usually on an intermittent basis. These structures are characterized by a more rustic interior and exterior finish and often have construction details which would not meet building requirements in metropolitan areas. Classify these structures into either "conventional type" or "A-frame" construction. Conventional dwellings have an exterior wall which is approximately 8 feet high on all sides. A-frame cabins have a sloping roof which reduces the horizontal area 8 feet above the first floor to between 50% and 75% of the first floor area.

Conventional recreational dwellings vary widely in quality and the quality of construction is the most significant factor influencing cost. Conventional recreational dwellings are listed in six quality classes. Class 1 is the most expensive commonly encountered and Class 6 is the minimum commonly encountered. Nearly all conventional recreational dwellings built from stock plans will fall into Class 3, 4, 5, or 6. For convenience, these classes are labeled *Best Standard*, *Good Standard*, *Average Standard* or *Minimum Standard*. Class 1 residences are labeled *Luxury*. Class 2 residences are labeled *Semi-Luxury*. Class 1 and 2 residences are designed by professional architects, usually to meet preferences of the first owner.

The shape of the outside perimeter also has a significant influence on cost: The more complex the shape, the more expensive the structure per square foot of floor. The shape classification of multiple story or split-level conventional recreational dwellings should be based on the outline formed by the outermost exterior walls, including the garage area, regardless of the story level. Most conventional recreational dwellings fall into Classes 3, 4, 5 or 6 and have 4, 6, 8 or 10 corners, as illustrated above. Small insets that do not require a change in the roof line can be ignored when evaluating the outside perimeter.

Class 1 and 2 (*Luxury and Semi-Luxury*) conventional recreational dwellings have more than ten corners and are best evaluated by counting the "building masses." A building mass is a group of contiguous rooms on one or more levels with access at varying angles from a common point or hallway. The illustration at the right above represents a conventional recreational dwelling with two building masses. Most Class 1 and Class 2 conventional recreational dwellings have from one to four building masses, ignoring any attached garage. For convenience, cost tables for Class 1 and 2 conventional recreational dwellings with one, two, three or four building masses have been appended to cost tables for Class 3, 4, 5 and 6 conventional recreational dwellings with 4, 6, 8 and 10 building corners.

Conventional recreational dwellings which have features of two or more quality classes can be placed between two of the six labeled classes. The tables have five half-classes (1 & 2, 2 & 3, etc.) which can be applied to conventional recreational dwellings with some characteristics of two or more quality classes. If a portion of a conventional recreational dwelling differs significantly in quality from other portions, evaluate the square footage of each portion separately.

Cabins and recreational dwellings are often built under difficult working conditions and in remote sites. Individual judgments may be necessary in evaluating the cost impact of the dwelling location. The costs assume construction by skilled professional craftsmen. Where non-professional labor or second quality materials are used, use the next lower quality classification that might otherwise apply. If the structure is assembled from prefabricated components, use costs for the next lower half class.

## Conventional Recreational Dwellings

### Quality Classification

	Class 1 Luxury	Class 2 Semi-Luxury	Class 3 Best Std.	Class 4 Good Std.	Class 5 Average Std	Class 6 Minimum Std.
<b>Foundation</b> (8% of total cost)	Reinforced concrete on a sloping site.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete or concrete block.	Reinforced concrete or concrete block.	Wood piers, light concrete or block
<b>Floor Structure</b> (11% of total cost)	Engineered wood or steel, complex plan, elevation changes.	Engineered wood or steel trusses, good floor insulation.	Engineered wood or steel trusses, T&G sub-floor, good floor insulation.	Good wood frame with OSB sub-floor, some floor insulation.	Standard wood frame with OSB sub-floor, some floor insulation.	2" floor joists 16" on center with OSB sub-floor.
<b>Wall Framing and Exterior Finish</b> (14% of total cost)	Wood or steel, irregular walls, wood siding, stone veneer, top-grade doors and windows.	Wood or steel, irregular walls, wood siding, stone veneer, better doors and windows.	Wood or steel, several wall offsets, plywood or lap siding, good grade doors and windows.	Wood or steel, shingle or plywood siding, some trim or veneer, average doors and windows.	Wood or steel, wood panel siding few or no offsets, commodity grade doors and windows.	Wood or steel, panel hardboard siding, minimum grade doors and windows.
<b>Roof</b> (13% of total cost)	Complex, heavy tile or metal cover, highly detailed.	Multi-pitch, shake, metal or good tile surface.	Dual-pitch, wood single or tile surface, gable over entrances.	Wood trusses, wood or good fiberglass shingle surface.	Simple wood frame, fiberglass shingle surface.	Wood frame, fiberglass shingle or roll roofing cover.
<b>Floor Finish</b> (5% of total cost)	Stone or masonry tile entry, inlaid hardwood or best carpet throughout.	Masonry entry, good hardwood or carpet in most rooms, good sheet vinyl elsewhere.	Hardwood or tile entry, carpet in most rooms sheet vinyl in kitchen and bathrooms.	Good sheet vinyl or average carpet in most areas, some hardwood or tile.	Sheet vinyl or tile on most areas, carpet in living room.	Composition tile or minimum grade sheet vinyl.
<b>Interior Wall and Ceiling Finish</b> (8% of total cost)	Top-grade paneling or wallboard with artistic finish, many offsets and wall openings, decorative details in most rooms.	Good wood paneling or textured wallboard with decorative details in most rooms, many wall openings, several racks and shelves.	Good hardwood veneer paneling or gypsum wallboard, some irregular walls, decorative details in living room, entry and kitchen.	1/2" gypsum wallboard with smooth finish, plywood paneling at entry and living room, some decorative details.	1/2" gypsum wallboard with smooth finish, most walls are rectangular, doors and windows are the only openings.	Taped 1/2" gypsum wallboard, smooth or orange peel finish. Nearly all walls are regular, few decorative details.
<b>Interior Features</b> (5% of total cost)	Exposed beams or decorative details, 10' to 14' ceiling in great room, many sky widows, built-in shelving.	Great room has exposed beams, most rooms have windows on two sides, several framed openings.	Cathedral ceiling at entry or in master bedroom, floor level changes, several wall openings or pass-throughs.	Cathedral ceiling in master bedroom, sliding glass door, decorative wood molding and trim.	Rustic exposed ceiling beams, sliding closet doors, standard grade wood molding and trim.	Minimum grade molding and trim.
<b>Bath Detail</b> (4% of total cost)	At least 1 large tile shower, good tile counter in master bath.	Tile in 1 bathroom, glass block or good window in each bath, good vanity cabinet.	Tile or fiberglass shower, at least one built-in bathtub, good window in each bath.	Good plastic tub and shower in at least one bathroom, one small window in each bath.	Average plastic tub and shower in at least one bathroom, small vanity cabinet.	Minimum plastic tub and shower in one bathroom, minimum vanity.
<b>Kitchen Detail</b> (8% of total cost)	Over 20 LF of good custom wall & base cabinets, synthetic stone counter top, island work area.	15 to 18 LF of good custom base and wall cabinets, acrylic or tile counter top, desk with book shelf above.	12 to 15 LF of good stock wall and base cabinets, tile or acrylic counter top, desk and shelf or breakfast nook.	10 to 12 LF of stock standard grade wall and base cabinets, low-cost tile or laminated plastic counter top.	8 to 10 LF of stock standard grade wall and base cabinets, laminated plastic or resin coated hardboard top.	Less than 8 LF of low-cost wall and base cabinets, resin-coated hardboard counter top.
<b>Plumbing</b> (11% of total cost)	12 good fixtures, 2 water heaters, laundry room, copper piping.	10 good fixtures large water heater, laundry area, copper piping.	9 average grade fixtures, copper supply and plastic drain piping.	8 standard grade, fixtures, plastic supply and plastic drain lines.	7 low-cost fixtures, plastic supply and plastic drain lines.	6 or less minimum grade fixtures, plastic supply and drain lines.
<b>Special Features</b> (4% of total cost)	10 deluxe built-in appliances, good weather-protection throughout.	7 good built-in appliances, good wall and ceiling insulation.	6 good built-in appliances, good wall and ceiling, insulation.	5 average built-in appliances, adequate wall and ceiling insulation.	4 standard grade kitchen appliances, adequate ceiling insulation.	3 minimum grade built-in kitchen appliances, limited insulation.
<b>Electrical System</b> (9% of total cost)	Ample area and track lighting in most rooms, task light in bathrooms.	Good area and track lighting, simple light fixture in each bathroom.	Good light fixtures in kitchen and baths, limited fixtures in other rooms.	Good light fixture in most rooms, switch-operated outlet in bedrooms.	Simple light fixture in most rooms, switch-operated plugs in bedrooms.	5 or less lighting fixtures, switch-operated plug outlet in most rooms.

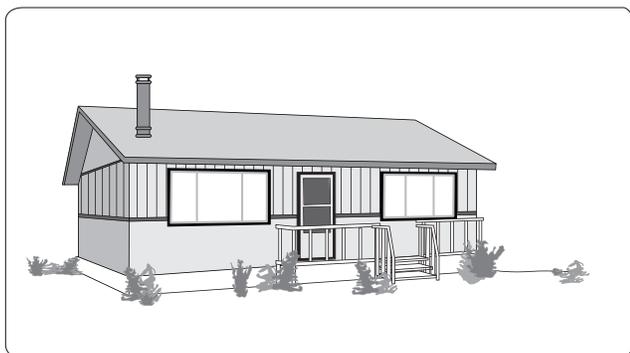
**Note:** Use the percent of total cost to help identify the correct quality classification.

## Conventional Recreational Dwellings

### 4 Corners (Classes 3, 4, 5, and 6) or One Building Mass (Classes 1 and 2 Only)

#### Estimating Procedure

1. Establish the structure quality class by applying the information on page 33.
2. Multiply the structure floor area by the appropriate cost listed below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a deck or porch, paving, fireplace, garage or carport, heating, extra plumbing fixtures, supporting walls, half story areas, construction on hillside lots, and construction in remote areas.  
See page 42.



**Conventional Recreational Dwelling, Class 5**



**Conventional Recreational Dwelling, Class 3**

#### Square Foot Area

Quality Class	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
1, Luxury	—	—	—	—	395.54	378.36	364.02	352.59	342.82	334.36	326.70
1, & 2	—	—	—	366.51	347.63	332.59	319.95	310.07	301.24	294.05	287.27
2, Semi-Luxury	—	—	343.94	321.69	305.05	291.89	280.79	272.26	264.41	258.07	252.02
2 & 3	—	322.99	298.49	279.14	264.58	253.28	243.53	236.40	229.29	223.80	218.72
3, Best Std.	269.80	241.98	223.67	209.17	198.34	189.75	182.50	177.08	171.89	167.72	163.90
3 & 4	246.56	221.18	204.32	191.09	181.24	173.45	166.91	161.82	157.15	153.32	149.80
4, Good Std.	225.32	202.08	186.84	174.59	165.70	158.48	152.40	147.89	143.55	140.20	136.92
4 & 5	207.93	186.43	172.34	161.20	152.84	146.29	140.61	136.45	132.35	129.26	126.37
5 Avg. Std.	191.75	171.97	159.05	148.63	141.00	134.89	129.71	125.80	122.22	119.31	116.48
5 & 6	176.89	158.73	146.63	137.11	130.02	124.44	119.69	116.03	112.80	109.93	107.49
6, Min. Std.	163.13	146.37	135.36	126.45	119.94	114.88	110.41	107.14	103.90	101.52	99.19

#### Square Foot Area

Quality Class	1,500	1,600	1,700	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
1, Luxury	321.87	315.36	310.74	306.23	298.30	291.15	286.30	280.94	277.69	273.11	270.48
1, & 2	281.57	277.32	273.13	269.21	262.30	255.81	251.73	246.92	244.22	240.21	237.71
2, Semi-Luxury	248.12	243.48	239.72	236.32	230.28	224.40	221.01	216.75	214.29	210.84	208.62
2 & 3	215.11	211.26	207.98	204.99	199.70	194.72	191.66	188.07	185.96	182.88	180.99
3, Best Std.	161.31	158.23	155.83	153.64	149.70	145.95	143.75	140.85	139.34	137.08	135.56
3 & 4	147.30	144.64	142.44	140.41	136.69	133.34	131.26	128.84	127.32	125.21	123.99
4, Good Std.	134.63	132.23	130.10	128.34	124.98	121.77	119.98	117.74	116.45	114.45	113.27
4 & 5	124.19	121.89	120.21	118.31	115.20	112.38	110.73	108.55	107.43	105.57	—
5 Avg. Std.	114.59	112.52	110.77	109.21	106.31	103.77	102.19	100.17	99.07	—	—
5 & 6	105.73	103.81	102.21	100.82	98.16	95.69	94.23	92.35	—	—	—
6, Min. Std.	97.57	95.74	94.29	92.92	90.49	88.27	86.83	—	—	—	—

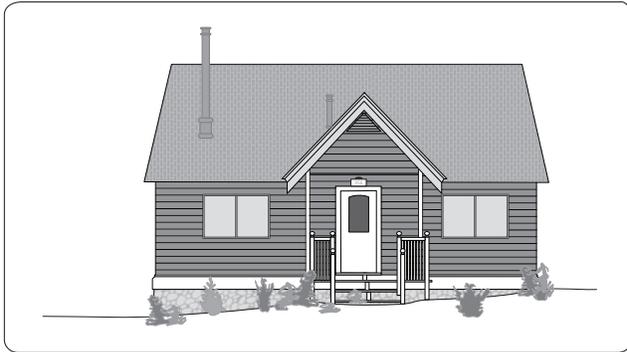
**Note:** Add 4% to the square foot cost for floors above the second floor level.

# Conventional Recreational Dwellings

## 6 Corners (Classes 3, 4, 5, and 6) or Two Building Masses (Classes 1 and 2 Only)

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 33.
2. Multiply the structure floor area by the appropriate cost listed below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a deck or porch, paving, fireplace, garage or carport, heating, extra plumbing fixtures, supporting walls, half story areas, construction on hillside lots, and construction in remote areas.  
See page 42.



Conventional Recreational Dwelling, Class 4 & 5



Conventional Recreational Dwelling, Class 3

### Square Foot Area

Quality Class	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
1, Luxury	—	—	—	—	404.23	386.82	372.16	361.40	351.36	343.07	335.61
1, & 2	—	—	—	374.09	355.47	340.16	327.20	317.80	308.81	301.49	294.86
2, Semi-Luxury	—	—	350.54	328.37	312.01	298.57	287.19	278.92	271.02	264.51	258.78
2 & 3	—	329.51	304.20	284.98	270.67	259.04	249.23	241.98	235.07	229.45	224.40
3, Best Std.	274.58	246.98	227.97	213.64	202.82	194.10	186.70	181.28	176.27	171.94	168.24
3 & 4	250.91	225.66	208.42	195.20	185.38	177.50	170.72	165.60	160.97	157.16	153.81
4, Good Std.	229.25	206.27	190.52	178.45	169.39	162.13	155.94	151.30	147.19	143.72	140.54
4 & 5	211.52	190.25	175.63	164.64	156.39	149.56	143.87	139.74	135.77	132.55	129.63
5 Avg. Std.	195.07	175.51	162.02	151.78	144.14	137.96	132.69	128.89	125.21	122.30	119.58
5 & 6	179.98	161.93	149.47	140.05	133.05	127.26	122.44	118.96	115.55	112.81	110.38
6, Min. Std.	166.11	149.34	137.90	129.20	122.76	117.48	113.00	109.68	106.58	104.03	101.77

### Square Foot Area

Quality Class	1,500	1,600	1,700	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
1, Luxury	329.99	323.76	319.38	314.82	306.86	299.19	295.01	289.30	286.17	281.77	278.87
1, & 2	290.08	284.71	280.71	276.70	269.63	263.03	259.28	254.43	251.70	247.63	244.93
2, Semi-Luxury	254.53	250.02	246.37	242.92	236.72	230.90	227.47	223.36	221.01	217.42	214.92
2 & 3	220.72	217.06	213.80	210.70	205.25	200.30	197.30	193.77	191.66	188.57	186.35
3, Best Std.	165.49	162.63	160.28	158.00	153.82	150.08	147.85	145.13	143.75	141.33	139.63
3 & 4	151.21	148.55	146.44	144.33	140.61	137.11	135.17	132.70	131.26	129.20	127.62
4, Good Std.	138.20	135.83	133.91	131.97	128.52	125.32	123.51	121.29	119.98	118.14	116.64
4 & 5	127.55	125.21	123.51	121.73	118.57	115.59	113.92	111.95	110.73	108.97	—
5 Avg. Std.	117.58	115.55	113.92	112.34	109.28	106.72	105.11	103.22	102.19	—	—
5 & 6	108.54	106.58	105.11	103.62	100.89	98.37	96.95	95.26	—	—	—
6, Min. Std.	100.12	98.29	96.95	95.59	93.02	90.80	89.48	—	—	—	—

**Note:** Add 4% to the square foot cost for floors above the second floor level.

## Conventional Recreational Dwellings

### 8 Corners (Classes 3, 4, 5, and 6) or Three Building Masses (Classes 1 and 2 only)

#### Estimating Procedure

1. Establish the structure quality class by applying the information on page 33.
2. Multiply the structure floor area by the appropriate cost listed below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a deck or porch, paving, fireplace, garage or carport, heating, extra plumbing fixtures, supporting walls, half story areas, construction on hillside lots, and construction in remote areas.  
See page 42.



**Conventional Recreational Dwelling, Class 3**



**Conventional Recreational Dwelling, Class 1 & 2**

#### Square Foot Area

Quality Class	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
1, Luxury	—	—	—	—	414.89	395.25	380.85	370.05	359.56	351.76	343.60
1, & 2	—	—	—	381.93	364.62	347.63	334.76	325.36	316.09	309.27	302.09
2, Semi-Luxury	—	—	357.77	335.13	319.95	305.15	293.87	285.49	277.56	271.31	265.14
2 & 3	—	335.62	310.35	290.77	277.58	264.77	254.97	247.56	240.85	235.39	230.01
3, Best Std.	278.95	251.47	232.60	217.82	208.02	198.42	191.09	185.52	180.51	176.46	172.38
3 & 4	255.06	229.96	212.54	199.20	190.18	181.33	174.71	169.61	164.93	161.20	157.56
4, Good Std.	233.04	210.11	194.33	181.96	173.81	165.74	159.60	154.96	150.72	147.24	144.00
4 & 5	215.03	193.79	179.25	167.83	160.31	152.90	147.20	143.02	139.16	135.91	132.96
5 Avg. Std.	198.37	178.77	165.32	154.90	147.87	141.02	135.83	131.97	128.34	125.32	122.50
5 & 6	182.95	164.93	152.46	142.85	136.45	130.10	125.23	121.73	118.31	115.60	113.11
6, Min. Std.	168.74	152.14	140.66	131.79	125.80	119.98	115.59	112.34	109.21	106.72	104.38

#### Square Foot Area

Quality Class	1,500	1,600	1,700	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
1, Luxury	338.42	331.93	327.01	323.71	314.82	308.07	302.82	298.02	294.54	289.69	286.98
1, & 2	297.43	291.89	287.57	284.57	276.74	270.59	266.27	261.97	260.83	254.64	252.32
2, Semi-Luxury	261.13	256.28	252.52	249.64	243.00	237.39	233.69	229.78	227.11	223.51	221.48
2 & 3	226.43	222.25	219.03	216.56	210.80	205.83	202.79	199.37	196.99	193.90	192.16
3, Best Std.	169.68	166.50	164.13	162.29	158.04	154.26	151.98	149.43	147.68	145.39	143.97
3 & 4	155.16	152.23	149.90	148.33	144.53	141.02	138.86	136.62	134.93	132.95	131.65
4, Good Std.	141.78	139.16	137.10	135.56	132.05	128.89	126.92	124.85	123.36	121.30	120.32
4 & 5	130.70	128.34	126.42	125.23	121.76	118.96	117.12	115.14	113.80	111.99	—
5 Avg. Std.	120.60	118.33	116.64	115.36	112.35	109.68	108.12	106.21	104.97	—	—
5 & 6	111.21	109.23	107.72	106.31	103.65	101.11	99.67	97.96	—	—	—
6, Min. Std.	102.58	100.82	99.24	98.16	95.68	93.39	91.96	—	—	—	—

**Note:** Add 4% to the square foot cost for floors above the second floor level.

## Conventional Recreational Dwellings

### 10 Corners (Classes 3, 4, 5, and 6) or Four Building Masses (Classes 1 and 2 only)

#### Estimating Procedure

1. Establish the structure quality class by applying the information on page 33.
2. Multiply the structure floor area by the appropriate cost listed below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a deck or porch, paving, fireplace, garage or carport, heating, extra plumbing fixtures, supporting walls, half story areas, construction on hillside lots, and construction in remote areas.  
See page 42.



**Conventional Recreational Dwelling, Class 2 & 3**



**Conventional Recreational Dwelling, Class 1**

#### Square Foot Area

Quality Class	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
1, Luxury	—	—	—	—	422.04	404.23	389.96	378.73	368.94	360.59	352.59
1, & 2	—	—	—	389.76	370.90	355.47	342.79	332.95	324.24	317.51	309.95
2, Semi-Luxury	—	—	364.62	342.11	325.43	312.01	300.82	292.21	284.49	277.99	272.03
2 & 3	—	341.57	316.43	296.83	282.30	270.67	260.88	253.45	246.68	241.05	236.00
3, Best Std.	283.90	256.04	237.10	222.44	211.60	202.82	195.48	190.00	184.91	180.62	176.77
3 & 4	259.46	234.09	216.74	203.32	193.32	185.38	178.77	173.54	169.00	165.28	161.55
4, Good Std.	237.02	213.85	198.06	185.85	176.69	169.39	163.43	158.73	154.47	150.94	147.72
4 & 5	218.76	197.34	182.73	171.40	163.01	156.39	150.63	146.37	142.46	139.26	136.26
5 Avg. Std.	201.87	181.96	168.56	158.10	150.44	144.14	138.97	135.11	131.43	128.40	125.69
5 & 6	186.18	167.83	155.46	145.84	138.75	133.05	128.30	124.53	121.27	118.55	115.91
6, Min. Std.	171.79	154.90	143.47	134.56	127.98	122.76	118.25	115.01	111.95	109.28	107.02

#### Square Foot Area

Quality Class	1,500	1,600	1,700	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
1, Luxury	347.70	341.35	335.95	331.41	324.00	316.06	311.88	306.08	302.88	296.39	294.77
1, & 2	305.74	300.06	295.38	291.43	284.84	277.74	274.20	269.24	266.43	260.64	259.37
2, Semi-Luxury	268.13	263.36	259.28	255.89	249.91	243.73	240.55	236.35	233.77	228.78	227.78
2 & 3	232.55	228.36	224.91	222.10	216.71	211.48	208.69	205.23	202.89	198.47	197.68
3, Best Std.	174.37	171.21	168.56	166.44	162.40	158.58	156.39	153.72	152.14	148.65	148.05
3 & 4	159.31	156.51	153.94	152.19	148.52	144.96	142.89	140.41	138.97	135.97	135.37
4, Good Std.	145.55	143.02	140.74	139.01	135.66	132.35	130.63	128.36	127.02	124.19	123.76
4 & 5	134.33	131.97	129.87	128.30	125.21	122.12	120.43	118.55	117.14	114.59	—
5 Avg. Std.	123.87	121.73	119.78	118.25	115.52	112.67	111.15	109.23	108.14	—	—
5 & 6	114.32	112.34	110.49	109.20	106.51	103.89	102.57	100.88	—	—	—
6, Min. Std.	105.45	103.62	101.88	100.71	98.22	95.77	94.58	—	—	—	—

**Note:** Add 4% to the square foot cost for floors above the second floor level.

## “A-Frame” Cabins

### Quality Classification

	<b>Class 1 Best Quality</b>	<b>Class 2 Good Quality</b>	<b>Class 3 Average Quality</b>	<b>Class 4 Low Quality</b>
<b>Framing</b> (10% of total cost)	Wood frame.	Wood frame.	Wood frame.	Wood frame.
<b>Floor Framing</b> (5% of total cost)	4" x 8" girders 48" o.c. with 2" T&G subfloor, or 2" x 6" to 2" x 8" joists 16" o.c. with 1" subfloor.	4" x 8" girders 48" o.c. with 1-1/4" plywood or 2" T&G subfloor, or 2" x 6" to 2" x 8" joists 16" o.c. with 1" subfloor.	4" x 6" girders 48" o.c. with 1-1/4" plywood or 2" T&G subfloor, or 2" x 6" joists 16" o.c. with 1" subfloor.	4" x 6" girders 48" o.c. with 1-1/4" plywood or 2" T&G subfloor, or 2" x 6" joists 16" o.c. with 1" subfloor.
<b>Roof Framing</b> (8% of total cost)	4" x 8" at 48" o.c. with 2" or 3" T&G sheathing.	4" x 8" at 48" o.c. with 2" or 3" T&G sheathing.	4" x 8" at 48" o.c. with 2" T&G sheathing.	4" x 8" at 48" o.c. with 1-1/4" plywood or 2" T&G sheathing.
<b>Gable End Finish</b> (5% of total cost)	Good plywood, lap board or board and batt.	Average to good plywood, or boards.	Average plywood, board or wood shingle.	Low cost plywood, shingle or composition siding.
<b>Windows</b> (2% of total cost)	Good quality large insulated wood or metal windows.	Average quality insulated wood or metal windows.	Average quality wood or metal windows.	Small glass area of low cost windows.
<b>Roofing</b> (10% of total cost)	Heavy wood shakes.	Medium wood or aluminum shakes.	Wood or composition shingles.	Low cost composition shingles.
<b>Flooring</b> (5% of total cost)	Good carpet or hardwood with sheet vinyl in kitchen and baths.	Average to good quality carpet with good tile or sheet vinyl in kitchen and baths.	Average quality carpet with resilient tile in kitchen and baths.	Composition tile.
<b>Interior Finish</b> (25% of total cost including finish carpentry, wiring, lighting, fireplace, etc.)	Good quality hardwood veneer paneling.	Good textured gypsum wallboard, good plywood or knotty pine paneling.	Textured gypsum wallboard or plywood paneling.	Low cost paneling or wallboard.
<b>Bathrooms</b> (5% of total cost)	Two 3-fixture baths and one 2-fixture bath, good fixtures.	Two 3-fixture baths, good fixtures.	Two 3-fixture baths, average fixtures.	One 3-fixture bath.
<b>Kitchen</b> (5% of total cost)	15' to 18' good quality hardwood veneer base cabinet with matching wall cabinets. 15' to 18' of good quality plastic or ceramic tile drain board.	12' to 16' of hardwood veneer base cabinet with matching wall cabinets. 12' to 16' of plastic or ceramic tile drainboard.	8' to 12' of average quality veneer or painted base cabinets with matching wall cabinets. 8' to 12' of plastic drainboard.	6' to 8' of minimum base cabinets with matching wall cabinets. 6' to 8' of minimum plastic drainboard.
<b>Plumbing</b> (15% of total cost)	Nine good quality fixtures and one larger or two 30 gallon water heaters. Copper supply piping.	Seven good quality fixtures and one water heater.	Seven average quality fixtures and one water heater.	Four low cost fixtures and one water heater. Plastic supply pipe.
<b>Special Features</b> (5% of total cost)	Built-in oven, range, dishwasher, disposer, range hood with good insulation, good lighting fixtures, insulated sliding glass door and ornate entry door.	Built-in range, oven and range hood, some insulation, 8' sliding glass door, average electric fixtures.	Drop-in range and hood, some insulation, low cost electric fixtures.	Minimum electric fixtures.

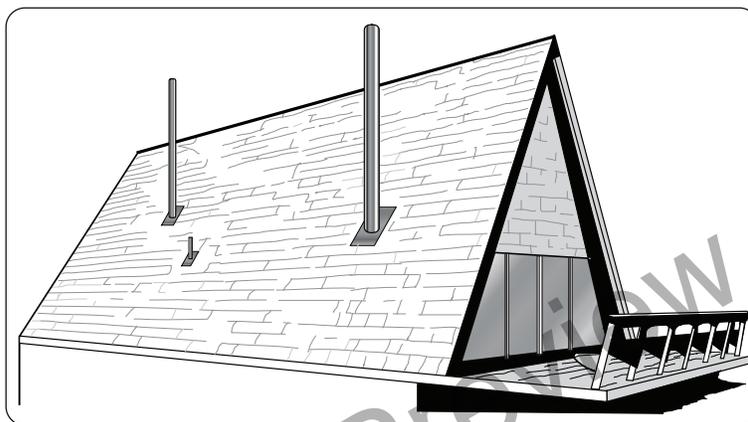
**Note:** Use the percent of total cost to help identify the correct quality classification.

# “A-Frame” Cabins

## 4 Corners

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 38.
2. Multiply the structure floor area by the appropriate cost listed below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a deck or porch, paving, fireplace, garage or carport, heating, extra plumbing fixtures, supporting walls, half story areas, construction on hillside lots, and construction in remote areas.  
See page 42.



“A-Frame” Cabin, Class 3 & 4

### Square Foot Area

Quality Class	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
1, Best	220.56	199.02	184.05	173.06	164.47	157.66	152.04	147.36	143.38	139.87	136.87
1 & 2	202.67	182.88	169.11	158.97	151.14	144.73	139.71	135.39	131.69	128.56	125.77
2, Good	185.96	167.78	155.24	145.87	138.74	132.92	128.23	124.21	120.90	117.97	115.41
2 & 3	175.54	158.40	146.52	137.72	130.93	125.49	120.99	117.32	114.10	111.36	108.94
3, Average	166.31	150.06	138.79	130.44	123.99	118.85	114.59	111.08	108.12	105.47	103.21
3 & 4	150.94	136.20	125.91	118.40	112.56	107.90	104.07	100.84	98.09	95.71	93.70
4, Low	135.39	122.19	113.02	106.27	101.02	96.79	93.36	90.50	87.98	85.88	84.02

### Square Foot Area

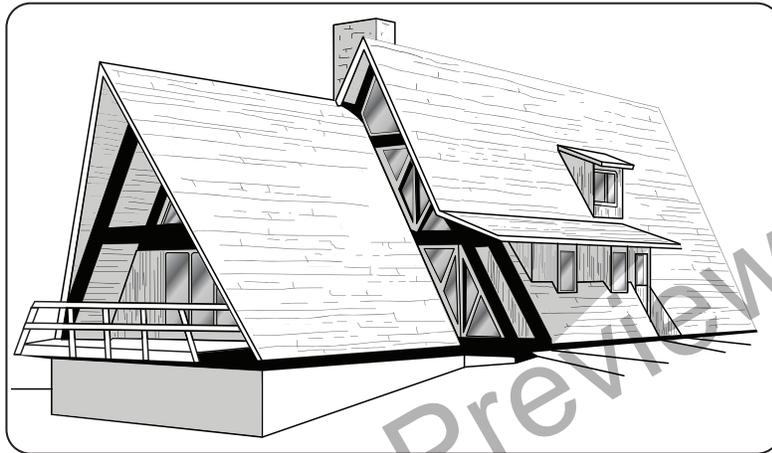
Quality Class	1,500	1,600	1,700	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
1, Best	132.02	129.89	127.96	126.17	123.13	120.59	118.45	116.57	114.95	113.47	112.22
1 & 2	121.82	119.87	118.01	116.43	113.64	111.27	109.32	107.58	106.11	104.76	103.61
2, Good	112.42	110.54	108.89	107.39	104.85	102.69	100.85	99.25	97.83	96.61	95.58
2 & 3	106.70	104.93	103.38	101.99	99.50	97.51	95.70	94.22	92.89	91.76	90.69
3, Average	101.35	99.68	98.17	96.93	94.57	92.60	90.92	89.50	88.28	87.16	86.17
3 & 4	93.25	91.73	90.34	89.15	87.00	85.20	83.68	82.36	81.22	80.20	79.29
4, Low	83.42	81.78	80.95	79.81	78.79	77.17	75.77	74.55	73.53	72.62	71.80

## “A-Frame” Cabins

### 6 Corners

#### Estimating Procedure

1. Establish the structure quality class by applying the information on page 38.
2. Multiply the structure floor area by the appropriate cost listed below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a deck or porch, paving, fireplace, garage or carport, heating, extra plumbing fixtures, supporting walls, half story areas, construction on hillside lots, and construction in remote areas.  
See page 42.



“A-Frame” Cabin, Class 2 & 3

#### Square Foot Area

Quality Class	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
1, Best	224.12	202.24	187.21	176.11	167.58	160.83	155.26	150.61	146.72	143.25	140.31
1 & 2	205.52	185.51	171.71	161.54	153.75	147.52	142.39	138.12	134.53	131.40	128.56
2, Good	188.81	170.39	157.75	148.36	141.16	135.45	130.81	126.87	123.57	120.71	118.24
2 & 3	178.31	160.86	148.90	140.07	133.34	127.96	123.50	119.79	116.62	114.00	111.62
3, Average	168.06	151.65	140.35	132.05	125.61	120.54	116.40	112.93	109.99	107.38	105.20
3 & 4	153.33	138.40	128.11	120.51	114.67	110.03	106.22	103.10	100.35	98.03	96.02
4, Low	137.27	123.87	114.64	107.90	102.69	98.52	95.09	92.26	89.82	87.73	85.91

#### Square Foot Area

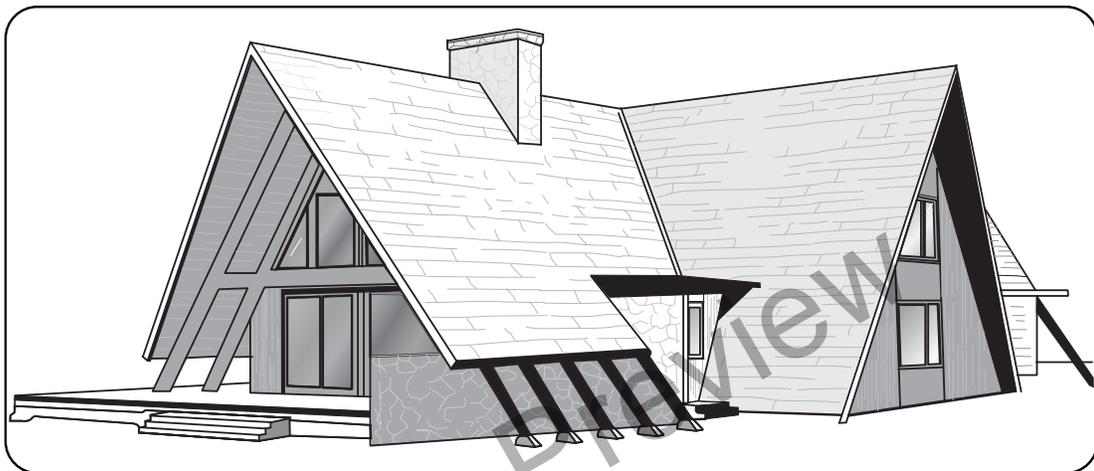
Quality Class	1,500	1,600	1,700	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
1, Best	135.70	133.46	131.46	129.70	126.63	124.06	121.82	119.94	118.29	116.77	115.50
1 & 2	124.97	122.89	121.11	119.43	116.61	114.24	112.23	110.45	108.90	107.58	106.37
2, Good	115.30	113.38	111.73	110.23	107.61	105.42	103.56	101.94	100.53	99.28	98.15
2 & 3	109.41	107.61	106.03	104.58	102.13	100.03	98.22	96.74	95.42	94.18	93.18
3, Average	104.23	102.56	101.07	99.67	97.31	95.34	93.70	92.18	90.89	89.79	88.74
3 & 4	95.70	94.18	92.76	91.52	89.34	87.53	86.01	84.66	83.45	82.40	81.51
4, Low	85.18	83.92	82.79	80.80	79.15	77.79	76.51	75.51	74.53	73.70	72.58

# “A-Frame” Cabins

## 8 Corners

### Estimating Procedure

1. Establish the structure quality class by applying the information on page 38.
2. Multiply the structure floor area by the appropriate cost listed below.
3. Multiply the total from step 2 by the correct location factor listed on page 7 or 8.
4. Add, when appropriate, the cost of a deck or porch, paving, fireplace, garage or carport, heating, extra plumbing fixtures, supporting walls, half story areas, construction on hillside lots, and construction in remote areas.  
See page 42.



“A-Frame” Cabin, Class 2

### Square Foot Area

Quality Class	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
1, Best	227.80	205.99	190.96	179.86	171.34	164.44	158.84	154.11	150.12	146.72	143.65
1 & 2	208.87	188.97	175.17	164.97	157.09	150.80	145.68	141.37	137.68	134.53	131.75
2, Good	191.51	173.19	160.61	151.21	144.06	138.29	133.52	129.59	126.25	123.36	120.77
2 & 3	180.74	163.48	151.57	142.74	135.94	130.47	126.04	122.31	119.14	116.40	114.01
3, Average	170.95	154.65	143.30	134.97	128.59	123.44	119.18	115.73	112.66	110.07	107.86
3 & 4	155.33	140.55	130.23	122.63	116.81	112.12	108.32	105.14	102.38	100.07	97.99
4, Low	139.26	125.92	116.72	109.94	104.73	100.51	97.10	94.22	91.78	89.67	87.84

### Square Foot Area

Quality Class	1,500	1,600	1,700	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
1, Best	139.14	136.90	134.91	133.14	130.03	127.44	125.21	123.37	121.69	120.27	119.03
1 & 2	125.81	123.77	121.96	120.33	117.51	115.19	113.20	111.52	109.99	108.73	107.50
2, Good	118.22	116.25	114.56	113.08	110.43	108.22	106.37	104.76	103.35	102.13	101.05
2 & 3	111.94	110.07	108.49	107.06	104.57	102.45	100.77	99.20	97.83	96.72	95.66
3, Average	106.62	104.87	103.33	101.94	99.58	97.64	95.99	94.54	93.25	92.09	91.11
3 & 4	97.79	96.19	94.74	93.53	91.35	89.53	88.02	86.69	85.54	84.53	83.61
4, Low	87.16	85.88	84.77	82.77	81.12	79.70	78.50	77.46	76.51	75.76	74.58

# Cabins and Recreational Dwellings

## Additional Costs

### Half-Story Costs

For conventional recreational dwellings, use the suggested fractions found on page 30 in the section "Additional Costs for Residential Structures." For "A-Frame" cabins, use one of the following costs: A simple platform with low cost floor cover, minimum partitions, and minimum lighting costs \$65 to \$95 per square foot. Average quality half story area with average quality carpet, average number of partitions finished with gypsum wallboard or plywood veneer and average lighting costs \$95 to \$105 per square foot. A good quality half story area with good carpet, decorative rustic partitions, ceiling beams and good lighting costs \$125 to \$145 per square foot.

### Decks and Porches, per square foot

2" wood deck with steps and railing (300 S.F. base)	
1' to 4' above ground	\$23.37 to \$27.28
Over 4' to 6' above ground	27.07 to 35.00
Over 6' to 9' above ground	28.31 to 37.06
Over 9' to 12' above ground	29.34 to 38.81
Over 12' above ground	30.88 to 40.14

### Fireplaces, 2-story, including foundation

Metal hood with concrete slab	\$2,734 to \$3,386
Prefabricated, zero clearance	3,920 to 5,884
Simple concrete block	4,790 to 7,973
Concrete block with stone facing	6,320 to 9,610
Simple natural stone	10,905 to 15,820

### Extra Plumbing, cost each

Lavatory	\$1,680 to \$2,465
Water closet or bidet	2,050 to 2,516
Tub and shower	2,160 to 2,880
Stall shower	1,612 to 2,350
Laundry or utility sink	1,175 to 1,390

### Supporting Wall Costs

Cabins and recreational dwellings built on sloping lots cost more than if they are built on level lots. The cost of supporting walls of a building that do not enclose any living area should be estimated by using the figures below. These costs include everything above a normal foundation (12" to 18" above ground) up to the bottom of the next floor structure where square foot costs can be applied. In addition to the cost of supporting walls, add the cost of any extra structural members and the higher cost of building on a slope. A good rule of thumb for this is to add \$870 for each foot of vertical distance between the highest and the lowest points of intersection of foundation and ground level.

### Wood posts, per foot of height

4" x 4"	\$2.30 to \$3.65
4" x 6"	3.65 to 6.25
6" x 6"	4.71 to 8.89
8" x 8"	10.64 to 16.54
10" x 10"	19.70 to 28.23
12" x 12"	29.62 to 41.20

### Brick, per square foot of wall

8" common brick	\$36.96 to \$45.20
12" common brick	56.79 to 70.54
8" common brick, 1 side face brick	46.89 to 57.84
12" common brick, 1 side face brick	73.34 to 91.42

### Heating, cost each

Wall furnace, 35,000 Btu	\$1,330
Wall furnace, 65,000 Btu	1,630
Baseboard hot water, per SF*	5.20
Central heating, perimeter ducts, per S.F.*	7.28

\*Cost is per SF of floor area heated.

### Garages, Carports and Basements

For garage, carport and basement costs for conventional recreational dwellings, see pages 27 and 29.

### Flatwork, per square foot

Asphalt paving	\$4.53 to \$6.80
4" concrete	4.65 to 7.00
6" concrete	4.94 to 7.20

### Reinforced concrete walls, per C.F.

Formed one side only	\$18.70 to \$21.65
Formed both sides	23.98 to 27.10

### Reinforced concrete block,

per square foot of wall

8" natural	\$8.94 to \$10.80
8" colored	12.31 to 14.45
8" detailed blocks, natural	10.18 to 13.35
8" detailed blocks, colored	13.86 to 15.68
8" sandblasted	10.80 to 12.65
8" splitface, natural	9.21 to 10.86
8" splitface, colored	14.44 to 16.30
8" slump block, natural	9.89 to 12.31
8" slump block, colored	13.72 to 15.88
12" natural	17.45 to 19.51

# Life in Years and Depreciation for Residences

Quality Class	1	2	3	4	5	6
Single family residences	70	70	70	60	60	55
Manufactured housing	45	40	40	30	30	
Multi-family residences	60	60	55	55	50	
Motels	60	55	55	50		
Conventional recreational dwellings	70	60	60	55	55	50
A-frame cabins	60	55	55	50		

This table shows typical physical lives in years in the absence of unusual physical, functional or economic obsolescence. Raise half classes to the next higher whole class.

## To Find the Present Value of an Existing Residence

Present value is the replacement cost less depreciation (inverse of the “% Good” column below). Multiply the appropriate figure in the “% good” column by the current replacement cost developed using this manual to find the present value. For newer residences, the chronological age (“Age” column) is usually the best indicator of percent good. The present value of older residences may be influenced more by physical, functional or economic obsolescence than by age. When physical, functional or economic conditions limit or extend the remaining useful life of a residence, estimate that life in years and use the “Rem. Life” column (rather than the “Age” column) to find the percent good.

	20 Years		25 Years		30 Years		40 Years		45 Years		50 Years		55 Years		60 Years		70 Years		
	Age	% Good																	
0	20	100	25	100	30	100	40	100	0	45	100	50	100	55	100	60	100	70	100
1	19	94	24	95	29	96	39	98	2	43	97	48	97	53	98	58	98	68	99
2	18	88	23	90	28	93	38	96	4	41	93	46	94	51	96	56	96	66	98
3	17	81	22	86	27	89	37	94	6	39	89	44	91	49	94	54	94	64	97
4	16	75	21	81	26	86	36	92	8	37	85	42	88	47	91	52	92	62	96
5	15	69	20	77	25	82	35	90	10	35	81	39	85	45	88	50	90	60	95
6	14	63	19	72	24	79	34	87	12	33	77	38	82	43	85	48	88	58	93
7	13	59	18	68	23	75	33	84	14	32	73	36	78	41	82	46	86	56	92
8	12	57	17	63	22	71	32	82	16	30	69	35	74	40	79	45	83	54	90
9	11	55	16	60	21	67	31	80	18	28	65	33	70	38	76	43	80	52	89
10	11	53	16	58	20	64	30	77	20	26	60	31	67	36	73	41	77	50	87
11	10	50	15	56	19	60	29	74	22	24	58	29	63	34	69	39	74	48	86
12	9	48	14	54	19	59	28	72	24	23	56	28	60	32	65	37	71	46	84
13	8	46	13	53	18	57	27	70	26	22	54	26	58	31	62	35	68	44	82
14	7	44	12	51	17	56	27	67	28	20	52	24	56	29	60	34	65	42	80
15	7	42	11	49	16	54	26	65	30	18	50	23	54	27	58	32	63	40	78
16	6	40	11	48	15	53	25	62	32	17	48	21	53	26	56	30	60	38	76
17	5	38	10	46	14	52	24	60	34	15	47	20	51	24	55	29	58	36	73
18	5	36	9	44	13	50	23	59	36	14	45	18	49	23	53	27	57	34	71
19	4	33	8	43	13	49	22	58	38	12	43	17	47	21	51	26	55	32	68
20	4	31	7	41	12	47	21	58	40	11	41	16	45	20	50	24	54	30	65
21	3	29	7	39	11	46	21	55	42	10	39	14	44	19	48	23	52	28	62
22	3	27	6	37	11	44	20	54	44	9	37	13	42	17	46	21	51	26	59
23	3	25	6	35	10	43	19	53	46	8	35	12	40	16	45	20	49	25	56
24	3	23	5	34	9	42	18	52	48	7	33	11	38	15	43	19	47	23	54
25	2	21	5	32	9	40	17	51	50	6	31	10	37	14	41	18	46	21	49
26	2	19	4	30	8	39	17	50	52	5	29	9	35	12	40	16	44	19	45
27	2	16	4	29	7	37	16	49	54	5	28	8	33	11	38	15	43	18	44
28	2	14	4	27	7	36	15	48	56	4	26	7	31	10	36	14	41	16	42
29	2	12	3	25	6	34	14	47	58	4	24	6	30	9	35	13	40	15	38
30	1	10	3	24	6	33	14	46	60	3	22	5	28	8	33	12	38	14	36
31	—	—	3	22	5	31	13	45	62	3	20	4	26	7	31	11	37	12	31
32	—	—	3	20	5	30	12	44	64	3	17	4	24	6	30	10	35	11	30
33	—	—	2	18	5	29	12	43	66	2	16	3	22	5	28	9	33	10	27
34	—	—	2	17	4	27	11	42	68	2	14	3	21	5	27	8	32	9	25
35	—	—	2	15	4	26	11	41	70	2	12	3	19	4	25	7	30	9	24
36	—	—	2	13	4	24	10	40	72	1	10	2	17	4	23	6	29	8	21
38	—	—	1	10	3	21	9	38	74	—	—	2	15	4	21	5	27	7	20
40	—	—	—	—	2	19	7	35	76	—	—	2	14	3	20	5	26	7	19
42	—	—	—	—	2	16	6	33	80	—	—	1	10	2	17	4	23	7	18
46	—	—	—	—	1	10	5	29	82	—	—	—	—	2	15	3	20	6	17
50	—	—	—	—	—	—	4	25	84	—	—	—	—	1	10	2	17	5	16
55	—	—	—	—	—	—	3	20	96	—	—	—	—	—	—	1	10	3	14
60	—	—	—	—	—	—	2	14	98	—	—	—	—	—	—	—	—	2	12
64	—	—	—	—	—	—	1	10	100	—	—	—	—	—	—	—	—	1	10

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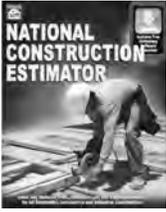
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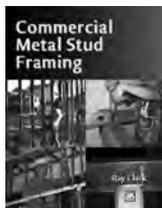
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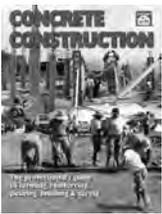
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