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2013 NATIONAL BUILDING COST MANUAL

37th Edition

Edited by
Gary 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 2013.

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

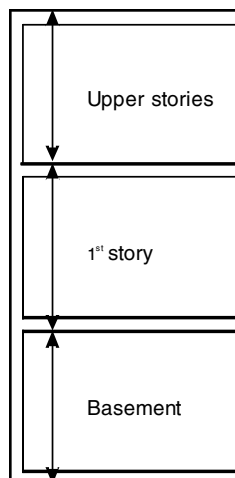
The basic building cost tables reflect the fact that larger buildings generally cost less per square foot than smaller buildings. The cost tables are based on square foot areas which include the following:

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.

Alabama Average -6%			Salinas 939 2%			Atlanta 303 12%			Muncie 473 -8%			Camden 48 -9%		
Anniston 362	-9%		San Bernardino 923-924	2%		Augusta 308-309	-6%		South Bend 466	-3%		Cutler 46	-10%	
Auburn 368	-6%		San Diego 919-921	8%		Buford 305	-4%		Terre Haute 478	-2%		Dexter 49	-6%	
Bellamy 369	-4%		San Francisco 941	28%		Calhoun 307	-10%		Iowa Average -4%			Northern Area 47 -10%		
Birmingham 350-352	3%		San Jose 901-951	18%		Columbus 318-319	-5%		Burlington 526	-3%		Portland 41	1%	
Dothan 363	-4%		San Mateo 943-944	18%		Dublin/Fort Valley 310	-8%		Carroll 514	-10%		Maryland Average 3%		
Evergreen 364	-12%		Santa Barbara 931	7%		Hinesville 313	-6%		Cedar Falls 506	-3%		Annapolis 214	6%	
Gadsden 359	-12%		Santa Rosa 954	6%		Kings Bay 315	-9%		Cedar Rapids 522-524	1%		Baltimore 210-212	8%	
Huntsville 358	-4%		Stockton 952	1%		Macon 312	-4%		Cherokee 510	-4%		Bethesda 208-209	14%	
Jasper 355	-10%		Sunnyvale 940	19%		Marietta 300-302	4%		Council Bluffs 515	-6%		Church Hill 216	-4%	
Mobile 365-366	-2%		Van Nuys 913-916	8%		Savannah 314	-6%		Creston 508	-7%		Cumberland 215	-7%	
Montgomery 360-361	-4%		Whittier 906	8%		Statesboro 304	-11%		Davenport 527-528	0%		Elkton 219	3%	
Scottsboro 357	-7%		Colorado Average 1%			Valdosta 316	-4%		Decorah 521	-4%		Frederick 217	3%	
Selma 367	-5%		Aurora 800-801	4%		Hawaii Average 24%			Des Moines 500-503	4%		Laurel 206-207	9%	
Sheffield 356	-1%		Boulder 803-804	1%		Aliamau 968	25%		Dubuque 520	0%		Salisbury 218	-4%	
Tuscaloosa 354	-4%		Colorado Springs 808-809	-2%		Ewa 967	23%		Fort Dodge 505	-4%		Massachusetts Average 12%		
Alaska Average 20%			Denver 802	6%		Halawa Heights 967	23%		Mason City 504	-3%		Average 12%		
Anchorage 995	25%		Durango 813	-2%		Hilo 967	23%		Ottumwa 525	-6%		Ayer 015-016	8%	
Fairbanks 997	23%		Fort Morgan 807	1%		Honolulu 968	25%		Sheldon 512	-8%		Bedford 017	18%	
Juneau 998	21%		Glenwood Springs 816	4%		Kailua 968	25%		Shenandoah 516	-14%		Boston 021-022	36%	
Ketchikan 999	8%		Grand Junction 814-815	-1%		Lualualei 967	23%		Sioux City 511	-1%		Brockton 023-024	21%	
King Salmon 996	22%		Greeley 806	3%		Mililani Town 967	23%		Spencer 513	-7%		Cape Cod 026	2%	
Arizona Average -5%			Longmont 805	3%		Pearl City 967	23%		Waterloo 507	-5%		Chicopee 010	7%	
Chambers 865	-5%		Pagosa Springs 811	-5%		Wahiawa 967	23%		Kansas Average -7%			Dedham 019	17%	
Douglas 855	-7%		Pueblo 810	3%		Waianae 967	23%		Colby 677	-11%		Fitchburg 014	13%	
Flagstaff 860	-9%		Salida 812	-5%		Wailuku (Maui) 967	23%		Concordia 669	-12%		Hingham 020	20%	
Kingman 864	-5%		Connecticut Average 10%			Idaho Average -8%			Dodge City 678	-5%		Lawrence 018	16%	
Mesa 852	1%		Bridgeport 66	10%		Boise 837	-2%		Emporia 668	-12%		Nantucket 025	10%	
Phoenix 850	1%		Bristol 60	12%		Coeur d'Alene 838	-10%		Fort Scott 667	-7%		New Bedford 027	8%	
Prescott 863	-8%		Fairfield 64	12%		Idaho Falls 834	-8%		Hays 676	-14%		Northfield 013	1%	
Show Low 859	-10%		Hartford 61	10%		Lewiston 835	-10%		Hutchinson 675	-7%		Pittsfield 012	1%	
Tucson 856-857	-7%		New Haven 65	10%		Meridian 836	-7%		Independence 673	-2%		Springfield 011	7%	
Yuma 853	0%		Norwich 63	6%		Pocatello 832	-7%		Kansas City 660-662	5%		Michigan Average 1%		
Arkansas Average -7%			Stamford 068-069	15%		Sun Valley 833	-10%		Liberal 679	-10%		Battle Creek 490-491	0%	
Batesville 725	-11%		Waterbury 67	9%		Illinois Average 5%			Salina 674	-7%		Detroit 481-482	11%	
Camden 717	-6%		West Hartford 62	7%		Arlington Heights 600	15%		Topeka 664-666	-3%		Flint 484-485	-3%	
Fayetteville 727	-4%		Delaware Average 3%			Aurora 605	15%		Wichita 670-672	-5%		Grand Rapids 493-495	2%	
Fort Smith 729	-6%		Dover 199	-3%		Belleville 622	4%		Kentucky Average -4%			Grayling 497	-6%	
Harrison 726	-14%		Newark 197	8%		Bloomington 617	2%		Ashland 411-412	-3%		Jackson 492	-2%	
Hope 718	2%		Wilmington 198	6%		Carbondale 629	-6%		Campton 413-414	-8%		Lansing 488-489	1%	
Hot Springs 719	-14%		District of Columbia Average 13%			Carol Stream 601	15%		Covington 410	1%		Marquette 498-499	-1%	
Jonesboro 724	-8%		Washington 200-205	13%		Centralia 628	-4%		Elizabethtown 427	-8%		Pontiac 483	10%	
Little Rock 720-722	-3%		Florida Average -6%			Champaign 618	2%		Frankfort 406	-3%		Royal Oak 480	9%	
Pine Bluff 716	-4%		Altamonte Springs 327	-6%		Chicago 606-608	17%		Hazard 417-418	-5%		Saginaw 486-487	-3%	
Russellville 728	-5%		Bradenton 342	-7%		Decatur 623	-7%		Hopkinsville 422	-6%		Traverse City 496	0%	
West Memphis 723	-6%		Brooksville 346	-8%		Galesburg 614	-5%		Lexington 403-405	1%		Minnesota Average 0%		
California Average 7%			Daytona Beach 321	-11%		Granite City 620	5%		London 407-409	-4%		Bemidji 566	-4%	
Alhambra 917-918	8%		Fort Lauderdale 333	0%		Green River 612	4%		Louisville 400-402	-1%		Brainerd 564	-2%	
Bakersfield 932-933	2%		Fort Myers 339	-9%		Joliet 604	15%		Owensboro 423	-2%		Duluth 556-558	0%	
El Centro 922	1%		Fort Pierce 349	-13%		Kankakee 609	0%		Paducah 420	-4%		Fergus Falls 565	-7%	
Eureka 955	-1%		Gainesville 326	-10%		Lawrenceville 624	-4%		Pikeville 415-416	-4%		Magnolia 561	-7%	
Fresno 936-938	-1%		Jacksonville 322	-3%		Oak Park 603	19%		Somerseset 425-426	-12%		Mankato 560	-3%	
Herlong 961	0%		Lakeland 338	-8%		Peoria 615-616	5%		White Plains 424	-4%		Minneapolis 553-555	11%	
Inglewood 902-905	8%		Melbourne 329	-10%		Peru 613	7%		Louisiana Average 0%			Rochester 559	-2%	
Irvine 926-927	11%		Miami 330-332	-1%		Quincy 602	17%		Alexandria 713-714	-6%		St Cloud 563	6%	
Lompoc 934	6%		Naples 341	-4%		Rockford 610-611	4%		Baton Rouge 707-708	10%		St Paul 550-551	11%	
Long Beach 907-908	9%		Ocala 344	-12%		Springfield 625-627	-1%		Houma 703	6%		Thief River Falls 567	0%	
Los Angeles 900-901	8%		Orlando 328	-1%		Urbana 619	-5%		Lafayette 705	2%		Willmar 562	-2%	
Marysville 959	1%		Panama City 324	-3%		Indiana Average -1%			Lake Charles 706	0%		Mississippi Average -8%		
Modesto 953	-1%		Pensacola 325	-7%		Aurora 470	-2%		Mandeville 704	0%		Clarksdale 386	-10%	
Mojave 935	5%		Saint Augustine 320	-6%		Bloomington 474	-2%		Minden 710	-4%		Columbus 397	-3%	
Novato 949	14%		Saint Cloud 347	-4%		Columbus 472	-4%		Monroe 712	-7%		Greenville 387	-14%	
Oakland 945-947	18%		St. Petersburg 337	-6%		Elkhart 465	-3%		New Orleans 700-701	5%		Greenwood 389	-10%	
Orange 928	10%		Tallahassee 323	-8%		Evansville 476-477	10%		Shreveport 711	-2%		Gulfport 395	-4%	
Oxnard 930	5%		Tampa 335-336	-1%		Fort Wayne 467-468	-3%		Maine Average -6%			Jackson 390-392	-5%	
Pasadena 910-912	8%		West Palm Beach 334	-3%		Gary 463-464	18%		Auburn 42	-5%		Laurel 394	-6%	
Rancho Cordova 956-957	7%		Georgia Average -5%			Indianapolis 460-462	5%		Augusta 43	-6%		McComb 396	-9%	
Redding 960	-3%		Albany 317	-10%		Jasper 475	-7%		Bangor 44	-8%		Meridian 393	-8%	
Richmond 948	19%		Athens 306	-7%		Jeffersonville 471	-3%		Bath 45	-5%		Tupelo 388	-10%	
Riverside 925	4%					Kokomo 469	-8%		Brunswick 39-40	-2%				
Sacramento 958	6%					Lafayette 479	-5%							

Area Modification Factors

Missouri Average -4%

Cape Girardeau	637	-5%
Caruthersville	638	-11%
Chillicothe	646	-9%
Columbia	652	-4%
East Lynne	647	-6%
Farmington	636	-9%
Hannibal	634	-4%
Independence	640	5%
Jefferson City	650-651	-4%
Joplin	648	-8%
Kansas City	641	6%
Kirksville	635	-10%
Knob Noster	653	-5%
Lebanon	654-655	-11%
Poplar Bluff	639	-6%
Saint Charles	633	1%
Saint Joseph	644-645	1%
Springfield	656-658	-8%
St. Louis	630-631	5%

Montana Average -3%

Billings	590-591	1%
Butte	597	-4%
Fairview	592	0%
Great Falls	594	-3%
Havre	595	-7%
Helena	596	-2%
Kalispell	599	-5%
Miles City	593	-2%
Missoula	598	-5%

Nebraska Average -9%

Alliance	693	-11%
Columbus	686	-6%
Grand Island	688	-8%
Hastings	689	-10%
Lincoln	683-685	-5%
McCook	690	-12%
Norfolk	687	-10%
North Platte	691	-10%
Omaha	680-681	-2%
Valentine	692	-16%

Nevada Average 6%

Carson City	897	-3%
Elko	898	30%
Ely	893	-2%
Fallon	894	4%
Las Vegas	889-891	5%
Reno	895	2%

New Hampshire Average 0%

Charlestown	036	-4%
Concord	034	-1%
Dover	038	3%
Lebanon	037	-2%
Littleton	035	-3%
Manchester	032-033	2%
New Boston	030-031	6%

New Jersey Average 13%

Atlantic City	080-084	9%
Brick	087	6%
Dover	078	12%
Edison	088-089	15%
Hackensack	076	14%
Monmouth	077	16%
Newark	071-073	14%
Passaic	070	15%
Paterson	074-075	12%
Princeton	085	14%
Summit	079	19%
Trenton	086	12%

New Mexico Average -9%

Alamogordo	883	-10%
Albuquerque	870-871	-3%
Clovis	881	-13%
Farmington	874	0%
Fort Sumner	882	-2%
Gallup	873	-8%
Holman	877	-9%
Las Cruces	880	-12%
Santa Fe	875	-9%
Socorro	878	-15%
Truth or Consequences	879	-19%
Tucumcari	884	-10%

New York Average 9%

Albany	120-123	10%
Amityville	117	13%
Batavia	140	1%

Binghamton	137-139	1%
Bronx	104	16%
Brooklyn	112	12%
Buffalo	142	1%
Elmira	149	0%
Flushing	113	21%
Garden City	115	19%
Hicksville	118	17%
Ithaca	148	-3%
Jamaica	114	20%
Jamestown	147	-4%
Kingston	124	-3%
Long Island	111	35%
Montauk	119	11%

New York (Manhattan)	100-102	36%
New York City	100-102	36%
Newcomb	128	0%
Niagara Falls	143	-7%
Plattsburgh	129	0%
Poughkeepsie	125-126	2%
Queens	110	22%
Rochester	144-146	2%
Rockaway	116	15%
Rome	133-134	-2%
Staten Island	103	12%
Stewart	127	-5%
Syracuse	130-132	2%
Tonawanda	141	-1%
Utica	135	-3%
Watertown	136	11%
West Point	109	11%
White Plains	105-108	17%

North Carolina Average -4%

Asheville	287-289	-8%
Charlotte	280-282	2%
Durham	277	1%
Elizabeth City	279	-6%
Fayetteville	283	-8%
Goldsboro	275	-1%
Greensboro	274	-3%
Hickory	286	-8%
Kinston	285	-10%
Raleigh	276	1%
Rocky Mount	278	-7%
Wilmington	284	-1%
Winston-Salem	270-273	-5%

North Dakota Average 2%

Bismarck	585	2%
Dickinson	586	9%
Fargo	580-581	2%
Grand Forks	582	0%
Jamestown	584	-3%
Minot	587	4%
Nekoma	583	-9%
Williston	588	14%

Ohio Average -1%

Akron	442-443	0%
Canton	446-447	-3%
Chillicothe	456	-5%
Cincinnati	450-452	3%
Cleveland	440-441	3%
Columbus	432	4%
Dayton	453-455	-3%
Lima	458	-5%
Marietta	457	-4%
Marion	433	-6%
Newark	430-431	3%
Sandusky	448-449	-1%
Steubenville	439	-3%
Toledo	434-436	5%
Warren	444	-4%
Youngstown	445	-1%
Zanesville	437-438	1%

Oklahoma Average -7%

Adams	739	-10%
Ardmore	734	-7%
Clinton	736	-7%
Durant	747	-11%
Enid	737	-8%
Lawton	735	-8%
McAlester	745	-11%
Muskogee	744	-12%
Norman	730	-3%
Oklahoma City	731	-2%
Ponca City	746	-4%
Poteau	749	-10%
Pryor	743	-11%
Shawnee	748	-10%
Tulsa	740-741	-2%
Woodward	738	2%

Oregon Average -3%

Adrian	979	-8%
Bend	977	-6%
Eugene	974	-1%
Grants Pass	975	-5%
Klamath Falls	976	-9%
Pendleton	978	-3%
Portland	970-972	10%
Salem	973	-3%

Pennsylvania Average -1%

Allentown	181	4%
Altoona	166	-7%
Beaver Springs	178	-4%
Bethlehem	180	6%
Bradford	167	-6%
Butler	160	0%
Chambersburg	172	-7%
Clearfield	168	0%
DuBois	158	-9%
East Stroudsburg	183	-3%
Erie	164-165	-6%
Genesee	169	-2%
Greensburg	156	-2%
Harrisburg	170-171	2%
Hazleton	182	-3%
Johnstown	159	-9%
Kittanning	162	-7%
Lancaster	175-176	0%
Meadville	163	-12%
Montrose	188	-3%
Montrose	161	-3%
New Castle	190-191	14%
Philadelphia	152	8%
Pittsburgh	179	-8%
Pottsville	157	-5%
Punxsutawney	195-196	2%
Reading	184-185	-2%
Scranton	155	-8%
Somerset	193	9%
Southeastern	154	-5%
Uniontown	194	15%
Valley Forge	189	11%
Warminster	150-151	8%
Warrendale	153	9%
Washington	186-187	-1%
Wilkes Barre	177	1%
Williamsport	173-174	0%
York		

Rhode Island Average 6%

Bristol	28	6%
Coventry	028	6%
Cranston	029	7%
Davisville	028	6%
Narragansett	028	6%
Newport	028	6%
Providence	029	7%
Warwick	028	6%

South Carolina Average -5%

Aiken	298	4%
Beaufort	299	-8%
Charleston	294	-3%
Columbia	290-292	-4%
Greenville	296	-4%
Myrtle Beach	295	-9%
Rock Hill	297	-8%
Spartanburg	293	-7%

South Dakota Average -6%

Aberdeen	574	-6%
Mitchell	573	-7%
Mobridge	576	-11%
Pierre	575	-10%
Rapid City	577	-6%
Sioux Falls	570-571	-1%
Watertown	572	-6%

Tennessee Average -2%

Chattanooga	374	2%
Clarksville	370	2%
Cleveland	373	-1%
Columbia	384	-7%
Cookeville	385	-7%
Jackson	383	-2%
Kingsport	376	-4%
Knoxville	377-379	-1%
McKenzie	382	-9%
Memphis	380-381	3%
Nashville	371-372	5%

Texas Average -2%

Abilene	795-796	-3%
Amarillo	790-791	-3%

Arlington	760	0%
Austin	786-787	2%
Bay City	774	23%
Beaumont	776-777	7%
Brownwood	768	-10%
Bryan	778	-5%
Childress	792	-16%
Corpus Christi	783-784	1%
Dallas	751-753	4%
Del Rio	788	-8%
El Paso	798-799	-12%
Fort Worth	761-762	-1%
Galveston	775	8%
Giddings	789	-4%
Greenville	754	2%
Houston	770-772	10%
Huntsville	773	10%
Longview	756	-3%
Lubbock	793-794	-8%
Lufkin	759	-3%
McAllen	785	-14%
Midland	797	5%
Palatine	758	-6%
Plano	750	5%
San Angelo	769	-8%
San Antonio	780-782	-2%
Texarkana	755	-9%
Tyler	757	-7%
Victoria	779	-3%
Waco	765-767	-6%
Wichita Falls	763	-9%
Woodson	764	-9%

Utah Average -3%

Clearfield	840	0%
Green River	845	0%
Ogden	843-844	-7%
Provo	846-847	-9%
Salt Lake City	841	2%

Vermont Average -4%

Albany	058	-5%
Battleboro	053	-3%
Beecher Falls	059	-5%
Bennington	052	-7%
Burlington	054	3%
Montpelier	056	-3%
Rutland	057	-7%
Springfield	051	-5%
White River Junction	050	-4%

Virginia Average -5%

Abingdon	242	-5%
Alexandria	220-223	13%
Charlottesville	229	-5%
Chesapeake	233	-1%
Culpeper	227	-4%
Farmville	239	-12%
Fredericksburg	224-225	-5%
Galax	243	-10%
Harrisonburg	228	-7%
Lynchburg	245	-9%
Norfolk	235-237	0%
Petersburg	238	-6%
Radford	241	-11%
Reston	201	10%
Richmond	232	1%
Roanoke	240	-11%
Staunton	244	-8%
Tazewell	246	-8%
Virginia Beach	234	-4%
Williamsburg	230-231	-4%
Winchester	226	-7%

Washington Average 0%

Clarkston	994	-9%
Everett	982	2%
Olympia	985	-2%
Pasco	993	4%
Seattle	980-981	13%
Spokane	990-992	-1%
Tacoma	983-984	2%
Vancouver	986	2%
Wenatchee	988	-5%
Yakima	989	-4%

West Virginia Average -5%

Beckley	258-259	-4%
Bluefield	247-248	-1%
Charleston	250-253	6%
Clarksburg	263-264	-4%
Fairmont	266	-11%
Huntington	255-257	-1%

Lewisburg	249	-15%
Martinsburg	254	-8%
Morgantown	265	-2%
New Martinsville	262	-8%
Parkersburg	261	-1%
Romney	267	-7%
Sugar Grove	268	-12%
Wheeling	260	-3%

Wisconsin Average 0%

Amery	540	0%
Beloit	535	4%
Clam Lake	545	-8%
Eau Claire	547	-1%
Green Bay	541-543	1%
La Crosse	546	-2%
Ladysmith	548	-5%
Madison	537	8%
Milwaukee	530-534	7%
Oshkosh	549	1%
Portage	539	1%
Prairie du Chien	538	-5%
Wausau	544	-3%

Wyoming Average -2%

Casper	826	2%
Cheyenne/Laramie	820	-5%
Gillette	827	2%
Powell	824	-6%
Rawlins	823	0%
Riverton	825	-5%
Rock Springs	829-831	3%
Sheridan	828	-4%
Wheatland	822	-10%

UNITED STATES TERRITORIES

Guam	18%
Puerto Rico	-21%

VIRGIN ISLANDS

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 1946. Multiply the figure listed below for the building type and year of construction by the known cost. The result is the estimated 2013 construction cost.

Year	Masonry Buildings	Concrete Buildings	Steel Buildings	Wood-Frame Buildings	Agricultural Buildings	Year of Construction
1946	19.09	21.62	23.06	18.06	16.17	1946
1947	16.28	17.88	20.15	14.49	13.10	1947
1948	14.29	15.31	17.97	13.28	11.98	1948
1949	14.37	15.14	17.89	13.45	12.35	1949
1950	13.68	14.45	17.55	12.85	11.48	1950
1951	12.79	13.65	15.93	12.02	10.66	1951
1952	12.33	13.31	15.59	11.81	10.56	1952
1953	12.17	12.87	14.88	11.52	10.33	1953
1954	11.94	12.41	14.88	11.52	10.33	1954
1955	11.45	11.84	14.10	10.91	9.88	1955
1956	10.86	11.32	12.98	10.45	9.47	1956
1957	10.55	10.89	12.46	10.38	9.24	1957
1958	10.25	10.48	11.86	10.35	11.02	1958
1959	9.93	10.15	11.58	9.91	8.83	1959
1960	9.70	9.96	11.39	9.76	8.66	1960
1961	9.50	9.92	11.20	9.58	8.63	1961
1962	9.29	9.63	10.93	9.47	8.50	1962
1963	9.15	9.38	10.80	9.29	7.71	1963
1964	8.88	9.27	10.65	8.97	8.10	1964
1965	8.60	9.03	10.28	8.78	7.88	1965
1966	8.21	8.77	9.89	8.40	7.66	1966
1967	8.02	8.35	9.25	7.99	7.35	1967
1968	7.69	7.89	8.83	7.55	7.03	1968
1969	7.26	7.54	8.53	7.27	6.63	1969
1970	6.97	7.21	8.10	6.91	6.30	1970
1971	6.54	6.60	7.52	5.95	5.87	1971
1972	6.08	6.11	7.03	5.97	5.46	1972
1973	5.55	5.79	6.24	5.51	5.13	1973
1974	4.94	5.31	5.86	5.15	4.76	1974
1975	4.49	4.69	5.27	4.84	4.24	1975
1976	4.21	4.47	5.00	4.66	4.02	1976
1977	3.92	4.19	4.75	4.33	3.78	1977
1978	3.65	3.92	4.37	3.98	3.42	1978
1979	3.35	3.49	3.92	3.65	3.24	1979
1980	3.04	3.17	3.49	3.27	2.93	1980
1981	2.86	2.99	3.20	3.12	2.74	1981
1982	2.77	2.86	3.10	3.02	2.64	1982
1983	2.64	2.77	3.04	2.88	2.49	1983
1984	2.47	2.60	2.90	2.66	2.42	1984
1985	2.40	2.47	2.82	2.58	2.38	1985
1986	2.34	2.45	2.77	2.54	2.33	1986
1987	2.33	2.40	2.74	2.49	2.31	1987
1988	2.28	2.31	2.69	2.47	2.27	1988
1989	2.23	2.27	2.56	2.42	2.20	1989
1990	2.10	2.18	2.43	2.25	2.10	1990
1991	2.27	2.15	2.31	2.13	1.99	1991
1992	2.03	2.12	2.28	2.12	1.97	1992
1993	1.98	2.10	2.20	2.09	1.94	1993
1994	1.93	1.96	2.12	2.01	1.80	1994
1995	1.83	1.79	1.96	1.89	1.70	1995
1996	1.77	1.76	1.91	1.85	1.67	1996
1997	1.71	1.71	1.83	1.81	1.63	1997
1998	1.63	1.63	1.76	1.73	1.61	1998
1999	1.57	1.57	1.72	1.71	1.58	1999
2000	1.53	1.53	1.65	1.65	1.53	2000
2001	1.48	1.48	1.62	1.59	1.49	2001
2002	1.44	1.44	1.58	1.57	1.46	2002
2003	1.42	1.42	1.54	1.56	1.43	2003
2004	1.36	1.36	1.50	1.52	1.39	2004
2005	1.26	1.26	1.34	1.36	1.36	2005
2006	1.19	1.19	1.24	1.22	1.22	2006
2007	1.15	1.15	1.18	1.13	1.13	2007
2008	1.08	1.08	1.12	1.08	1.07	2008
2009	1.07	1.07	1.08	1.08	1.07	2009
2010	1.05	1.05	1.02	1.07	1.06	2010
2011	1.06	1.06	1.05	1.09	1.09	2011
2012	1.05	1.05	0.94	1.05	1.07	2012
2013	1.00	1.00	1.00	1.00	1.00	2013

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.

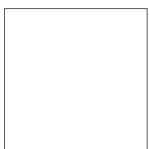
Class 1 and 2 (*Luxury* and *Semi-Luxury*) residences have more than ten corners and are best evaluated by counting the "building masses." A building mass is a group of contiguous rooms on one or more levels with access at varying angles from a common point or

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.

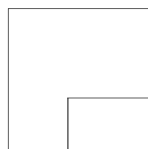
Residences on larger lots often include a separate housekeeping unit, either remote from the main structure (as illustrated below at the right) or joined to the main structure by a hallway (no common wall). Evaluate any separate housekeeping unit as a separate residence. The quality class of separate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

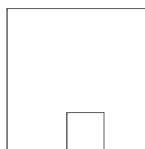
These figures can be applied to nearly all single-family residences built using conventional methods and readily available materials, including the relatively small number of highly decorative, starkly original or exceptionally well-appointed residences.



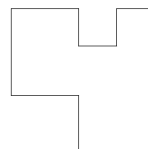
4 corners



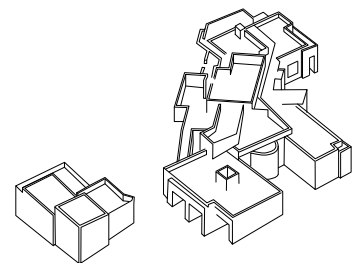
6 corners



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.
Foundation (9% of total cost)	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete or concrete block.	Reinforced concrete or concrete block.	Reinforced concrete.
Floor Structure (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.
Wall Framing and Exterior Finish (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.
Roof (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.
Floor Finish (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.
Interior Wall and Ceiling Finish (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.
Interior Detail (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.
Bath Detail (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.
Kitchen Detail (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.
Plumbing (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.
Special Features (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.
Electrical System (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.
If Exterior Walls are Masonry	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.

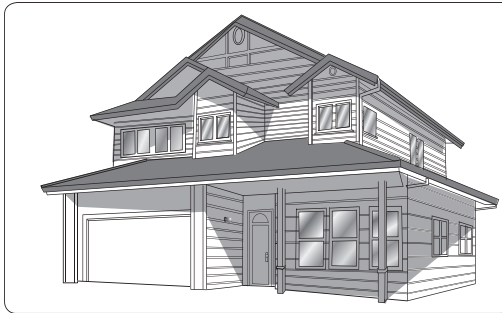
Note: Use the percent of total cost to help identify the correct quality classification.

Single Family Residences

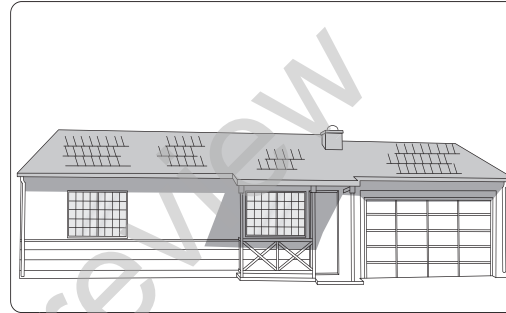
4 Corners (Classes 3, 4, 5 and 6) or One Building Mass (Classes 1 and 2 Only)

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	494.24	473.55	456.47	441.70	430.21	419.95	410.86	402.69	396.57	390.58	385.12	380.48	371.81
1, & 2	429.78	411.78	396.92	384.10	374.11	365.12	357.30	350.15	344.86	339.66	334.82	330.79	323.30
2, Semi-Luxury	300.38	287.80	277.42	268.44	261.46	255.23	249.72	244.76	241.03	237.27	234.04	231.26	225.92
2 & 3	220.48	211.30	203.63	197.09	191.96	187.36	183.30	179.66	176.88	174.21	171.74	169.76	165.85
3, Best Std.	192.39	184.40	177.69	172.00	167.44	163.48	159.95	156.80	154.38	152.05	149.93	148.09	144.72
3 & 4	164.53	157.56	151.91	147.07	143.15	139.75	136.77	134.00	132.00	129.88	128.18	126.60	123.78
4, Good Std.	141.77	135.72	130.90	126.68	123.40	120.46	117.80	115.45	113.65	111.96	110.41	108.97	106.62
4 & 5	127.69	122.32	117.97	114.13	111.13	108.42	106.07	104.05	102.42	100.84	99.48	98.29	95.98
5 Avg. Std.	114.92	110.17	106.18	102.78	100.13	97.70	95.58	93.61	92.20	90.79	89.54	88.48	86.45
5 & 6	99.78	95.60	92.17	89.22	86.85	84.77	82.93	81.24	80.04	78.78	77.83	76.78	75.04
6, Min. Std.	90.71	86.90	83.76	81.07	78.96	77.05	75.41	73.89	72.75	71.62	70.70	69.78	68.17

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	365.34	359.21	354.27	349.86	346.74	343.83	340.68	338.39	333.63	330.61	327.97	325.68	322.42
1, & 2	317.76	312.37	308.05	304.23	301.49	298.99	296.26	294.24	290.13	287.49	285.19	283.20	280.38
2, Semi-Luxury	222.17	218.31	215.33	212.63	210.69	208.91	207.01	205.65	202.76	200.92	199.31	197.93	195.95
2 & 3	163.00	160.27	158.06	156.10	154.65	153.31	151.99	150.95	148.85	147.50	146.31	145.29	143.84
3, Best Std.	142.25	139.82	137.87	136.23	135.00	133.85	132.62	131.70	129.86	129.88	128.83	127.94	126.66
3 & 4	121.62	119.57	117.96	116.50	115.39	114.37	113.44	112.66	111.08	110.09	109.19	108.43	107.35
4, Good Std.	104.79	102.99	101.63	100.33	99.48	98.57	97.72	96.98	95.66	94.80	94.02	93.39	92.46
4 & 5	94.37	92.82	91.42	90.38	89.52	88.82	87.92	87.41	86.22	85.43	84.76	84.16	83.33
5 Avg. Std.	84.98	83.60	82.44	81.32	80.67	79.95	79.23	78.69	77.61	76.49	76.31	75.78	75.04
5 & 6	73.77	72.55	71.52	70.62	70.04	69.35	68.72	68.23	67.37	66.68	66.25	65.73	65.13
6, Min. Std.	66.97	65.90	65.03	64.26	63.65	63.07	62.53	62.06	61.23	60.60	60.21	59.75	59.19

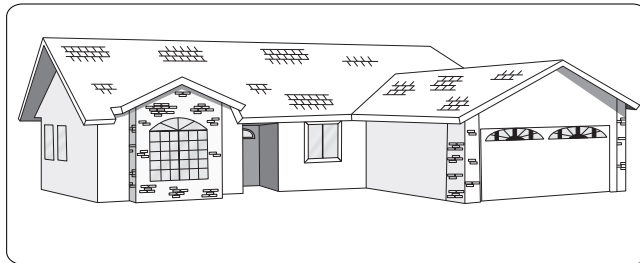
Note: Tract work and highly repetitive jobs may reduce the cost 8 to 12%. Add 4% to the square foot cost of floors above the second floor level. Work outside metropolitan areas may cost 2 to 6% less. When the exterior walls are masonry, add 9 to 10% for class 2 and 1 structures and 5 to 8% for class 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

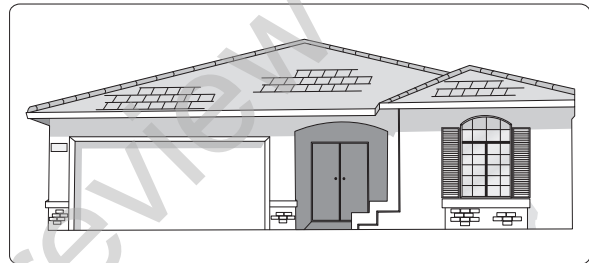
6 Corners (Classes 3, 4, 5, and 6) or Two Building Masses (Classes 1 and 2 Only)

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	503.73	482.64	465.24	450.19	438.50	428.33	419.95	411.66	405.14	399.18	393.71	388.84	380.56
1, & 2	438.03	419.70	404.55	391.48	381.28	372.39	365.12	357.99	352.30	347.10	342.42	338.14	330.91
2, Semi-Luxury	306.21	293.40	282.54	274.02	266.47	260.29	255.23	250.18	246.18	242.55	239.32	236.28	231.32
2 & 3	224.74	215.36	207.40	201.16	195.57	191.02	187.36	183.65	180.69	178.05	175.65	173.40	169.78
3, Best Std.	196.12	187.90	180.99	175.48	170.70	166.72	163.48	160.27	157.75	155.37	153.28	151.41	148.15
3 & 4	167.67	160.72	154.67	150.07	146.00	142.49	139.83	137.01	134.92	132.80	131.08	129.38	126.62
4, Good Std.	144.49	138.46	133.28	129.27	125.75	122.80	120.46	118.06	116.11	114.45	113.00	111.51	109.06
4 & 5	130.21	124.74	119.99	116.44	113.24	110.57	108.42	106.30	104.70	103.07	101.74	100.43	98.34
5 Avg. Std.	117.22	112.36	108.10	104.89	102.02	99.56	97.70	95.86	94.33	92.87	91.60	90.46	88.49
5 & 6	101.73	97.44	93.87	91.05	88.48	86.38	84.77	83.12	81.78	80.58	79.50	78.43	76.83
6, Min. Std.	92.52	88.65	85.33	82.73	80.47	78.59	77.05	75.56	74.31	73.20	72.23	71.33	69.81

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	374.43	368.67	363.54	359.21	355.71	352.28	349.39	346.74	343.10	340.02	337.29	336.24	332.88
1, & 2	325.58	320.64	316.19	312.37	309.36	306.29	303.83	301.49	298.42	295.70	294.69	292.62	289.69
2, Semi-Luxury	227.64	224.02	220.92	218.31	216.14	214.06	212.33	210.69	208.52	206.64	204.98	203.55	201.50
2 & 3	167.04	164.45	162.20	160.27	158.67	157.12	155.86	154.65	153.03	151.89	150.00	148.86	147.82
3, Best Std.	145.73	143.50	141.47	139.82	138.51	137.12	136.01	135.00	133.56	132.37	131.30	130.39	129.08
3 & 4	124.60	122.69	120.96	119.57	118.36	117.20	116.24	115.39	114.13	113.09	112.20	111.42	110.31
4, Good Std.	107.36	105.65	104.21	102.99	101.99	100.96	100.22	99.48	98.41	97.52	96.76	96.06	95.11
4 & 5	96.72	95.16	93.87	92.82	91.80	90.97	90.24	89.52	88.62	87.83	87.13	86.51	85.64
5 Avg. Std.	87.06	85.72	84.62	83.60	82.70	81.92	81.25	80.67	79.81	79.10	78.45	77.92	77.12
5 & 6	75.56	74.31	73.32	72.55	71.77	71.14	70.55	70.04	69.22	68.59	68.04	67.59	66.89
6, Min. Std.	68.69	67.65	66.71	65.90	65.28	64.64	64.11	63.65	62.95	62.38	61.89	61.46	60.84

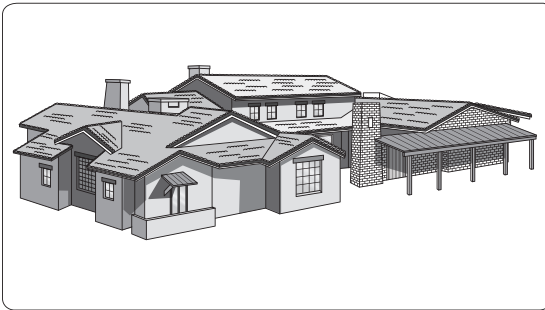
Note: Tract work and highly repetitive jobs may reduce the cost 8 to 12%. Add 4% to the square foot cost of floors above the second floor level. Work outside metropolitan areas may cost 2 to 6% less. When the exterior walls are masonry, add 9 to 10% for class 2 and 1 structures and 5 to 8% for class 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	513.98	492.78	474.53	459.59	447.40	437.32	428.33	420.24	413.03	407.50	402.21	397.57	389.31
1, & 2	446.91	428.57	412.61	399.68	389.01	380.28	372.39	365.48	359.18	354.36	349.74	345.71	338.57
2, Semi-Luxury	311.21	298.52	287.94	279.11	271.87	265.75	260.26	255.39	251.01	247.65	244.47	241.57	236.60
2 & 3	228.46	219.13	211.33	204.85	199.57	195.08	191.02	187.47	184.27	181.80	179.40	177.37	173.69
3, Best Std.	199.36	191.23	184.47	178.80	174.14	170.25	166.72	163.56	160.79	158.66	156.56	154.83	151.58
3 & 4	170.42	163.46	157.62	152.79	148.86	145.59	142.49	139.90	137.42	135.65	133.85	132.34	129.57
4, Good Std.	146.84	140.81	135.83	131.74	128.18	125.41	122.80	120.55	118.42	116.93	115.31	114.01	111.62
4 & 5	132.30	126.90	122.33	118.66	115.45	112.91	110.57	108.62	106.67	105.27	103.86	102.66	100.50
5 Avg. Std.	119.14	114.27	110.21	106.86	104.00	101.74	99.56	97.80	95.99	94.81	93.52	92.55	90.54
5 & 6	103.39	99.16	95.61	92.70	90.28	88.33	86.38	84.87	83.38	82.28	81.18	80.24	78.59
6, Min. Std.	93.97	90.16	86.92	84.29	82.02	80.24	78.59	77.18	75.77	74.78	73.82	71.19	69.86

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	382.75	381.93	371.81	367.96	364.52	361.47	357.84	355.81	351.37	348.21	345.41	343.01	339.57
1, & 2	332.83	325.58	323.30	319.96	316.98	314.35	311.15	309.45	305.63	302.86	300.44	298.33	295.36
2, Semi-Luxury	232.56	227.64	225.92	223.60	221.62	219.68	217.42	216.18	213.57	211.68	209.97	208.52	206.41
2 & 3	170.72	167.04	165.85	164.15	162.62	161.27	159.62	158.73	156.80	155.39	154.15	153.07	151.55
3, Best Std.	148.96	145.73	144.72	143.23	141.89	140.71	139.31	138.52	137.99	136.77	135.70	134.76	133.40
3 & 4	127.24	124.60	123.78	122.43	121.33	120.34	119.15	118.42	117.00	115.94	115.03	114.22	113.06
4, Good Std.	109.74	107.36	106.62	105.52	104.54	103.75	102.66	102.00	100.80	99.87	99.09	98.38	97.42
4 & 5	98.88	96.72	95.98	95.03	94.24	93.40	92.36	91.91	90.79	89.47	88.72	88.11	87.23
5 Avg. Std.	89.02	87.06	86.45	85.61	84.76	84.09	83.26	82.80	81.75	81.04	80.38	79.81	79.03
5 & 6	77.31	75.56	75.04	74.26	73.63	72.97	72.22	71.79	70.99	70.37	69.79	69.30	68.61
6, Min. Std.	68.70	67.27	66.80	66.17	65.57	65.02	64.42	64.00	63.30	62.73	62.24	62.85	61.18

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	524.72	502.77	484.61	470.30	456.77	446.18	437.45	430.05	422.84	416.90	411.66	406.87	398.35
1, & 2	456.30	437.31	421.44	408.98	397.19	388.03	380.38	373.98	367.68	362.96	358.01	353.83	346.40
2, Semi-Luxury	316.15	303.61	293.41	284.43	277.60	271.17	265.85	261.36	256.98	253.36	250.18	247.22	242.06
2 & 3	232.10	222.90	215.38	208.84	203.75	199.04	195.11	191.79	188.63	185.89	183.65	181.47	177.70
3, Best Std.	202.51	194.48	187.94	182.20	177.78	173.73	170.29	167.40	164.64	162.28	160.27	158.41	155.04
3 & 4	173.16	166.15	160.72	155.79	152.05	148.47	145.61	143.09	140.69	138.73	137.01	135.44	132.62
4, Good Std.	149.22	143.26	138.54	134.23	130.91	127.96	125.41	123.37	121.24	119.57	118.06	116.63	114.25
4 & 5	134.39	129.03	124.76	120.93	118.00	115.28	113.00	111.10	109.25	107.74	106.30	105.05	102.93
5 Avg. Std.	121.06	116.12	112.39	108.91	106.26	103.85	101.78	100.04	98.41	96.94	95.86	94.65	92.70
5 & 6	104.99	100.82	97.46	94.51	92.20	90.08	88.37	86.81	85.34	84.14	83.12	82.04	80.47
6, Min. Std.	95.51	91.64	88.66	85.93	83.80	81.88	80.27	78.94	77.56	76.45	75.56	74.62	73.11

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	391.92	390.20	381.01	376.44	373.14	370.08	367.06	364.66	359.98	356.74	353.88	351.41	347.84
1, & 2	340.82	335.67	331.36	327.30	324.57	321.81	319.23	317.09	313.13	309.41	306.96	304.84	301.82
2, Semi-Luxury	238.15	234.60	231.53	228.81	226.80	224.89	223.09	221.67	218.79	216.84	215.07	213.57	211.43
2 & 3	174.80	172.16	169.95	167.94	166.45	165.11	163.73	162.66	160.63	154.33	153.11	152.02	150.51
3, Best Std.	152.56	150.31	148.36	146.52	145.24	144.02	142.87	141.96	140.18	138.92	137.80	136.84	135.47
3 & 4	130.39	128.49	126.82	125.31	124.21	123.13	122.21	121.36	119.74	118.68	117.73	116.92	115.73
4, Good Std.	112.39	110.72	109.38	107.90	106.97	106.08	105.27	104.70	103.25	102.33	101.15	100.10	99.10
4 & 5	101.30	99.69	98.43	97.23	96.38	95.58	94.81	94.25	92.95	92.12	91.38	90.75	89.82
5 Avg. Std.	91.09	89.79	88.65	87.57	86.74	86.12	85.39	84.91	83.69	82.93	82.28	81.69	80.89
5 & 6	79.10	77.93	76.88	75.95	75.25	74.71	74.11	73.64	72.68	72.03	71.45	70.94	70.25
6, Min. Std.	71.94	70.80	69.93	69.06	68.46	67.93	67.37	66.94	66.07	65.48	64.95	64.49	63.86

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.

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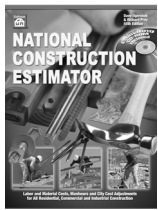
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Practical References for Builders

National Construction Estimator



Current building costs for residential, commercial, and industrial construction. Estimated prices for every common building material. Provides manhours, recommended crew, and gives the labor cost for installation. Includes a CD-ROM with an electronic version of the book with *National Estimator*, a stand-alone Windows™ estimating program, plus an interactive multimedia video that shows how to

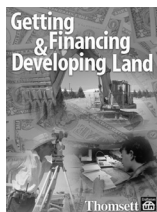
use the disk to compile construction cost estimates.

672 pages, 8½ x 11, \$72.50. Revised annually

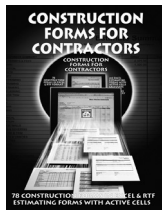
Getting Financing & Developing Land

Developing land is a major leap for most builders — yet that's where the big money is made. This book gives you the practical knowledge you need to make that leap. Learn how to prepare a market study, select a building site, obtain financing, guide your plans through approval, and then control your building costs so you can ensure yourself a good profit. Includes a CD-ROM with forms, checklists, and a sample business plan you can customize and use to help you sell your idea to lenders and investors.

232 pages, 8½ x 11, \$39.00



Construction Forms for Contractors



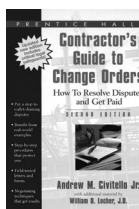
This practical guide contains 78 useful forms, letters and checklists, guaranteed to help you streamline your office, organize your jobsites, gather and manage records and documents, keep a handle on your subs, reduce estimating errors, administer change orders and lien issues, monitor crew productivity, track your equipment use, and more. Includes accounting forms, change order forms, forms for customers, estimating forms, field work forms, HR forms, lien forms, office forms, bids and proposals, subcontracts, and more. All are also on the CD-ROM included, in *Excel* spreadsheets, as formatted Rich Text that you can fill out on your computer, and as PDFs.

360 pages, 8½ x 11, \$48.50

Contractor's Guide to Change Orders

This book gives you the ammunition you need to keep contract disputes from robbing you of your profit. You'll learn how to identify trouble spots in your contract, plans, specifications and site; negotiate and resolve change order disputes, and collect facts for evidence to support your claims. You'll also find detailed checklists to organize your procedures, field-tested sample forms and worksheets ready for duplication, and various professional letters for almost any situation.

382 pages, 8½ x 11, \$79.00



Residential Property Inspection Reports on CD-ROM

This CD-ROM contains 50 pages of property inspection forms in both Rich Text and PDF formats. You can easily customize each form with your logo and address, and use them for your home inspections. Use the CD-ROM to write your inspections with your word processor, print them, and save copies for your records. Includes inspection forms for grounds and exterior, foundations, garages and carports, roofs and attics, pools and spas, electrical, plumbing, and HVAC, living rooms, family rooms, dens, studies, kitchens, breakfast rooms, dining rooms, hallways, stairways, entries, laundry rooms. **\$79.95**

Drafting House Plans

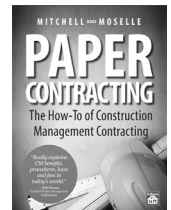
Here you'll find step-by-step instructions for drawing a complete set of house plans for a one-story house, an addition to an existing house, or a remodeling project. This book shows how to visualize spatial relationships, use architectural scales and symbols, sketch preliminary drawings, develop detailed floor plans and exterior elevations, and prepare a final plot plan. It even includes code-approved joist and rafter spans and how to make sure that drawings meet code requirements. **192 pages, 8½ x 11, \$34.95**

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This is not only a great study guide filled with sample electrician's exam questions — it teaches you how to quickly turn to the code section that answers the questions. Most electrician's exams give you about 2 minutes per question — not enough time to browse through 800 pages of fine print looking for each answer. This manual, based on the 2008 and 2011 *NEC* editions, explains how the Code is organized, so you understand where the information you need is located. Then it shows how to rearrange and tab your copy of the Code to streamline your search efforts. Next, you learn a step-by-step search procedure, in which you're shown how to analyze the question to determine its subject, know where to look in the index, find the exact article, then turn right to the Code section that answers your question. **96 pages, 8½ x 11, \$34.00**

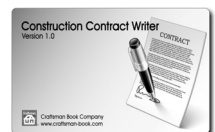
Paper Contracting: The How-To of Construction Management Contracting

Risk, and the headaches that go with it, have always been a major part of any construction project — risk of loss, negative cash flow, construction claims, regulations, excessive changes, disputes, slow pay — sometimes you'll make money, and often you won't. But many contractors today are avoiding almost all of that risk by working under a construction management contract, where they are simply a paid consultant to the owner, running the job, but leaving him the risk. This manual is the how-to of construction management contracting. You'll learn how the process works, how to get started as a CM contractor, what the job entails, how to deal with the issues that come up, when to step back, and how to get the job completed on time and on budget. Includes a link to free downloads of CM contracts legal in each state. **256 pages, 8½ x 11, \$55.50**



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Relying on a "one-size-fits-all" boilerplate construction contract to fit your jobs can be dangerous — almost as dangerous as a handshake agreement. *Construction Contract Writer* lets you draft a contract in minutes that precisely fits your needs and the particular job, and meets both state and federal requirements. You just answer a series of questions — like an interview — to construct a legal contract for each project you take on. Anticipate where disputes could arise and settle them in the contract before they happen. Include the warranty protection you intend, the payment schedule, and create subcontracts from the prime contract by just clicking a box. Includes a feedback button to an attorney on the Craftsman staff to help should you get stumped — *No extra charge*. **\$99.95**. Download *Construction Contract Writer* at <http://www.constructioncontractwriter.com>



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A spiral-bound, quick reference to the 2009 *International Residential Code* that's filled with easy-to-read and understand Code requirements for every aspect of residential construction. This user-friendly guide through the morass of the Code is packed with illustrations, tables, and figures, to illuminate your path to inspection and approval. **318 pages, 5½ x 8½, \$28.95**

Insurance Restoration Contracting: Startup to Success

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336 pages, 8½ x 11, \$47.50

Craftsman's Construction Installation Encyclopedia

Step-by-step installation instructions for just about any residential construction, remodeling or repair task, arranged alphabetically, from *Acoustic tile* to *Wood flooring*. Includes hundreds of illustrations that show how to build, install, or remodel each part of the job, as well as manhour tables for each work item so you can estimate and bid with confidence. Also includes a CD-ROM with all the material in the book, handy look-up features, and the ability to capture and print out for your crew the instructions and diagrams for any job. **792 pages, 8½ x 11, \$65.00**

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This 5th edition has all the information you need for estimating and bidding new construction and home improvement projects. It shows how to select jobs that will be profitable, do a labor and materials take-off from the plans, calculate overhead and figure your markup, and schedule the work. Includes a CD with an easy-to-use construction estimating program and a database of 50,000 current labor and material cost estimates for new construction and home improvement work, with area modifiers for every zip code. Price updates on the Web are free and automatic.

272 pages, 8½ x 11, \$89.50

Survive & Thrive in Building

Are you ready for the housing rebound? For every home-builder casualty of a housing recession, there's another one still in business. Which will you be? Business owners often learn how to run a successful company the hard way — through trial and error. But you don't have to rely on this haphazard approach to entrepreneurship. As a home builder, you can have behind you the wisdom and experience of NAHB members who have weathered the ups and downs of the housing cycle. This book covers basic, but essential knowledge for running a successful company, whether you're new to residential construction or a veteran builder. You'll learn how to find a sustainable market niche, get financing for your projects, market your homes, achieve an optimal balance between sales volume and profit margin, understand financial reports, organize and insure your company to minimize risk, and find and keep the best employees and trade contractors. **316 pages, 10 x 7, \$39.95. Published by NAHB**

Green Building Strategies: From Plan to Profit

Gain confidence with Green Construction. Are you overwhelmed trying to comply with new energy code requirements, understand green building standards, sort out product manufacturers' claims, and answer buyers' questions about high-performance homes? This book will turn your consternation into confidence by helping you understand, construct, and communicate better about green homes. Author Jeannie Leggett Sikora (*Profit from Building Green*) explains in plain language what's happening in the rapidly evolving field of building science. You'll learn how to build high-performance energy-efficient green homes to satisfy buyers and stay ahead of your competitors. *Green Building Strategies* takes you step-by-step from design through site development and construction, quality assurance, marketing, and customer service. This book is a must for every builder's bookshelf.

186 pages, 10 x 7, \$44.95. Published by NAHB

Estimating Home Building Costs, Revised

Estimate every phase of residential construction from site costs to the profit margin you include in your bid. Shows how to keep track of manhours and make accurate labor cost estimates for site clearing and excavation, footings, foundations, framing and sheathing finishes, electrical, plumbing, and more. Provides and explains sample cost estimate worksheets with complete instructions for each job phase. This practical guide to estimating home construction costs has been updated with digital *Excel* estimating forms and worksheets that ensure accurate and complete estimates for your residential projects. Enter your project information on the worksheets and *Excel* automatically totals each material and labor cost from every stage of construction to a final cost estimate worksheet. Load the enclosed CD-ROM into your computer and create your own estimate as you follow along with the step-by-step techniques in this book. **336 pages, 8½ x 11, \$38.00**

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For today's contractors, legal problems are like snakes in the swamp — you might not see them, but you know they're there. This book tells you where the snakes are hiding and directs you to the safe path. With the directions in this easy-to-read handbook you're less likely to need a \$250-an-hour lawyer. Includes simple directions for starting your business, writing contracts that cover just about any eventuality, collecting what's owed you, filing liens, protecting yourself from unethical subcontractors, and more. For about the price of 15 minutes in a lawyer's office, you'll have a guide that will make many of those visits unnecessary. Includes a CD-ROM with blank copies of all the forms and contracts in the book. **272 pages, 8½ x 11, \$49.50**

Estimating With Microsoft Excel, 3rd Ed.

Most builders estimate with *Excel* because it's easy to learn, quick to use, and can be customized to your style of estimating. Here you'll find step-by-step instructions on how to create your own customized automated spreadsheet estimating program for use with *Excel*. You'll learn how to use the magic of *Excel* to create detail sheets, cost breakdown summaries, and links. You'll put this all to use in estimating concrete, rebar, permit fees, and roofing. You can even create your own macros. Includes a CD-ROM that illustrates examples in the book and provides you with templates you can use to set up your own estimating system. **151 pages, 7 x 9, \$44.95**

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Provides the 300 most useful manhour tables for practically every item of construction. Labor requirements are listed for sitework, concrete work, masonry, steel, carpentry, thermal and moisture protection, doors and windows, finishes, mechanical and electrical. Each section details the work

being estimated and gives appropriate crew size and equipment needed. Includes a CD-ROM with an electronic version of the book with *National Estimator*, a stand-alone *Windows*™ estimating program, plus an interactive multimedia video that shows how to use the disk to compile construction cost estimates.

384 pages, 11 x 8½, \$39.50

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Shows on-site preplanning and layout through the construction of footings, foundations, walls, fireplaces and chimneys. An added appendix on safety regulations, with a condensed OSHA reference. Improved bid-winning estimating techniques. The emphasis is on integrating new techniques and materials with tried-and-true methods. Includes information on cement and mortar types, mixes, coloring agents and additives, and suggestions on when, where and how to use them; calculating footing and foundation loads, with reference tables and formulas; forming materials and systems; pouring and reinforcing concrete slabs and flatwork; block and brick wall construction, with seismic requirements; crack control, masonry veneer construction, brick floors and pavements, design considerations and materials; cleaning, painting and repairing all types of masonry. **304 pages, 8½ x 11, \$37.75**

CD Estimator

If your computer has *Windows*™ and a CD-ROM drive, CD Estimator puts at your fingertips over 150,000 construction costs for new construction, remodeling, renovation & insurance repair, home improvement, framing & finish carpentry, electrical, concrete & masonry, painting, earthwork and heavy equipment, and plumbing & HVAC. Quarterly cost updates are available at no charge on the Internet. You'll also have the *National Estimator* program — a stand-alone estimating program for *Windows*™ that *Remodeling* magazine called a "computer wiz," and *Job Cost Wizard*, a program that lets you export your estimates to *QuickBooks Pro* for actual job costing. A 60-minute interactive video teaches you how to use this CD-ROM to estimate construction costs. And to top it off, to help you create professional-looking estimates, the disk includes over 40 construction estimating and bidding forms in a format that's perfect for nearly any *Windows*™ word processing or spreadsheet program.

CD Estimator is \$108.50

Standard Estimating Practice

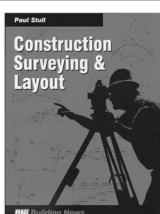
Estimating isn't always an easy job. Sometimes snap decisions can produce negative long-term effects. This book was designed by the American Society of Professional Estimators as a set of standards to guide professional estimators. It's intended to help every estimator develop estimates that are uniform and verifiable. Every step that should be included in the estimate is listed, as well as aspects in the plans to consider when you're estimating a job, and what you should look for that may not be included. The result should help you produce more consistently accurate estimates. **526 pages, 8½ x 11, \$89.00**

Construction Estimating

This extremely well-organized book shows the best and easiest way to estimate materials for room additions or residential structures. It gives estimating tables and procedures needed to make a fast, accurate, and complete material list of the structural members found in wood- and steel-framed buildings. This book is divided into 72 units, each of them covering a separate element in the estimating procedure. Covers estimating foundations, floor framing, wall framing, ceiling framing, roof framing, roofing materials, exterior and interior finish materials, hardware, steel joist floor framing, steel stud framing, and steel ceiling joist and rafter framing. **496 pages, 8½ x 11, \$49.50**

Construction Surveying & Layout

A practical guide to simplified construction surveying. How to divide land, use a transit and tape to find a known point, draw an accurate survey map from your field notes, use topographic surveys, and the right way to level and set grade. You'll learn how to make a survey for any residential or commercial lot, driveway, road, or bridge — including how to figure cuts and fills and calculate excavation quantities. Use this guide to make your own surveys, or just read and verify the accuracy of surveys made by others. **244 pages, 8½ x 11, \$51.95**



Residential Wiring to the 2008 NEC

This completely revised manual explains in simple terms how to install rough and finish wiring in new construction, alterations, and additions. It takes you from basic electrical theory to current wiring methods that comply with the 2008 *National Electrical Code*. You'll find complete instructions on troubleshooting and repairs of existing wiring, and how to extend service into additions and remodels. Hundreds of drawings and photos show you the tools and gauges you need, and how to plan and install the wiring. Includes demand factors, circuit loads, the formulas you need, and over 20 pages of the most-needed 2008 *NEC* tables to help your wiring pass inspection the first time. Includes a CD-ROM with an Interactive Study Center that helps you retain what you've learned, and study for the electrician's exam. Also on the CD is the entire book in PDF format, with easy search features so you can quickly find answers to your residential wiring questions. **304 pages, 8½ x 11, \$42.00**

Residential Wiring to the 2011 NEC is available as an eBook at www.costbook.com for \$24.00

Building Contractor's Exam Preparation Guide

Passing today's contractor's exams can be a major task. This book shows you how to study, how questions are likely to be worded, and the kinds of choices usually given for answers. Includes sample questions from actual state, county, and city examinations, plus a sample exam to practice on. This book isn't a substitute for the study material that your testing board recommends, but it will help prepare you for the types of questions — and their correct answers — that are likely to appear on the actual exam. Knowing how to answer these questions, as well as what to expect from the exam, can greatly increase your chances of passing.

320 pages, 8½ x 11, \$35.00

Fences & Retaining Walls eBook

Everything you need to know to run a profitable business in fence and retaining wall contracting. Takes you through layout and design, construction techniques for wood, masonry, and chain link fences, gates and entries, including finishing and electrical details. How to build retaining and rock walls. How to get your business off to the right start, keep the books, and estimate accurately. The book even includes a chapter on contractor's math.

400 pages, eBook (PDF, EPUB & MOBI/Kindle), \$23.00. Scan QR code and go directly to www.costbook.com to purchase.



2011 National Electrical Code

This new electrical code incorporates sweeping improvements to make the code more functional and user-friendly. Here you'll find the essential foundation for electrical code requirements for the 21st century. With hundreds of significant and widespread changes, this 2011 *NEC* contains all the latest electrical technologies, recently-developed techniques, and enhanced safety standards for electrical work. This is the standard all electricians are required to know, even if it hasn't yet been adopted by their local or state jurisdictions. **880 pages, 8½ x 11, \$85.00**

Also available: **2008 National Electrical Code, \$75.00**

2011 Ugly's Electrical Reference

The most popular pocket-sized electrical book in America. Ugly's is used by electricians, engineers, designers and maintenance workers, instructors and the military. This unique book explains bending conduit, *National Electrical Code* tables, wiring configurations, complex electrical formulas, and much more. This 2011 edition contains all the electrical material that has made this reference famous, but also reflects 2011 *NEC* changes and new color-coded wiring diagrams. Also includes updated coverage of Alternative Energy, Combination Circuits, Conductor Properties, Conduit Bending, Conversion Tables, Insulation Charts, Metric System, Ohm's Law, and a General First Aid Section.

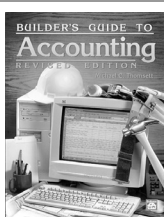
198 pages, 4 x 6, \$18.95

Also available: **2008 Ugly's Electrical Reference, \$16.95**

Builder's Guide to Accounting Revised

Step-by-step, easy-to-follow guidelines for setting up and maintaining records for your building business. This practical guide to all accounting methods shows how to meet state and federal accounting requirements, explains the new depreciation rules, and describes how the Tax Reform Act can affect the way you keep records. Full of charts, diagrams, simple directions and examples to help you keep track of where your money is going. Recommended reading for many state contractor's exams. Each chapter ends with a set of test questions, and a CD-ROM included FREE has all the questions in interactive self-test software. Use the Study Mode to make studying for the exam much easier, and Exam Mode to practice your skills.

360 pages, 8½ x 11, \$35.50



Pipe & Excavation Contracting Revised



This popular manual has been updated and improved to bring it more current with modern earthmoving and trenching equipment, refined excavation techniques, stricter safety rules, and improved materials. Shows how to read plans and compute quantities for both trench and surface excavation, figure crew and equipment productivity rates, estimate unit costs, bid the work, and get the bonds you need. Learn how to choose the

right equipment for each job, use GPS, how to lay all types of water and sewer pipe, work on steep slopes or in high groundwater, efficiently remove asphalt and rock, and the various pipe, joints and fittings now available. Explains how to switch your business to excavation work when you don't have pipe contracts, and how to avoid the pitfalls that can wipe out your profits on any job.

328 pages, 8½ x 11, \$35.00

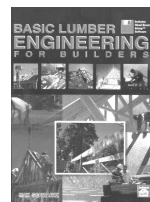
Basic Engineering for Builders

This book is for you if you've ever been stumped by an engineering problem on the job, yet wanted to avoid the expense of hiring a qualified engineer. Here you'll find engineering principles explained in non-technical language and practical methods for applying them on the job. With the help of this book you'll be able to understand engineering functions in the plans and how to meet the requirements, how to get permits issued without the help of an engineer, and anticipate requirements for concrete, steel, wood and masonry. See why you sometimes have to hire an engineer and what you can undertake yourself: surveying, concrete, lumber loads and stresses, steel, masonry, plumbing, and HVAC systems. This book is designed to help you, the builder, save money by understanding engineering principles that you can incorporate into the jobs you bid.

400 pages, 8½ x 11, \$39.50



Basic Lumber Engineering for Builders



Beam and lumber requirements for many jobs aren't always clear, especially with changing building codes and lumber products. Most of the time you rely on your own "rules of thumb" when figuring spans or lumber engineering. This book can help you fill the gap between what you can find in the building code span tables and what you need to pay a certified engineer to do. With its large, clear illustrations and examples, this

book shows you how to figure stresses for pre-engineered wood or wood structural members, how to calculate loads, and how to design your own girders, joists and beams. Included FREE with the book — an easy-to-use limited version of NorthBridge Software's *Wood Beam Sizing* program. **272 pages, 8½ x 11, \$38.00**

Commercial Metal Stud Framing

Framing commercial jobs can be more lucrative than residential work. But most commercial jobs require some form of metal stud framing. This book teaches step-by-step, with hundreds of job site photos, high-speed metal stud framing that works in both residential and commercial construction. It describes the special tools you'll need, how to use them effectively, and the material and equipment you'll be working with. You'll find the shortcuts, tips and tricks-of-the-trade that take most steel framers years on the job to discover. Shows how to set up a crew to maintain a rhythm that will speed progress faster than any wood framing job. If you've framed with wood, this book will teach you how to be one of the few top-notch metal stud framers in both commercial and residential construction. **208 pages, 8½ x 11, \$45.00**

Easy Scheduling

Easy Scheduling presents you with a complete set of "real world" scheduling tools that are specifically tailored to meet the needs of small- to medium-sized construction businesses. Step by step, it shows you how to use *Microsoft Project* to build a schedule that will synchronize everyone's efforts into an organized system that becomes the foundation of all planning and communication for all your jobs. You'll see how to establish realistic project goals, set checkpoints, activities, relationships and time estimates for each task, as well as establish priorities. You'll learn how to create a project flowchart to keep everyone focused and on track, and see how to use CSI (Construction Specification Institute) coding to organize and sort tasks, methods, and materials across multiple projects. If you want an easy way to schedule your jobs, *Microsoft Project* and *Easy Scheduling* is the answer for you. (Does not include *Microsoft Project*.) Published by BNI.

316 pages, 8½ x 11, \$59.95

Steel-Frame House Construction

Framing with steel has obvious advantages over wood, yet building with steel requires new skills that can present challenges to the wood builder. This book explains the secrets of steel framing techniques for building homes, whether pre-engineered or built stick by stick. It shows you the techniques, the tools, the materials, and how you can make it happen. Includes hundreds of photos and illustrations, plus a FREE download with steel framing details and a database of steel materials and manhours, with an estimating program.

320 pages, 8½ x 11, \$39.75

Code Check Complete, 2nd Edition

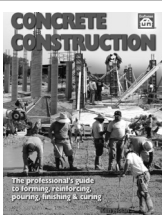
Every essential building, electrical and mechanical code requirement you're likely to encounter when building or remodeling residential and light commercial structures. Based on the 2009 *International and Uniform Codes*, and the 2008 and 2011 *National Electrical Code*, it's endorsed by the International Code Council. Comes spiral-bound, with over 400 drawings, and has up-to-date answers to your code questions. Includes quick-glance summaries to alert you to important code changes. Compiled by code-certified building/home inspectors, this new book is like having four guides in one — for building inspectors, design-professionals, plan reviewers, contractors, home inspectors, educators, and do-it-yourself homeowners. **234 pages, 6½ x 8½, \$45.00**

Standard Plans For Public Works Construction, 2009 Ed.

This visual reference, also updated and revised to comply with the Federal regulations for metric documentation, is the graphic companion to the "Greenbook." Hundreds of detailed drawings, cross sections, design criteria, and dimensions graphically depict all aspects of public works construction. Every dimension is listed in both feet/inches and metric equivalents. This book, along with the "Greenbook," sets the standard for quality and uniformity in public works construction. **375 pages, 8½ x 11, \$87.95**

Concrete Construction

Just when you think you know all there is about concrete, many new innovations create faster, more efficient ways to do the work. This comprehensive concrete manual has both the tried-and-tested methods and materials, and more recent innovations. It covers everything you need to know about concrete, along with Styrofoam forming systems, fiber reinforcing adjuncts, and some architectural innovations, like architectural foam elements, that can help you offer more in the jobs you bid on. Every chapter provides detailed, step-by-step instructions for each task, with hundreds of photographs and drawings that show exactly how the work is done. To keep your jobs organized, there are checklists for each stage of the concrete work, from planning, to finishing and protecting your pours. Whether you're doing residential or commercial work, this manual has the instructions, illustrations, charts, estimating data, rules of thumb and examples every contractor can apply on their concrete jobs. **288 pages, 8½ x 11, \$28.75**



Business Letters for the Construction Industry

Here you'll find over 100 professionally-written model letters for virtually every situation. Put your business in the best possible light with a well-written letter — especially when you can use that letter to improve a bad situation. Use these letters over and over again to resolve disputes, win new clients, clarify proposals, coordinate with architects, subcontractors, owners, and insurers, schedule meetings and inspections, and to respond to complaints or difficult situations. Included are letters responding to threats of legal action, of commendation to workers, of job performance, apology for defective or delayed work; letters for justification of change orders and price increases; letters explaining your insurance liability, drug testing, injury at work, overtime, equipment use, and more. Practically every letter you'll have to write is in this book, already written, and available on *MS-Word* on the CD-ROM enclosed. Just load the letter you need, change a few phrases, print out and send, or e-mail, and you're free to spend your time on more productive endeavors. **376 pages, 8½ x 11, \$59.95**

Greenbook Standard Specifications for Public Works Construction 2012

The Greenbook gives approved standards for all types of public works construction — from the depth of paving on roads to the adhesive used on pavement markers. It standardizes public works plans and specs to provide guidelines for both cities and contractors so they can agree on construction practices used in public works. The book has been adopted by over 200 cities, counties, and agencies throughout the U.S. The 2012 edition is the 16th edition of this complete reference, providing uniform standards of quality and sound construction practice easily understood and used by engineers, public works officials, and contractors across the U.S. Includes hundreds of charts and tables. **550 pages, 8½ x 11, \$84.50**

Sweets Green Building Square Foot Costbook 2013

If your customers are demanding their buildings meet LEED® green building standards, estimating construction costs can represent quite a challenge — especially if you've never built a green building before. This new book contains square foot prices for over 50 different types of green buildings, broken down by construction division. It includes articles on the cost of LEED® certification, green roof design, and the goals of other LEED® certified builders throughout the U.S. All of the costs in the book have been carefully adjusted for 2013. Included are government projects, residential and commercial buildings, schools and libraries, and medical and recreational facilities, reflecting the vast array of "green" materials and technologies used in construction today. If the unknown costs of building green have kept you from bidding on jobs you could have had, you'll recover the cost of this book many times over in the future job bids you're sure to win. **198 pages, 8½ x 11, \$55.95. Published by Building News Inc.**

Estimating Excavation

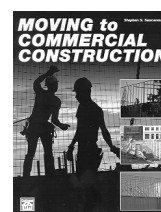
How to calculate the amount of dirt you'll have to move and the cost of owning and operating the machines you'll do it with. Detailed, step-by-step instructions on how to assign bid prices to each part of the job, including labor and equipment costs. Also, the best ways to set up an organized and logical estimating system, take off from contour maps, estimate quantities in irregular areas, and figure your overhead. **448 pages, 8½ x 11, \$39.50**

Architects, Contractors, Engineers, Guide to Construction Costs, 2013 Edition

Since 1969, architects, contractors and engineers alike have looked to the ACE (Architects, Contractors, Engineers) Guide to Construction Costs as a practical resource for all their construction needs. Whether the job is for general construction, remodeling, building maintenance, or repair, the ACE Guide to Construction Costs provides the most accurate and up-to-date data for material and installation costs, labor and equipment rates, and even adjusted allowances for overhead and profit. The Guide also breaks down all unit and summary costs for every type of structure ... all organized into construction divisions. It also includes prevailing wage rates for the 75 largest U.S. Metropolitan areas, square foot costs, Americans With Disabilities costs (ADA), production and demolition rates, energy factors, purchasing costs, equipment rental rates, and much more! **176 pages, 8½ x 11, \$62.95**

Moving to Commercial Construction

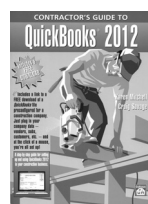
In commercial work, a single job can keep you and your crews busy for a year or more. The profit percentages are higher, but so is the risk involved. This book takes you step-by-step through the process of setting up a successful commercial business: finding work, estimating and bidding, value engineering, getting through the submittal and shop drawing process, keeping a stable work force, controlling costs, and promoting your business. Explains the design/build and partnering business concepts and their advantage over the competitive bid process. Includes sample letters, contracts, checklists and forms that you can use in your business, plus a CD-ROM with blank copies in several word-processing formats for both Mac™ and PC computers. **256 pages, 8½ x 11, \$42.00**



Planning Drain, Waste & Vent Systems

How to design plumbing systems in residential, commercial, and industrial buildings. Covers designing systems that meet code requirements for homes, commercial buildings, private sewage disposal systems, and even mobile home parks. Includes relevant code sections and many illustrations to guide you through what the code requires in designing drainage, waste, and vent systems. **202 pages, 8½ x 11, \$29.95**

Contractor's Guide to QuickBooks 2012



QuickBooks 2012 has many new features that simplify a building contractor's bookkeeping work. You'll wonder how you managed without them. To help you make the most of these new features, or to make getting set up with *QuickBooks* almost painless, this user-friendly manual walks you through *QuickBooks'* detailed setup procedure and explains step-by-step how to create a first-rate accounting system. You'll

learn in days, rather than weeks, how to use *QuickBooks* to get your contracting business organized, with simple, fast accounting procedures. But setting up *QuickBooks* from scratch can be time-consuming. On the free download included with purchase of the book you'll find a *QuickBooks* file preconfigured for a construction company. Open it, enter your company's data, add info on your suppliers, subs and customers, and you're up and running. The setup's done for you. **288 pages, 8½ x 11, \$58.50**

See checklist for other available editions.

The Contractor's Legal Kit

Stop "eating" the costs of bad designs, hidden conditions, and job surprises. Set ground rules that assign those costs to the rightful party ahead of time. And it's all in plain English, not "legalese." For less than the cost of an hour with a lawyer, you'll learn the exclusions to put in your agreements, why your insurance company may pay for your legal defense, and how to avoid liability for injuries to your sub and his employees. It also includes a FREE CD-ROM with contracts and forms you can customize for your own use.

352 pages, 8½ x 11, \$69.95

Excavation & Grading Handbook Revised

The foreman's, superintendent's and operator's guide to highway, subdivision and pipeline jobs: how to read plans and survey stake markings, set grade, excavate, compact, pave and lay pipe on nearly any job. Includes hundreds of informative, on-the-job photos and diagrams that even experienced pros will find invaluable. This new edition has been completely revised to be current with state-of-the-art equipment usage and the most efficient excavating and grading techniques. You'll learn how to read topo maps, use a laser level, set crows feet, cut drainage channels, lay or remove asphaltic concrete, and use GPS and sonar for absolute precision. For those in training, each chapter has a set of self-test questions, and a Study Center CD-ROM included has all 250 questions in a simple interactive format to make learning easy and fun. **512 pages, 8½ x 11, \$42.00**

National Renovation & Insurance Repair Estimator

Current prices in dollars and cents for hard-to-find items needed on most insurance, repair, remodeling, and renovation jobs. All price items include labor, material, and equipment breakouts, plus special charts that tell you exactly how these costs are calculated. Includes a CD-ROM with an electronic version of the book with *National Estimator*, a stand-alone *Windows™* estimating program, plus an interactive multimedia video that shows how to use the disk to compile construction cost estimates. **488 pages, 8½ x 11, \$74.50. Revised annually**

Building Code Compliance for Contractors & Inspectors

An answer book for both contractors and building inspectors, this manual explains what it takes to pass inspections under the 2009 *International Residential Code*. It includes a checklist for every trade, covering some of the most common reasons why inspectors reject residential work: footings, foundations, slabs, framing, sheathing, plumbing, electrical, HVAC, energy conservation and final inspection. The requirement for each item is explained, and the code section cited. Knowing in advance what the inspector wants to see gives you an (almost unfair) advantage. To pass inspection, do your own pre-inspection before the inspector arrives. If you're considering a career in code enforcement, this can be your guidebook. **8½ x 11, 232 pages, \$32.50**



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