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2019 NATIONAL BUILDING COST MANUAL

43rd Edition

Edited by
Ben Moselle



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Explanation of the Cost Tables

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

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

The figures in this manual are intended to reflect the amount that would be paid by the first user of a building completed in mid 2019.

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

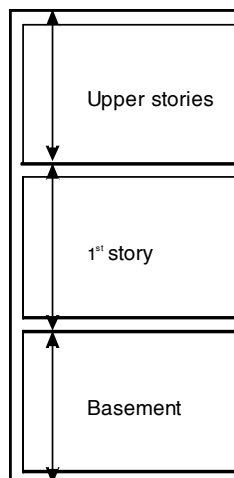
The basic building cost tables reflect the fact that larger buildings generally cost less per square foot than smaller buildings. The cost tables are based on square foot areas which include the following:

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 the floor slab or joist 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

construction 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 -4%			Salinas 939 1%			Atlanta 303 12%			Muncie 473 -8%			Camden 048 -10%		
Anniston 362	-8%		San Bernardino 923-924	2%		Augusta 308-309	-2%		South Bend 466	-2%		Cutler 046	-7%	
Auburn 368	-4%		San Diego 919-921	8%		Buford 305	-2%		Terre Haute 478	-3%		Dexter 049	-4%	
Bellamy 369	5%		San Francisco 941	27%		Calhoun 307	-9%					Northern Area 047	-8%	
Birmingham 350-352	2%		San Jose 950-951	17%		Columbus 318-319	-3%					Portland 041	2%	
Dothan 363	-7%		San Mateo 943-944	21%		Dublin/Fort Valley 310	-8%		Iowa Average -3%					
Evergreen 364	-10%		Santa Barbara 931	7%		Hinesville 313	-6%		Burlington 526	1%				
Gadsden 359	-9%		Santa Rosa 954	5%		Kings Bay 315	-10%		Carroll 514	-11%		Maryland Average 2%		
Huntsville 358	-1%		Stockton 952	4%		Macon 312	-4%		Cedar Falls 506	-4%		Annapolis 214	8%	
Jasper 355	-8%		Sunnyvale 940	20%		Marietta 300-302	4%		Dubuque 522-524	2%		Baltimore 210-212	7%	
Mobile 365-366	-2%		Van Nuys 913-916	8%		Savannah 314	-4%		Cherokee 510	1%		Bethesda 208-209	13%	
Montgomery 360-361	-2%		Whittier 906	8%		Statesboro 304	-11%		Council Bluffs 515	-1%		Church Hill 216	-4%	
Scottsboro 357	-4%					Valdosta 316	-1%		Creston 508	1%		Cumberland 215	-8%	
Selma 367	-5%		Colorado Average 1%						Davenport 527-528	1%		Elkton 219	-5%	
Sheffield 356	0%		Aurora 800-801	7%		Hawaii Average 20%			Decorah 521	-8%		Frederick 217	7%	
Tuscaloosa 354	-4%		Boulder 803-804	4%		Aliamau 968	22%		Des Moines 500-503	5%		Laurel 206-207	8%	
			Colorado Springs 808-809	0%		Ewa 967	20%		Dubuque 520	-4%		Salisbury 218	-6%	
Alaska Average 23%			Denver 802	8%		Halawa Heights 967	20%		Fort Dodge 505	-3%				
Anchorage 995	26%		Durango 813	-1%		Hilo 967	20%		Mason City 504	-3%		Massachusetts Average 12%		
Fairbanks 997	27%		Fort Morgan 807	-2%		Honolulu 968	22%		Ottumwa 525	-6%		Ayer 015-016	6%	
Juneau 998	19%		Glenwood Springs 816	4%		Kailua 968	22%		Sheldon 512	-7%		Bedford 017	15%	
Ketchikan 999	18%		Grand Junction 814-815	0%		Lualualei 967	20%		Shenandoah 516	-14%		Boston 021-022	37%	
King Salmon 996	23%		Greeley 806	5%		Mililani Town 967	20%		Sioux City 511	5%		Brockton 023-024	20%	
			Longmont 805	2%		Pearl City 967	20%		Spencer 513	-7%		Cape Cod 026	4%	
Arizona Average -4%			Pagosa Springs 811	-4%		Wahiawa 967	20%		Waterloo 507	-3%		Chicopee 010	7%	
Chambers 865	-8%		Pueblo 810	0%		Waianae 967	20%		Kansas Average 0%			Dedham 019	18%	
Douglas 855	-8%		Salida 812	-6%		Wailuku (Maui) 967	20%		Colby 677	-8%		Fitchburg 014	11%	
Flagstaff 860	-7%					Idaho Average -9%			Concordia 669	-12%		Hingham 020	19%	
Kingman 864	-5%		Connecticut Average 8%			Boise 837	-5%		Dodge City 678	-4%		Lawrence 018	14%	
Mesa 852	3%		Bridgeport 066	6%		Coeur d'Alene 838	-10%		Emporia 668	8%		Nantucket 025	9%	
Phoenix 850	3%		Bristol 060	12%		Idaho Falls 834	-9%		Fort Scott 667	-6%		New Bedford 027	6%	
Prescott 863	-6%		Fairfield 064	9%		Lewiston 835	-11%		Hays 676	-13%		Northfield 013	2%	
Show Low 859	-7%		Hartford 061	11%		Meridian 836	-9%		Hutchinson 675	-6%		Pittsfield 012	1%	
Tucson 856-857	-5%		New Haven 065	3%		Pocatello 832	-10%		Independence 673	29%		Springfield 011	8%	
Yuma 853	2%		Norwich 063	3%		Sun Valley 833	-8%		Kansas City 660-662	5%				
			Stamford 068-069	12%					Liberal 679	14%		Michigan Average 1%		
			Waterbury 067	6%					Salina 674	-7%		Battle Creek 490-491	-1%	
			West Hartford 062	5%					Topeka 664-666	-1%		Detroit 481-482	7%	
Arkansas Average -7%						Illinois Average 4%			Wichita 670-672	-4%		Flint 484-485	-4%	
Batesville 725	-9%					Arlington Heights 600	14%		Kentucky Average -4%			Grand Rapids 493-495	1%	
Camden 717	-2%		Delaware Average 2%			Aurora 605	14%		Ashland 411-412	-4%		Grayling 497	-7%	
Fayetteville 727	-4%		Dover 199	-4%		Belleville 622	0%		Bowling Green 421	-5%		Jackson 492	-1%	
Fort Smith 729	-7%		Newark 197	6%		Bloomington 617	-1%		Campton 413-414-11	-11%		Lansing 488-489	0%	
Harrison 726	-12%		Wilmington 198	4%		Carbondale 629	-4%		Covington 410	2%		Marquette 498-499	3%	
Hope 718	-8%					Carol Stream 601	14%		Elizabethtown 427	-10%		Pontiac 483	12%	
Hot Springs 719	-13%		District of Columbia Average 12%			Centralia 628	-3%		Frankfort 406	7%		Royal Oak 480	7%	
Jonesboro 724	-9%		Washington 200-205	12%		Champaign 618	-2%		Hazard 417-418-10	-10%		Saginaw 486-487	-5%	
Little Rock 720-722	-3%					Chicago 606-608	15%		Hopkinsville 422	-5%		Traverse City 496	-2%	
Pine Bluff 716	-11%					Decatur 623	-7%		Lexington 403-405	1%				
Russellville 728	-4%		Florida Average -5%			Galesburg 614	-4%		London 407-409	-7%		Minnesota Average -1%		
West Memphis 723	-2%		Altamonte Springs 327	-3%		Granite City 620	3%		Louisville 400-402	2%		Bemidji 566	-6%	
			Bradenton 342	-6%		Green River 612	5%		Owensboro 423	-4%		Brainerd 564	-3%	
California Average 9%			Brooksville 346	-7%		Joliet 604	13%		Paducah 420	0%		Duluth 556-558	2%	
Alhambra 917-918	8%		Daytona Beach 321	-9%		Kankakee 609	-3%		Pikeville 415-416	-8%		Fergus Falls 565	-10%	
Bakersfield 932-933	2%		Fort Lauderdale 333	2%		Lawrenceville 624	-6%		Somerset 425-426-11	-11%		Magnolia 561	-8%	
El Centro 922	0%		Fort Myers 339	-6%		Oak Park 603	18%		White Plains 424	-4%		Mankato 560	-4%	
Eureka 955	20%		Fort Pierce 349	-10%		Peoria 615-616	6%		Louisiana Average 2%			Minneapolis 553-555	13%	
Fresno 936-938	-2%		Gainesville 326	-9%		Peru 613	2%		Alexandria 713-714	-2%		Rochester 559	1%	
Herlong 961	22%		Jacksonville 322	-2%		Quincy 602	16%		Baton Rouge 707-708	10%		St Cloud 563	2%	
Inglewood 902-905	9%		Lakeland 338	-8%		Rockford 610-611	3%		Houma 703	4%		St Paul 550-551	12%	
Irvine 926-927	13%		Melbourne 329	-8%		Springfield 625-627	0%		Lafayette 705	16%		Thief River Falls 567	-2%	
Lompoc 934	3%		Miami 330-332	1%		Urbana 619	-4%		Lake Charles 706	21%		Willmar 562	-6%	
Long Beach 907-908	9%		Naples 341	-2%		Indiana Average -3%			Mandeville 704	-3%				
Los Angeles 900-901	8%		Ocala 344	-12%		Aurora 470	-5%		Minden 710	-5%		Mississippi Average -6%		
Marysville 959	22%		Orlando 328	1%		Bloomington 474	-2%		Monroe 712	-8%		Clarksdale 386	-9%	
Modesto 953	1%		Panama City 324	-11%		Columbus 472	-4%		New Orleans 700-701	2%		Columbus 397	0%	
Mojave 935	5%		Pensacola 325	-8%		Elkhart 465	-4%		Shreveport 711	-4%		Greenville 387	-14%	
Novato 949	26%		Saint Augustine 320	-2%		Evansville 476-477	4%					Greenwood 389	-10%	
Oakland 945-947	32%		Saint Cloud 347	-2%		Fort Wayne 467-468	-1%		Maine Average -5%			Gulfport 395	-6%	
Orange 928	12%		St Petersburg 337	-6%		Gary 463-464	8%		Auburn 042	-4%		Jackson 390-392	-3%	
Oxnard 930	2%		Tallahassee 323	-6%		Indianapolis 460-462	4%		Augusta 043	-5%		Laurel 394	-7%	
Pasadena 910-912	9%		Tampa 335-336	-1%		Jasper 475	-8%		Bangor 044	-6%		McComb 396	-11%	
Rancho Cordova 956-957	4%		West Palm Beach 334	-2%		Jeffersonville 471	-5%		Bath 045	-6%		Meridian 393	3%	
Redding 960	-3%					Kokomo 469	-8%		Brunswick 039-040	-1%		Tupelo 388	-7%	
Richmond 948	17%		Georgia Average -4%			Lafayette 479	-5%							
Riverside 925	4%		Albany 317	-6%										
Sacramento 958	3%		Athens 306	-5%										

Area Modification Factors

Missouri Average -3%			Binghamton	137-139	-2%	Oregon Average -3%			Arlington	760	1%	Lewisburg	249	-14%
Cape Girardeau	637	-5%	Bronx	104	10%	Adrian	979	-12%	Austin	786-787	20%	Martinsburg	254	-5%
Caruthersville	638	-7%	Brooklyn	112	7%	Bend	977	-5%	Bay City	774	52%	Morgantown	265	-4%
Chillicothe	646	-4%	Buffalo	142	2%	Eugene	974	-3%	Beaumont	776-777	31%	New Martinsville	262	-9%
Columbia	652	-4%	Elmira	149	-3%	Grants Pass	975	-5%	Brownwood	768	-8%	Parkersburg	261	1%
East Lynne	647	4%	Flushing	113	15%	Klamath Falls	976	-8%	Bryan	778	21%	Romney	267	-7%
Farmington	636	-8%	Garden City	115	15%	Pendleton	978	-3%	Childress	792	-14%	Sugar Grove	268	-8%
Hannibal	634	-2%	Hicksville	118	14%	Portland	970-972	10%	Corpus Christi	783-784	31%	Wheeling	260	5%
Independence	640	5%	Ithaca	148	-5%	Salem	973	-2%	Dallas	751-753	6%	Wisconsin Average 0%		
Jefferson City	650-651	-5%	Jamaica	114	14%	Pennsylvania Average -1%			Del Rio	788	0%	Amery	540	-1%
Joplin	648	-6%	Jamestown	147	-7%	Allentown	181	3%	El Paso	798-799	1%	Beloit	535	5%
Kansas City	641	6%	Kingston	124	-4%	Altoona	166	-8%	Fort Worth	761-762	2%	Clam Lake	545	-8%
Kirkville	635	-15%	Long Island	111	30%	Beaver Springs	178	-5%	Galveston	775	37%	Eau Claire	547	-2%
Knob Noster	653	3%	Montauk	119	7%	Bethlehem	180	4%	Giddings	789	0%	Green Bay	541-543	3%
Lebanon	654-655	-12%	New York			Bradford	167	-8%	Greenville	754	3%	La Crosse	546	0%
Poplar Bluff	639	-10%	(Manhattan)	100-102	31%	Butler	160	-2%	Houston	770-772	39%	Ladysmith	548	-2%
Saint Charles	633	1%	New York City	100-102	31%	Chambersburg	172	-7%	Huntsville	773	39%	Madison	537	8%
Saint Joseph	644-645	-1%	Newcomb	128	0%	Clearfield	168	-3%	Longview	756	1%	Milwaukee	530-534	6%
Springfield	656-658	-8%	Niagara Falls	143	-6%	DuBois	158	-10%	Lubbock	793-794	-7%	Oshkosh	549	4%
St Louis	630-631	8%	Plattsburgh	129	-1%	East Stroudsburg	183	-5%	Lufkin	759	21%	Portage	539	0%
Montana Average -3%			Poughkeepsie	125-126	1%	Erie	164-165	-6%	McAllen	785	-6%	Prairie du Chien	538	-7%
Billings	590-591	-2%	Queens	110	7%	Genesee	169	-4%	Midland	797	10%	Wausau	544	-3%
Butte	597	-3%	Rochester	144-146	2%	Greensburg	156	-4%	Palestine	758	2%	Wyoming Average -1%		
Fairview	592	12%	Rockaway	116	10%	Harrisburg	170-171	3%	Plano	750	7%	Casper	826	1%
Great Falls	594	-6%	Rome	133-134	-4%	Hazleton	182	-3%	San Angelo	769	-6%	Cheyenne/		
Havre	595	-9%	Staten Island	103	8%	Johnstown	159	-9%	San Antonio	780-782	16%	Laramie	820	-2%
Helena	596	-2%	Stewart	127	-5%	Kittanning	162	-6%	Texarkana	755	-8%	Gillette	827	3%
Kalispell	599	-6%	Syracuse	130-132	2%	Lancaster	175-176	-1%	Tyler	757	-7%	Powell	824	-3%
Miles City	593	-7%	Tonawanda	141	-1%	Lea	163	-9%	Victoria	779	25%	Rawlins	823	8%
Missoula	598	-6%	Utica	135	-6%	Meadville	163	-9%	Waco	765-767	-3%	Riverton	825	-6%
Nebraska Average -8%			Watertown	136	-1%	Montrose	188	-4%	Wichita Falls	763	-9%	Rock Springs	829-831	1%
Alliance	693	-10%	West Point	109	6%	New Castle	161	-3%	Woodson	764	-3%	Sheridan	828	-3%
Columbus	686	-7%	White Plains	105-108	14%	Philadelphia	190-191	11%	Utah Average -3%			Wheatland	822	-3%
Grand Island	688	-8%	North Carolina Average -4%			Pittsburgh	152	6%	Clearfield	840	0%	UNITED STATES TERRITORIES		
Hastings	689	-9%	Asheville	287-289	-7%	Pottsville	179	-8%	Green River	845	-3%	Guam		18%
Lincoln	683-685	-4%	Charlotte	280-282	7%	Punxsutawney	157	-3%	Ogden	843-844	-9%	Puerto Rico		-21%
McCook	690	-9%	Durham	277	0%	Reading	195-196	2%	Provo	846-847	-6%	Vermont Average -5%		
Norfolk	687	-10%	Elizabeth City	279	-8%	Scranton	184-185	1%	Salt Lake City	841	1%	Albany	058	-7%
North Platte	691	-6%	Fayetteville	283	-6%	Somers	155	-9%	Vermont Average -5%			Battleboro	053	-4%
Omaha	680-681	0%	Greensboro	275	0%	Southeastern	193	8%	Albany	058	-7%	Beecher Falls	059	-8%
Valentine	692	-15%	Hickory	274	-3%	Uniontown	154	-6%	Bennington	052	-6%	Burlington	054	4%
Nevada Average 1%			Kinston	286	-8%	Valley Forge	194	11%	Burlington	054	4%	Montpelier	056	-4%
Carson City	897	-4%	Warminster	189	11%	Warrendale	150-151	5%	Rutland	057	-7%	Springfield	051	-6%
Elko	898	9%	Washington	153	8%	Wilkes Barre	186-187	-1%	White River	050	-5%	Virginia Average -4%		
Ely	893	-3%	Wilkes Barre	186-187	-1%	Williamsport	177	-2%	Abingdon	242	-9%	Alexandria	220-223	10%
Fallon	894	0%	York	173-174	-1%	Rhode Island Average 5%			Charlottesville	229	-6%	Chesapeake	233	-4%
Las Vegas	889-891	3%	North Dakota Average 4%			Bristol	028	5%	Culpeper	227	-5%	Farmville	239	-12%
Reno	895	-1%	Bismarck	585	3%	Coventry	028	5%	Fredericksburg	224-225	-5%	Galax	243	-10%
New Hampshire Average -1%			Dickinson	586	15%	Cranston	029	6%	Harrisonburg	228	-6%	Lynchburg	245	-9%
Charlestown	036	-5%	Fargo	580-581	0%	Davisville	028	5%	Norfolk	235-237	-2%	Petersburg	238	-3%
Concord	034	-3%	Grand Forks	582	-1%	Narragansett	028	5%	Radford	241	-9%	Reston	201	7%
Dover	038	1%	Jamestown	584	-4%	Newport	028	5%	Richmond	232	2%	Roanoke	240	-9%
Lebanon	037	-3%	Minot	587	9%	Providence	029	6%	Staunton	244	-7%	Tazewell	246	-6%
Littleton	035	-6%	Nekoma	583	-10%	Warwick	028	5%	Virginia Beach	234	-2%	Williamsburg	230-231	-3%
Manchester	032-033	2%	Williston	588	21%	South Carolina Average -1%			Winchester	226	4%	Washington Average 0%		
New Boston	030-031	3%	Ohio Average 0%			Aiken	298	4%	Clarkston	994	-8%	Everett	982	2%
New Jersey Average 9%			Akron	442-443	1%	Beaufort	299	-2%	Olympia	985	-2%	Pasco	993	1%
Atlantic City	080-084	4%	Canton	446-447	-2%	Charleston	294	-1%	Seattle	980-981	11%	Spokane	990-992	-3%
Brick	087	2%	Chillicothe	456	-2%	Columbia	290-292	-2%	Tacoma	983-984	2%	Vancouver	986	3%
Dover	078	9%	Cincinnati	450-452	3%	Greenville	296	8%	Wenatchee	988	-6%	Yakima	989	-5%
Edison	088-089	13%	Cleveland	440-441	3%	Myrtle Beach	295	-8%	West Virginia Average -5%			Beckley	258-259	-5%
Hackensack	076	10%	Columbus	432	5%	Rock Hill	297	-6%	Bluefield	247-248	0%	Charleston	250-253	4%
Monmouth	077	12%	Dayton	453-455	1%	Spartanburg	293	-4%	Clarkburg	263-264	-7%	Fairmont	266	-11%
Newark	071-073	11%	Lima	458	-5%	South Dakota Average -6%			Huntington	255-257	-4%	Tennessee Average -2%		
Passaic	070	12%	Marietta	457	-5%	Aberdeen	574	-7%	Chattanooga	374	2%	Clarksville	370	1%
Paterson	074-075	7%	Marion	433	-6%	Mitchell	573	-6%	Cleveland	373	-1%	Columbia	384	-7%
Princeton	085	10%	Newark	430-431	3%	Mobridge	576	-9%	Cookeville	385	-8%	Jackson	383	-2%
Summit	079	16%	Sandusky	448-449	-3%	Pierre	575	-10%	Kingsport	376	-5%	Knoxville	377-379	-2%
Trenton	086	7%	Steubenville	439	1%	Rapid City	577	-8%	McKenzie	382	-8%	Memphis	380-381	1%
New Mexico Average -8%			Toledo	434-436	7%	Sioux Falls	570-571	-1%	Nashville	371-372	2%	Abilene	795-796	-2%
Alamogordo	883	-11%	Warren	444	-5%	Watertown	572	-4%	Texas Average 11%			Amarillo	790-791	-2%
Albuquerque	870-871	-3%	Youngstown	445	-3%	Tennessee Average -2%								
Clovis	881	-11%	Zanesville	437-438	-1%	Chattanooga	374	2%						
Farmington	874	-1%	Oklahoma Average -5%			Clarksville	370	1%						
Fort Sumner	882	-2%	Adams	739	-10%	Cleveland	373	-1%						
Gallup	873	-7%	Ardmore	734	-1%	Columbia	384	-7%						
Holman	877	-10%	Clinton	736	-3%	Cookeville	385	-8%						
Las Cruces	880	-8%	Durant	747	-11%	Jackson	383	-2%						
Santa Fe	875	-8%	Enid	737	-4%	Kingsport	376	-5%						
Socorro	878	-14%	Lawton	735	-8%	Knoxville	377-379	-2%						
Truth or			McAlester	745	-7%	McKenzie	382	-8%						
Consequences	879	-8%	Muskogee	744	-8%	Memphis	380-381	1%						
Tucumcari	884	-8%	Norman	730	-4%	Nashville	371-372	2%						
New York Average 6%			Oklahoma City	731	-3%	Texas Average 11%								
Albany	120-123	7%	Ponca City	746	-1%	Abilene	795-796	-2%						
Amityville	117	9%	Poteau	749	-7%	Amarillo	790-791	-2%						
Batavia	140	1%	Pryor	743	-6%									
			Shawnee	748	-8%									
			Tulsa	740-741	0%									
			Woodward	738	5%									

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 1952. Multiply the figure listed below for the building type and year of construction by the known cost. The result is the estimated 2019 construction cost.

Year	Masonry Buildings	Concrete Buildings	Steel Buildings	Wood-Frame Buildings	Agricultural Buildings	Year of Construction
1952	14.63	17.44	15.79	13.69	12.34	1952
1953	14.44	16.64	15.07	13.36	12.08	1953
1954	14.17	16.64	15.07	13.36	12.08	1954
1955	13.59	15.77	14.28	12.65	11.55	1955
1956	12.89	14.52	13.15	12.12	11.07	1956
1957	12.52	13.94	12.62	12.03	10.80	1957
1958	12.17	13.27	12.01	12.00	12.88	1958
1959	11.79	12.95	11.73	11.49	10.32	1959
1960	11.51	12.74	11.54	11.32	10.12	1960
1961	11.28	12.53	11.35	11.11	10.09	1961
1962	11.03	12.23	11.07	10.98	9.94	1962
1963	10.86	12.08	10.94	10.77	9.01	1963
1964	10.54	11.91	10.79	10.40	9.47	1964
1965	10.21	11.50	10.41	10.18	9.21	1965
1966	9.74	11.06	10.02	9.74	8.95	1966
1967	9.52	10.35	9.37	9.26	8.59	1967
1968	9.13	9.88	8.94	8.75	8.22	1968
1969	8.62	9.54	8.64	8.43	7.75	1969
1970	8.27	9.06	8.21	8.01	7.36	1970
1971	7.76	8.41	7.62	6.90	6.86	1971
1972	7.22	7.86	7.12	6.92	6.38	1972
1973	6.59	6.98	6.32	6.39	6.00	1973
1974	5.86	6.55	5.94	5.97	5.56	1974
1975	5.33	5.89	5.34	5.61	4.96	1975
1976	5.00	5.59	5.06	5.40	4.70	1976
1977	4.65	5.31	4.81	5.02	4.42	1977
1978	4.33	4.89	4.43	4.61	4.00	1978
1979	3.98	4.38	3.97	4.23	3.79	1979
1980	3.61	3.90	3.54	3.79	3.43	1980
1981	3.39	3.58	3.24	3.62	3.20	1981
1982	3.29	3.47	3.14	3.50	3.09	1982
1983	3.13	3.40	3.08	3.34	2.91	1983
1984	2.93	3.24	2.94	3.08	2.83	1984
1985	2.85	3.15	2.86	2.99	2.78	1985
1986	2.78	3.10	2.81	2.94	2.72	1986
1987	2.77	3.06	2.78	2.89	2.70	1987
1988	2.71	3.01	2.72	2.86	2.65	1988
1989	2.65	2.86	2.59	2.81	2.57	1989
1990	2.49	2.72	2.46	2.61	2.45	1990
1991	2.69	2.58	2.34	2.47	2.33	1991
1992	2.41	2.55	2.31	2.46	2.30	1992
1993	2.35	2.46	2.23	2.42	2.27	1993
1994	2.29	2.37	2.15	2.33	2.10	1994
1995	2.17	2.19	1.99	2.19	1.99	1995
1996	2.10	2.14	1.93	2.14	1.95	1996
1997	2.03	2.05	1.85	2.10	1.91	1997
1998	1.93	1.97	1.78	2.01	1.88	1998
1999	1.86	1.92	1.74	1.98	1.85	1999
2000	1.82	1.85	1.67	1.91	1.79	2000
2001	1.76	1.81	1.64	1.84	1.74	2001
2002	1.71	1.77	1.60	1.82	1.71	2002
2003	1.69	1.72	1.56	1.81	1.67	2003
2004	1.61	1.68	1.52	1.76	1.62	2004
2005	1.50	1.50	1.36	1.58	1.59	2005
2006	1.41	1.39	1.26	1.41	1.43	2006
2007	1.36	1.32	1.20	1.31	1.32	2007
2008	1.28	1.25	1.13	1.25	1.25	2008
2009	1.27	1.21	1.09	1.25	1.25	2009
2010	1.25	1.14	1.03	1.24	1.24	2010
2011	1.26	1.17	1.06	1.26	1.27	2011
2012	1.25	1.05	0.95	1.22	1.25	2012
2013	1.19	1.12	1.01	1.16	1.17	2013
2014	1.18	1.11	1.00	1.14	1.16	2014
2015	1.16	1.10	0.99	1.13	1.15	2015
2016	1.15	1.20	1.09	1.14	1.12	2016
2017	1.11	1.22	1.11	1.16	1.12	2017
2018	1.06	1.06	0.96	1.05	1.05	2018
2019	1.00	1.00	1.00	1.00	1.00	2019

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.

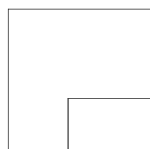
Residences on larger lots often include a separate housekeeping unit, either remote from the main structure (as illustrated below at the right) or joined to the main structure by a hallway (no common wall). Evaluate any separate housekeeping unit as a separate residence. The quality class of separate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

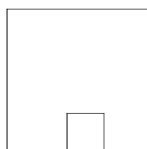
These figures can be applied to nearly all single-family residences built using conventional methods and readily available materials, including the relatively small number of highly decorative, starkly original or exceptionally well-appointed residences.



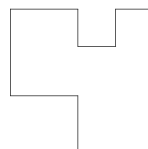
4 corners



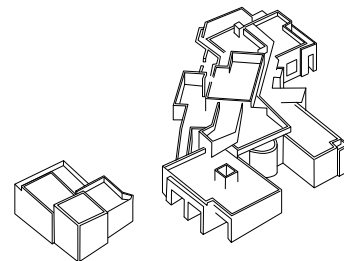
6 corners



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.

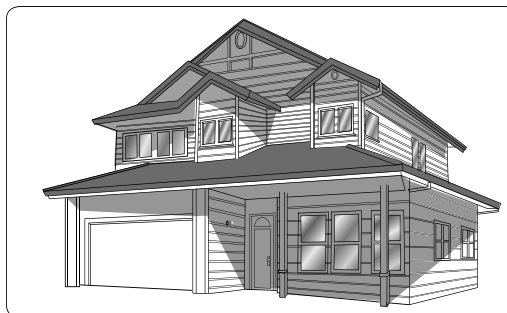
Note: Use the percent of total cost to help identify the correct quality classification.

Single Family Residences

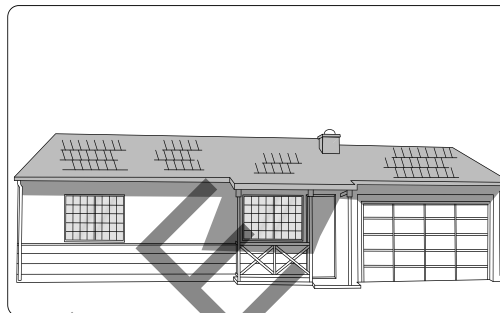
4 Corners (Classes 3, 4, 5 and 6) or One Building Mass (Classes 1 and 2 Only)

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	518.33	496.64	478.71	463.23	451.18	440.42	430.89	422.31	415.91	409.62	403.88	399.02	389.94
1, & 2	450.73	431.86	416.27	402.81	392.35	382.91	374.70	367.23	361.66	356.22	351.14	346.91	339.06
2, Semi-Luxury	315.00	301.83	290.93	281.52	274.21	267.68	261.90	256.70	252.77	248.83	245.45	242.52	236.92
2 & 3	231.22	221.58	213.56	206.70	201.31	196.48	192.23	188.41	185.51	182.71	180.12	178.04	173.95
3, Best Std.	201.77	193.38	186.35	180.38	175.59	171.44	167.76	164.44	161.91	159.46	157.23	155.31	151.78
3 & 4	172.56	165.24	159.31	154.24	150.13	146.57	143.44	140.53	138.43	136.21	134.44	132.78	129.81
4, Good Std.	148.68	142.34	137.28	132.86	129.41	126.33	123.55	121.08	119.19	117.42	115.79	114.28	111.82
4 & 5	133.91	128.28	123.71	119.69	116.54	113.71	111.24	109.13	107.41	105.76	104.32	103.07	100.65
5 Avg. Std.	120.52	115.54	111.35	107.79	105.02	102.47	100.24	98.18	96.69	95.22	93.89	92.79	90.66
5 & 6	104.65	100.27	96.67	93.57	91.09	88.91	86.97	85.19	83.95	82.63	81.63	80.53	78.70
6, Min. Std.	95.14	91.13	87.85	85.03	82.81	80.81	79.08	77.49	76.30	75.11	74.15	73.18	71.50

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	383.14	376.72	371.54	366.91	363.64	360.59	357.29	354.89	349.89	346.72	343.95	341.56	338.13
1, & 2	333.26	327.59	323.07	319.05	316.19	313.56	310.69	308.59	304.27	301.49	299.09	297.00	294.03
2, Semi-Luxury	233.00	228.94	225.82	223.00	220.97	219.09	217.10	215.67	212.64	210.71	209.01	207.58	205.50
2 & 3	170.94	168.08	165.77	163.72	162.18	160.77	159.40	158.30	156.11	154.70	153.44	152.37	150.85
3, Best Std.	149.19	146.64	144.60	142.87	141.58	140.38	139.08	138.12	136.20	135.21	135.12	134.17	132.84
3 & 4	127.56	125.40	123.70	122.19	121.03	119.95	118.98	118.15	116.49	115.45	114.51	113.72	112.57
4, Good Std.	109.90	108.01	106.59	105.20	104.32	103.38	102.50	101.70	100.33	99.44	98.60	97.93	96.95
4 & 5	98.96	97.36	95.87	94.78	93.88	93.16	92.21	91.67	90.41	89.59	88.90	88.26	87.39
5 Avg. Std.	89.13	87.66	86.46	85.27	84.59	83.85	83.08	82.52	81.39	80.22	80.02	79.47	78.70
5 & 6	77.37	76.09	75.01	74.06	73.46	72.73	72.07	71.55	70.66	69.93	69.47	68.94	68.31
6, Min. Std.	70.24	69.12	68.20	67.39	66.75	66.15	65.57	65.09	64.21	63.55	63.14	62.67	62.07

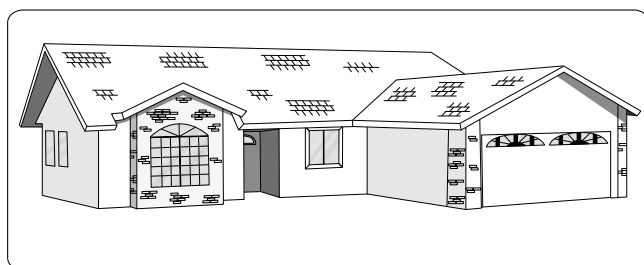
Note: Tract work and highly repetitive jobs may reduce the cost 8 to 12%. Add 4% to the square foot cost of floors above the second floor level. Work outside metropolitan areas may cost 2 to 6% less. When the exterior walls are masonry, add 9 to 10% for class 2 and 1 structures and 5 to 8% for class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

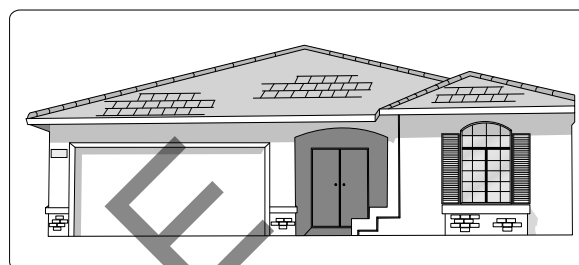
6 Corners (Classes 3, 4, 5, and 6) or Two Building Masses (Classes 1 and 2 Only)

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	528.28	506.16	487.92	472.14	459.87	449.20	440.42	431.72	424.88	418.63	412.91	407.80	399.11
1, & 2	459.37	440.16	424.29	410.55	399.87	390.53	382.91	375.45	369.46	364.02	359.10	354.63	347.04
2, Semi-Luxury	321.13	307.69	296.32	287.38	279.45	272.97	267.68	262.38	258.19	254.38	250.98	247.80	242.60
2 & 3	235.69	225.86	217.51	210.96	205.10	200.32	196.48	192.59	189.50	186.73	184.22	181.85	178.06
3, Best Std.	205.68	197.06	189.82	184.03	179.02	174.84	171.44	168.08	165.44	162.94	160.74	158.78	155.38
3 & 4	175.84	168.55	162.20	157.39	153.11	149.43	146.65	143.67	141.49	139.28	137.47	135.68	132.80
4, Good Std.	151.53	145.21	139.77	135.57	131.88	128.78	126.33	123.81	121.77	120.04	118.50	116.96	114.38
4 & 5	136.55	130.83	125.84	122.12	118.75	115.96	113.71	111.47	109.81	108.10	106.70	105.32	103.12
5 Avg. Std.	122.92	117.83	113.36	110.00	107.00	104.42	102.47	100.54	98.92	97.40	96.07	94.86	92.79
5 & 6	106.69	102.18	98.44	95.48	92.79	90.59	88.91	87.17	85.78	84.51	83.39	82.25	80.59
6, Min. Std.	97.04	92.98	89.49	86.77	84.39	82.42	80.81	79.24	77.92	76.77	75.75	74.80	73.23

Square Foot Area

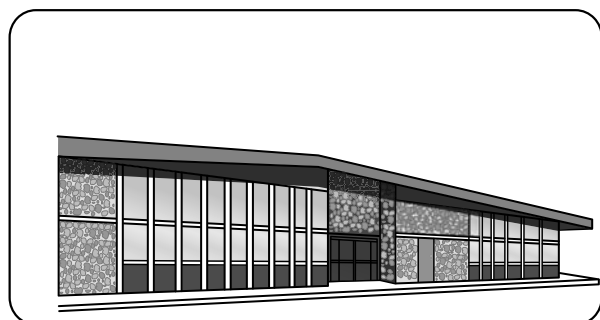
Quality Class	2,200	2,400	2,600	2,800	3,000	3,200	3,400	3,600	4,000	4,200	4,400	4,600	5,000+
1, Luxury	392.67	386.64	381.26	376.72	373.05	369.44	366.41	363.64	359.83	356.59	353.72	352.63	349.11
1, & 2	341.47	336.27	331.60	327.59	324.43	321.21	318.64	316.19	312.96	310.12	309.06	306.89	303.82
2, Semi-Luxury	238.74	234.93	231.68	228.94	226.67	224.49	222.67	220.97	218.70	216.71	214.97	213.49	211.34
2 & 3	175.18	172.46	170.10	168.08	166.40	164.78	163.46	162.18	160.49	159.28	157.31	156.12	155.03
3, Best Std.	152.84	150.50	148.36	146.64	145.27	143.80	142.63	141.58	140.08	138.82	137.70	136.74	135.37
3 & 4	130.68	128.68	126.84	125.40	124.14	122.91	121.90	121.03	119.69	118.59	117.67	116.85	115.68
4, Good Std.	112.59	110.80	109.27	108.01	106.97	105.88	105.10	104.32	103.20	102.29	101.49	100.74	99.75
4 & 5	101.44	99.80	98.44	97.36	96.28	95.40	94.64	93.88	92.95	92.12	91.37	90.74	89.82
5 Avg. Std.	91.30	89.91	88.73	87.66	86.74	85.91	85.20	84.59	83.71	82.97	82.27	81.72	80.89
5 & 6	79.24	77.92	76.88	76.09	75.27	74.61	73.98	73.46	72.59	71.94	71.36	70.88	70.15
6, Min. Std.	72.04	70.95	69.96	69.12	68.46	67.78	67.24	66.75	66.02	65.42	64.91	64.46	63.81

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.

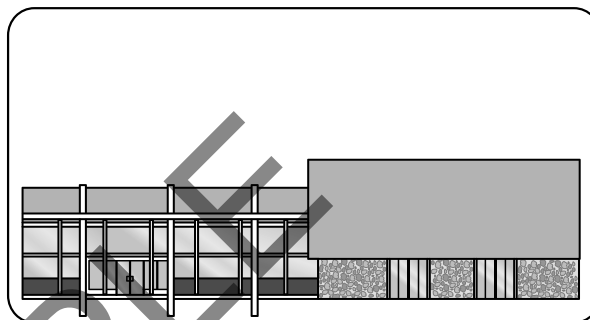
Discount Houses – Wood or Wood and Steel Frame

Estimating Procedure

1. Establish the structure quality class by using the information on page 113.
2. Compute the building floor area. This should include everything within the building exterior walls and all insets outside the main walls but under the main building roof.
3. Add to or subtract from the square foot cost below the appropriate amount from the Wall Height Adjustment Row at the bottom of this page) if the wall height is more or less than 20 feet.
4. Multiply the adjusted square foot cost by the building area.
5. Deduct, if appropriate, for common walls, using the figures at the bottom of this page.
6. Multiply the total cost by the location factor listed on page 7 or 8.
7. Add the cost of heating and cooling equipment, fire sprinklers, exterior signs, yard improvements, loading docks, ramps and walk-in boxes if they are an integral part of the building. See pages 236 to 248.



Discount House, Class 2



Discount House, Class 2 & 3

Square Foot Area

Quality Class	15,000	20,000	25,000	30,000	35,000	40,000	50,000	75,000	100,000	150,000	200,000
1, Best	111.49	108.70	106.83	105.47	104.36	103.49	102.14	100.05	98.79	97.31	96.39
1 & 2	105.08	102.47	100.72	99.40	98.40	97.51	96.27	94.28	93.16	91.73	90.91
2, Good	100.26	97.74	96.09	94.80	93.85	93.09	91.89	89.99	88.85	87.53	86.71
2 & 3	93.28	90.97	89.41	88.23	87.38	86.60	85.45	83.74	82.67	81.43	80.70
3, Average	87.68	85.56	84.13	82.96	82.09	81.44	80.38	78.70	77.72	76.58	75.88
3 & 4	80.17	78.17	76.83	75.86	74.99	74.42	73.44	71.94	71.05	69.98	69.37
4, Low	72.14	70.36	69.16	68.28	67.54	67.05	66.15	64.79	63.93	62.96	62.36
Wall Height Adjustment*	.66	.62	.58	.57	.54	.53	.50	.41	.37	.26	.25

***Wall Height Adjustment:** Add or subtract the amount listed in this row to or from the square foot of floor cost for each foot of wall height more or less than 20 feet.

Perimeter Wall Adjustment: A common wall exists when two buildings share one wall. Adjust for common walls by deducting the linear foot costs below from the total structure cost. In some structures one or more walls are not owned at all. In this case, deduct the "No Ownership" cost per linear foot of wall not owned. For common wall, deduct \$210 per linear foot. For no wall ownership, deduct \$415 per linear foot.

Banks and Savings Offices – Masonry or Concrete

Quality Classification

	Class 1 Best Quality	Class 2 Good Quality	Class 3 High Average Quality	Class 4 Low Average Quality	Class 5 Low Quality
Foundation (11% of total cost)	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.
Floor Structure (10% of total cost)	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.
Wall Structure (10% of total cost)	12" reinforced brick, 8" reinforced concrete or concrete columns with noncombustible filler walls.	12" reinforced brick, 8" reinforced concrete or concrete columns with noncombustible filler walls.	6" concrete tilt-up, 12" reinforced brick, 8" reinforced con. or concrete columns with noncombustible filler walls.	8" decorative concrete block, 6" concrete tilt-up, 8" reinforced brick or concrete columns with noncombustible filler walls.	8" concrete block, 6" reinforced concrete, 6" concrete tilt-up or 8" reinforced brick.
Roof & Cover (7% of total cost)	5 ply built-up roof, some portions copper or slate.	5 ply built-up roof, some portions heavy shake or mission tile.	4 ply built-up roof, some portions heavy shake or mission tile.	4 ply built-up roof, some portions shake or composition shingles.	4 ply built-up roof.
Exterior Wall Finish (9% of total cost)	Expensive veneers.	Ornamental brick or stone veneer.	Brick, or ornamental block veneer.	Ornamental rock imbedded in tilt-up panels or stucco with masonry trim.	Exposed aggregate or stucco.
Interior Wall Finish (7% of total cost)	Ornamental plaster painted with murals or designs. Ornamental moldings, marble and similar expensive finishes.	Ornamental plaster furred out from walls. Ornamental moldings, some hardwood panels or marble finishes.	Hard plaster furred out from walls. Ornamental cove at ceiling. Vinyl wall covering. Some hardwood veneer.	Plaster on lath with putty coat finish. Gypsum wallboard, texture and paint. Some vinyl wall cover.	Plaster on lath with putty coat finish or gypsum wallboard, texture and paint.
Glass (5% of total cost)	Tinted float glass in customized frames, (50% of exterior wall area.)	Tinted float glass in bronze frames, (50% of exterior wall area.)	Tinted float glass in heavy anodized aluminum frames or custom wood frames, (50% of exterior wall area.)	Moderate amount of float glass in heavy frames, (25% of exterior wall area.)	Small to moderate amount of float glass in average aluminum frames, (5 to 10% of exterior wall area.)
Overhang (4% of total cost)	4' closed overhang with copper gutters.	4' closed overhang with copper gutters.	4' closed overhang with painted gutters.	3' closed overhang with painted gutters.	None.
Floor Finish Public Area: (7% of total cost) Officers, Area: (3% of total cost) Work area: (2% of total cost)	Terrazzo and marble. Excellent carpet. Good sheet vinyl or carpet.	Detailed terrazzo. Very good carpet. Average sheet vinyl, tile or carpet.	Detailed terrazzo. Very good carpet. Resilient tile.	Plain terrazzo. Good carpet. Resilient tile.	Sheet vinyl or vinyl tile. Average quality carpet. Composition tile.
Ceiling Finish (8% of total cost)	Ornamental plaster with exposed ornamental beams.	Ornamental plaster.	Suspended acoustical tile with gypsum wallboard backing or acoustical plaster.	Suspended acoustical tile with exposed grid system.	Acoustical tile on wood furring.
Lighting (5% of total cost)	Recessed panelized fluorescent lighting, custom light fixtures or chandeliers, and many spotlights.	Recessed panelized fluorescent lighting. Many spotlights.	Recessed panelized fluorescent lighting. Many spotlights.	Recessed panelized fluorescent lighting. Some spotlights.	Nonrecessed panelized lighting.
Plumbing (12% of total cost)	2 or more rest rooms with special fixtures, good ceramic tile, marble or terrazzo wainscot walls. Hard plaster with putty coat and enamel paint. Marble toilet screens.	2 or more rest rooms with many good fixtures, good ceramic tile, marble or terrazzo wainscot walls. Hard plaster with putty coat and enamel paint. Marble toilet screens.	2 rest rooms with 4 or more fixtures, ceramic tile or terrazzo floors. Ceramic tile or terrazzo wainscot. Hard plaster walls with putty coat and enamel paint. Marble or metal toilet screens.	2 rest rooms with 4 or more fixtures each. Ceramic tile or terrazzo floor. Ceramic tile or terrazzo wainscot plaster walls with putty coat. Enamel paint. Good metal toilet partitions.	2 rest rooms with 4 fixtures each. Ceramic tile or vinyl asbestos tile floors. Plaster walls with enamel paint. Metal toilet screens.

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

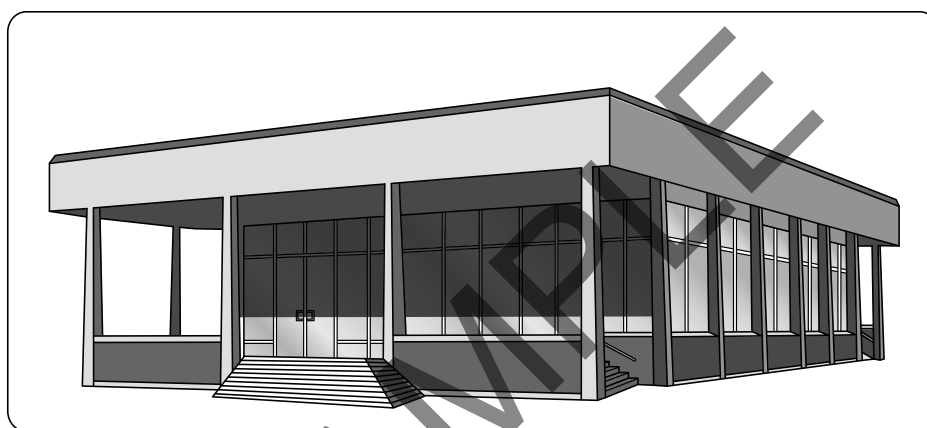
Square foot costs include the following components: Foundations as required for normal soil conditions. Floor, wall, and roof structures. Interior floor, wall and ceiling finishes. Exterior wall finish and roof cover. All glass and glazing. Interior partitions. Roof overhang as described above. Basic electrical systems and lighting fixtures. Rough and finish plumbing. Typical bank vault. Alarm systems. Night depository. Typical record vault and fire doors. Fire exits. Design and engineering fees. Permits and hook-up fees. Contractor's mark-up.

Banks and Savings Offices – Masonry or Concrete

Length Less Than Twice Width

Estimating Procedure

1. Establish the structure quality class by using the information on page 115.
2. Compute the building floor area. This should include everything within the building exterior walls and all insets outside the main walls but under the main building roof.
3. Add to or subtract from the square foot cost below the appropriate amount from the Wall Height Adjustment Table on page 119 if the wall height is more or less than 16 feet for the first floor or 12 feet for higher floors.
4. Multiply the adjusted square foot cost by the building area.
5. Deduct, if appropriate, for common walls, using the figures on page 119.
6. Multiply the total cost by the location factor listed on page 7 or 8.
7. Add the cost of heating and cooling equipment, fire sprinklers, exterior signs, elevators, and yard improvements from pages 236 to 248. Add the cost of mezzanines, bank fixtures, external windows, safe deposit boxes and vault doors from page 125.



Savings Office, Class 3

First Story – Square Foot Area

Quality Class	2,500	3,000	3,500	4,000	4,500	5,000	6,000	7,500	10,000	15,000	20,000
1, Best	434.63	421.28	409.58	399.26	390.15	382.08	368.30	351.88	331.88	306.19	289.87
1 & 2	409.10	396.48	385.50	375.74	367.22	359.64	346.62	331.19	312.34	288.12	272.80
2, Very Good	388.82	376.88	366.39	357.20	349.08	341.83	329.46	314.83	296.88	273.94	259.34
2 & 3	363.92	352.67	342.95	334.31	326.71	319.96	308.40	294.65	277.86	256.40	242.70
3, Good	345.38	334.78	325.53	317.40	310.10	303.72	292.77	279.84	263.76	243.29	230.35
3 & 4	325.71	315.72	306.98	299.27	292.45	286.43	275.99	263.78	248.74	229.49	217.26
4, Average	310.11	300.58	292.20	284.88	278.42	272.63	262.84	251.07	236.75	218.51	206.81
4 & 5	286.38	277.58	269.87	263.07	257.07	251.71	242.63	231.81	218.66	201.75	190.96
5, Low	260.92	252.88	245.87	239.69	234.29	229.39	221.14	211.26	199.32	183.84	174.05

Second and Higher Stories – Square Foot Area

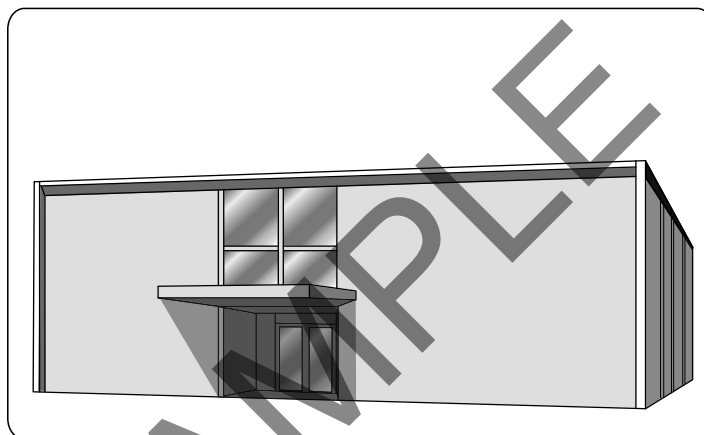
Quality Class	500	750	1,000	1,500	2,000	3,000	4,000	5,000	7,500	10,000	20,000
1, Best	354.35	317.43	295.59	269.99	254.75	236.78	226.14	218.96	207.69	201.05	188.49
1 & 2	335.06	300.11	279.49	255.18	240.85	223.85	213.84	207.02	196.38	190.04	178.22
2, Very Good	321.70	288.13	268.33	245.05	231.30	215.01	205.40	198.79	188.58	182.53	171.17
2 & 3	303.02	271.43	252.79	230.87	217.87	202.49	193.40	187.24	177.67	171.96	161.19
3, Good	290.07	259.86	241.97	220.97	208.56	193.85	185.15	179.26	170.07	164.57	154.30
3 & 4	273.60	245.09	228.24	208.43	196.63	182.82	174.65	169.04	160.37	155.25	145.49
4, Average	260.86	233.67	217.62	198.74	187.52	174.34	166.50	161.17	152.85	148.03	138.73
4 & 5	246.10	220.52	205.30	187.52	176.99	164.45	157.08	152.04	144.21	139.63	130.91
5, Low	229.81	205.88	191.79	175.08	165.25	153.57	146.67	142.00	134.70	130.39	122.23

Banks and Savings Offices – Masonry or Concrete

Length Between 2 and 4 Times Width

Estimating Procedure

1. Establish the structure quality class by using the information on page 115.
2. Compute the building floor area. This should include everything within the building exterior walls and all insets outside the main walls but under the main building roof.
3. Add to or subtract from the square foot cost below the appropriate amount from the Wall Height Adjustment Table on page 119 if the wall height is more or less than 16 feet for the first floor or 12 feet for higher floors.
4. Multiply the adjusted square foot cost by the building area.
5. Deduct, if appropriate, for common walls, using the figures on page 119.
6. Multiply the total cost by the location factor listed on page 7 or 8.
7. Add the cost of heating and cooling equipment, fire sprinklers, exterior signs, elevators, and yard improvements from pages 236 to 248. Add the cost of mezzanines, bank fixtures, external windows, safe deposit boxes and vault doors from page 125.



Savings Office, Class 4

First Story – Square Foot Area At 16 Foot Wall Height

Quality Class	2,500	3,000	3,500	4,000	4,500	5,000	6,000	7,500	10,000	15,000	20,000
1, Best	463.10	439.21	421.28	407.34	395.98	386.68	372.03	356.44	339.45	320.34	309.49
1 & 2	437.35	414.41	397.26	383.84	373.05	363.98	350.00	335.15	318.83	300.46	290.02
2, Very Good	417.53	395.21	378.49	365.42	354.87	346.17	332.55	318.04	302.28	284.50	274.41
2 & 3	392.09	370.40	354.22	341.69	331.63	323.33	310.39	296.69	282.02	265.64	256.50
3, Good	373.17	352.72	337.44	325.53	315.91	307.92	295.49	282.15	267.69	251.47	242.27
3 & 4	351.26	331.92	317.57	306.32	297.29	289.79	278.09	265.65	252.25	237.16	228.57
4, Average	333.82	315.37	301.62	290.96	282.31	275.26	264.25	252.52	239.88	225.80	217.87
4 & 5	307.32	290.31	277.67	267.87	260.07	253.56	243.52	232.85	221.40	208.74	201.68
5, Low	278.89	263.52	252.16	243.35	236.27	230.49	221.46	211.99	201.81	190.59	184.33

Second and Higher Stories – Square Foot Area

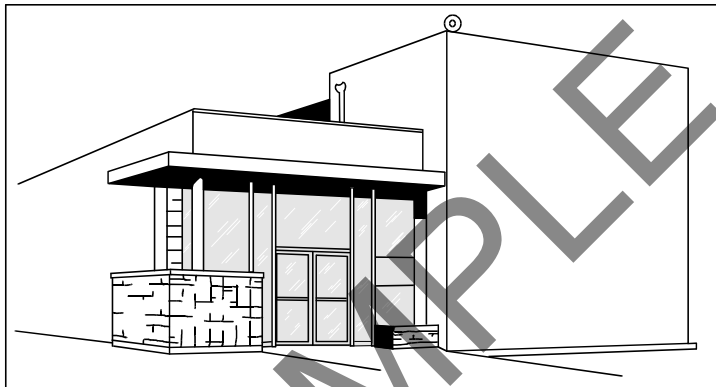
Quality Class	500	750	1,000	1,500	2,000	3,000	4,000	5,000	7,500	10,000	20,000
1, Best	379.08	338.75	314.62	285.81	268.66	248.21	235.97	227.62	214.62	206.82	192.10
1 & 2	359.10	320.92	298.02	270.81	254.51	235.06	223.47	215.60	203.30	195.91	181.98
2, Very Good	344.67	307.99	286.01	259.90	244.27	225.66	214.55	206.88	195.12	188.05	174.69
2 & 3	324.10	289.63	268.98	244.39	229.68	212.19	201.75	194.57	183.46	176.84	164.23
3, Good	308.03	275.29	255.69	232.30	218.34	201.69	191.80	184.96	174.41	168.08	156.12
3 & 4	291.51	260.45	241.90	219.83	206.62	190.82	181.42	175.04	164.99	159.02	147.71
4, Average	277.86	248.36	230.67	209.56	196.93	181.94	173.01	166.88	157.33	151.65	140.85
4 & 5	261.76	233.93	217.24	197.36	185.49	171.36	162.93	157.13	148.25	142.78	132.65
5, Low	244.27	218.22	202.73	184.21	173.10	159.88	152.04	146.66	138.31	133.26	123.79

Banks and Savings Offices – Masonry or Concrete

Length More Than 4 Times Width

Estimating Procedure

1. Establish the structure quality class by using the information on page 115.
2. Compute the building floor area. This should include everything within the building exterior walls and all insets outside the main walls but under the main building roof.
3. Add to or subtract from the square foot cost below the appropriate amount from the Wall Height Adjustment Table on page 119 if the wall height is more or less than 16 feet for the first floor or 12 feet for higher floors.
4. Multiply the adjusted square foot cost by the building area.
5. Deduct, if appropriate, for common walls, using the figures on page 119.
6. Multiply the total cost by the location factor listed on page 7 or 8.
7. Add the cost of heating and cooling equipment, fire sprinklers, exterior signs, elevators, and yard improvements from pages 236 to 248. Add the cost of mezzanines, bank fixtures, external windows, safe deposit boxes and vault doors from page 125.



Bank, Class 5

First Story – Square Foot Area

Quality Class	2,500	3,000	3,500	4,000	4,500	5,000	6,000	7,500	10,000	15,000	20,000
1, Best	494.70	465.89	444.56	428.03	414.71	403.71	386.74	368.78	349.43	328.02	315.91
1 & 2	465.84	438.72	418.66	403.11	390.58	380.23	364.17	347.28	329.07	308.87	297.52
2, Very Good	442.74	417.00	397.90	383.05	371.20	361.38	346.12	330.05	312.76	293.57	282.78
2 & 3	415.24	391.07	373.17	359.29	348.09	338.92	324.61	309.54	293.28	275.29	265.20
3, Good	394.45	371.53	354.47	341.31	330.73	321.95	308.40	294.05	278.63	261.47	251.92
3 & 4	370.89	349.27	333.30	320.90	310.90	302.69	289.97	276.49	261.94	245.90	236.83
4, Average	351.69	331.28	316.13	304.32	294.86	287.10	274.96	262.15	248.42	233.15	224.59
4 & 5	323.63	304.79	290.87	280.03	271.30	264.17	253.01	241.23	228.57	214.55	206.71
5, Low	293.21	276.19	263.54	253.76	245.85	239.36	229.28	218.63	207.17	194.43	187.32

Second and Higher Stories – Square Foot Area

Quality Class	500	750	1,000	1,500	2,000	3,000	4,000	5,000	7,500	10,000	20,000
1, Best	419.53	371.28	342.61	308.65	288.38	264.43	250.17	240.45	225.31	216.32	199.29
1 & 2	397.15	351.43	324.33	292.17	272.96	250.34	236.79	227.61	213.28	204.76	188.62
2, Very Good	380.00	336.27	310.35	279.54	261.26	239.55	226.60	217.83	204.08	195.91	180.52
2 & 3	356.85	315.76	291.37	262.52	245.31	224.91	212.80	204.54	191.65	183.95	169.47
3, Good	340.13	301.05	277.74	250.18	233.79	214.42	202.82	194.93	182.62	175.33	161.50
3 & 4	319.81	282.98	261.13	235.30	219.87	201.55	190.73	183.27	171.76	164.88	151.96
4, Average	303.35	268.47	247.73	223.18	208.48	191.22	180.93	173.86	162.96	156.43	144.09
4 & 5	285.81	252.91	233.33	210.22	196.43	180.13	170.36	163.77	153.47	147.36	135.72
5, Low	266.55	235.89	217.65	196.09	183.23	168.03	158.88	152.77	143.13	137.44	126.66

Banks and Savings Offices – Masonry or Concrete

Wall Adjustments

Wall Height Adjustment

Add or subtract the amount listed in this table to the square foot of floor cost for each foot of wall height more or less than 16 feet, if adjusting for a first floor, and 12 feet if adjusting for upper floors.

Square Foot Area

Quality Class	500	750	1,000	1,500	2,000	2,500	3,000	3,500
1, Best	17.15	14.07	12.25	9.99	12.42	7.81	7.10	6.59
2, Very Good	15.45	12.69	11.05	9.09	7.83	7.03	6.40	5.96
3, Good	13.86	11.37	9.89	8.09	7.02	6.29	5.75	5.29
4, Average	11.60	9.50	8.25	6.79	5.86	5.25	4.82	4.45
5, Low	9.17	7.54	6.53	5.33	4.66	4.22	4.01	3.52

Quality Class	4,000	4,500	5,000	6,000	7,500	10,000	15,000	20,000
1, Best	6.18	5.80	5.53	5.05	4.49	3.87	3.12	2.67
2, Very Good	5.53	5.22	4.95	4.51	4.02	3.52	2.82	2.43
3, Good	5.04	4.66	4.46	4.07	3.61	3.11	2.57	2.18
4, Average	4.21	3.86	3.71	3.37	3.03	2.61	2.12	1.86
5, Low	3.31	3.07	2.88	2.66	2.36	2.02	1.62	1.41

Perimeter (Common) Wall Adjustment

First Story

Class	For a Common Wall, Deduct Per L.F.	For No Wall Ownership, Deduct Per L.F.	For Lack of Exterior Finish, Deduct Per L.F.
1	\$985	\$1,973	\$669
2	826	1637	541
3	679	1357	372
4	409	844	252
5	335	685	72

Second and Higher Stories

Class	For a Common Wall, Deduct Per L.F.	For No Wall Ownership, Deduct Per L.F.	For Lack of Exterior Finish, Deduct per L.F.
1	\$1,020	\$2,042	\$692
2	495	958	248
3	392	788	159
4	334	669	110
5	248	472	76

Note: First floor costs include the cost of overhang as described on page 115. Second floor costs do not include any allowance for overhang.

Banks and Savings Offices – Wood Frame

Quality Classification

	Class 1 Best Quality	Class 2 Good Quality	Class 3 High Average Quality	Class 4 Low Average Quality	Class 5 Low Quality
Foundation (10% of total cost)	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.
Floor Structure (10% of total cost)	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.	Reinforced concrete.
Wall Structure (10% of total cost)	2" x 6" - 16" o.c. brick or concrete columns with combus- tible filler walls.	2" x 6" - 16" o.c. brick or concrete columns with combus- tible filler walls.	2" x 6" - 16" o.c.	2" x 6" - 16" o.c.	2" x 6" - 16" o.c.
Roof & Cover (10% of total cost)	Copper or slate.	Mission tile or heavy shakes.	5 ply built-up roof. Some portions heavy shake or mission tile.	4 ply built-up roof. Some portions shingle or composition shingles.	4 ply built-up roof.
Exterior Wall Finish (7% of total cost)	Expensive veneers.	Expensive ornamental veneer filler walls.	Wood siding combined with brick or stone veneers.	Good wood siding.	Good stucco or wood siding.
Interior Wall Finish (7% of total cost)	Ornamental plaster painted with murals or designs, ornamental moldings, marble and similar expensive finishes.	Ornamental plaster ornamental moldings, some hardwood panels or marble finishes.	Hard plaster, ornamental cove at ceiling, vinyl wall covering, some hardwood veneer.	Plaster on lath with putty coat finish. Gypsum wallboard, texture and paint. Some vinyl wall cover.	Plaster on lath with putty coat finish. Gypsum wallboard, texture and paint.
Glass (5% of total cost)	Tinted float glass in customized frames (50% of exterior wall area).	Tinted float glass in bronze frames (50% of exterior wall area).	Tinted float glass in heavy anodized aluminum frames or custom wood frames (50% of exterior wall area).	Moderate amount of float glass in heavy frames (25% of exterior wall area).	Small to moderate amount of float glass in average aluminum frames (5 to 10% of exterior wall area).
Overhang (4% of total cost)	4' closed overhang with copper gutters.	4' closed overhang with copper gutters.	4' closed overhang with painted gutters.	3' closed overhang with painted gutters.	None.
Floor Finish Public Area: (7% of total cost) Officers Area: (3% of total cost) Work Area: (2% of total cost)	Terrazzo and marble. Excellent carpet. Good sheet vinyl or carpet.	Detailed terrazzo. Very good carpet. Average sheet vinyl or carpet.	Detailed terrazzo. Very good carpet. Resilient tile.	Plain terrazzo. Good carpet. Composition tile.	Sheet vinyl or resilient tile. Average quality carpet. Composition tile.
Ceiling Finish (8% of total cost)	Ornamental plaster with exposed ornamental beams.	Ornamental plaster.	Suspended acoustical tile with gypsum wallboard backing or plain acoustical plaster.	Suspended acoustical tile with exposed grid system.	Acoustical tile on wood strips.
Lighting (5% of total cost)	Recessed panelized fluorescent light fixtures, custom light fixtures or chande- liers. Many spotlights.	Recessed panelized fluorescent lighting. Custom chandeliers. Many spotlights.	Recessed panelized fluorescent lighting. Many spotlights.	Recessed panelized fluorescent lighting. Some spotlights.	Nonrecessed panelized lighting.
Plumbing (12% of total cost)	2 or more rest rooms with special fixtures. Good ceramic tile, marble or terrazzo wainscot walls. Hard plaster with putty coat and enamel paint. Marble toilet screens. toilet screens.	2 or more rest rooms with many good fixtures. Good ceramic tile, marble or terrazzo wainscot walls. Hard plaster with putty coat and enamel paint. Marble screens.	2 rest rooms with 4 or more fixtures. Ceramic tile or terrazzo wainscot, hard plaster walls with putty coat and enamel paint. Marble or metal toilet screens.	2 rest rooms with 4 or more fixtures each. Ceramic tile or terraz- zo floor. Ceramic tile or terrazzo wainscot plaster walls with putty coat. Enamel paint. Good metal toilet partitions.	2 rest rooms with 4 fixtures each. Metal toilet screens. Cera- mic tile or vinyl asbestos tile floors. Plaster walls with enamel paint.

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

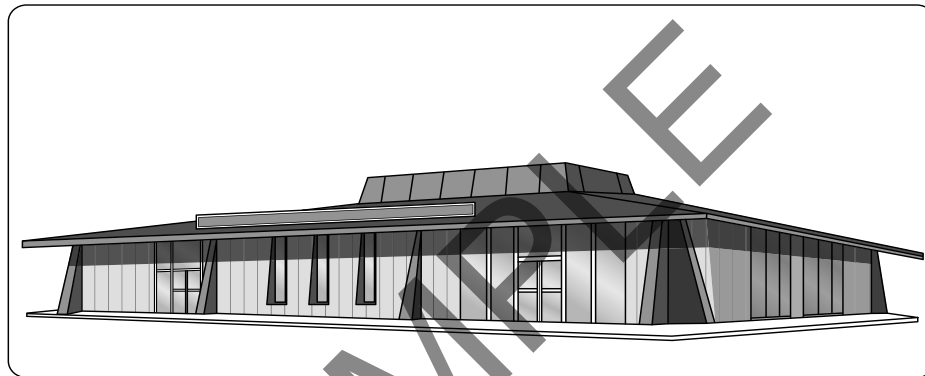
Square foot costs include the following components: Foundations as required for normal soil conditions. Floor, wall, and roof structures. Interior floor, wall and ceiling finishes. Exterior wall finish and roof cover. All glass and glazing. Interior partitions. Roof overhang as described above. Basic electrical systems and lighting fixtures. Rough and finish plumbing. Typical bank vault. Alarm systems. Night depository. Typical record vault and fire doors. Fire exits. Design and engineering fees, permits and hook-up fees, contractor's mark-up.

Banks and Savings Offices – Wood Frame

Length Less Than Twice Width

Estimating Procedure

1. Establish the structure quality class by using the information on page 120.
2. Compute the building floor area. This should include everything within the building exterior walls and all insets outside the main walls but under the main building roof.
3. Add to or subtract from the square foot cost below the appropriate amount from the Wall Height Adjustment Table on page 124 if the wall height is more or less than 16 feet for the first floor or 12 feet for higher floors.
4. Multiply the adjusted square foot cost by the building area.
5. Deduct, if appropriate, for common walls, using the figures on page 124.
6. Multiply the total cost by the location factor listed on page 7 or 8.
7. Add the cost of heating and cooling equipment, fire sprinklers, exterior signs, elevators, and yard improvements from pages 236 to 248. Add the cost of mezzanines, bank fixtures, external windows, safe deposit boxes and vault doors from page 125.



Savings Office, Class 5

First Story – Square Foot Area

Quality Class	2,500	3,000	3,500	4,000	4,500	5,000	6,000	7,500	10,000	15,000	20,000
1, Best	436.39	412.66	395.47	382.41	372.04	363.72	350.92	337.88	324.32	310.07	302.44
1 & 2	411.79	389.42	373.18	360.89	351.16	343.23	331.20	318.85	306.09	292.56	285.39
2, Very Good	388.75	367.53	352.25	340.56	331.37	323.90	312.55	300.94	288.84	276.09	269.37
2 & 3	348.15	329.26	315.50	305.12	296.82	290.20	280.04	269.60	258.72	247.38	241.31
3, Good	343.48	324.86	311.34	301.04	292.90	286.30	276.27	265.99	255.28	244.06	238.05
3 & 4	320.04	302.67	290.03	280.44	272.83	266.71	257.40	247.84	237.84	227.40	221.82
4, Average	301.04	284.69	272.81	263.87	256.71	251.01	242.17	233.12	223.73	213.85	208.69
4 & 5	275.70	260.79	249.92	241.64	235.12	229.81	221.76	213.49	204.89	195.89	191.11
5, Low	249.35	235.82	225.99	218.52	212.64	207.83	200.55	193.06	185.35	177.16	172.81

Second and Higher Stories – Square Foot Area

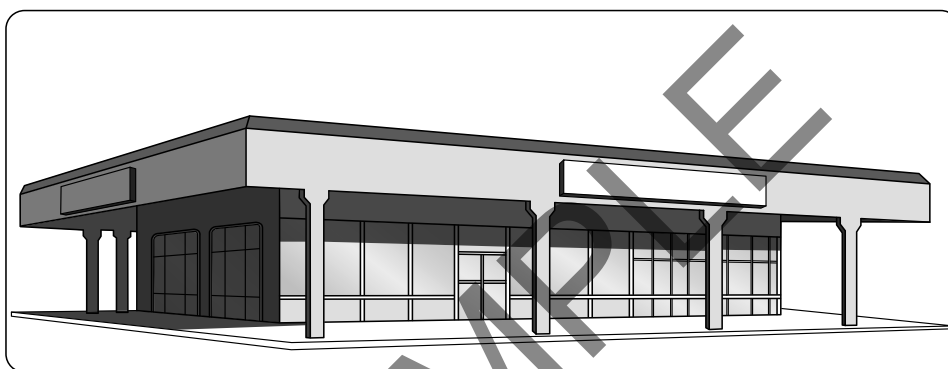
Quality Class	500	750	1,000	1,500	2,000	3,000	4,000	5,000	7,500	10,000	20,000
1, Best	300.99	273.13	256.49	236.82	225.00	211.10	202.78	197.15	188.27	182.98	173.04
1 & 2	280.65	255.60	240.71	223.16	212.68	200.28	192.90	187.89	180.06	175.52	166.66
2, Very Good	265.29	242.48	228.91	212.84	203.32	191.95	185.24	180.63	173.50	169.24	161.22
2 & 3	245.10	224.88	212.85	198.69	190.27	180.27	174.32	170.28	163.94	160.21	153.11
3, Good	227.99	210.30	199.79	187.34	179.90	171.06	165.85	162.34	156.72	153.39	147.14
3 & 4	210.09	194.36	185.06	174.12	167.59	159.84	155.23	152.16	147.34	144.44	138.97
4, Average	194.42	180.97	172.86	163.34	157.68	150.93	146.84	144.14	139.91	137.37	132.56
4 & 5	179.93	168.16	161.22	152.83	147.90	142.09	138.60	136.27	132.55	130.36	126.28
5, Low	168.59	156.51	149.71	142.09	137.72	132.81	129.95	128.05	125.12	123.44	120.35

Banks and Savings Offices – Wood Frame

Length Between 2 and 4 Times Width

Estimating Procedure

1. Establish the structure quality class by using the information on page 120.
2. Compute the building floor area. This should include everything within the building exterior walls and all insets outside the main walls but under the main building roof.
3. Add to or subtract from the square foot cost below the appropriate amount from the Wall Height Adjustment Table on page 124 if the wall height is more or less than 16 feet for the first floor or 12 feet for higher floors.
4. Multiply the adjusted square foot cost by the building area.
5. Deduct, if appropriate, for common walls, using the figures on page 124.
6. Multiply the total cost by the location factor listed on page 7 or 8.
7. Add the cost of heating and cooling equipment, fire sprinklers, exterior signs, elevators, and yard improvements from pages 236 to 248. Add the cost of mezzanines, bank fixtures, external windows, safe deposit boxes and vault doors from page 125.



Bank, Class 4

First Story – Square Foot Area

Quality Class	2,500	3,000	3,500	4,000	4,500	5,000	6,000	7,500	10,000	15,000	20,000
1, Best	447.64	424.53	407.41	394.16	383.57	374.83	361.31	346.96	331.63	314.82	305.41
1 & 2	422.52	400.80	384.60	372.10	362.02	353.85	341.06	327.59	313.11	297.22	288.20
2, Very Good	400.81	380.11	364.83	352.88	343.42	335.63	323.53	310.72	297.02	281.86	273.39
2 & 3	373.94	354.57	340.34	329.28	320.43	313.08	301.80	289.89	277.08	262.98	255.15
3, Good	352.63	334.47	320.99	310.54	302.17	295.30	284.61	273.39	261.33	248.02	240.59
3 & 4	327.18	310.23	297.72	288.09	280.29	273.95	264.04	253.56	242.43	230.08	223.21
4, Average	307.23	291.33	279.64	270.45	263.21	257.24	247.91	238.16	227.60	216.09	209.59
4 & 5	280.51	266.04	255.32	247.03	240.32	234.91	226.40	217.47	207.77	197.25	191.38
5, Low	253.39	240.28	230.56	223.06	217.09	212.16	204.51	196.38	187.71	178.17	172.81

Second and Higher Stories – Square Foot Area

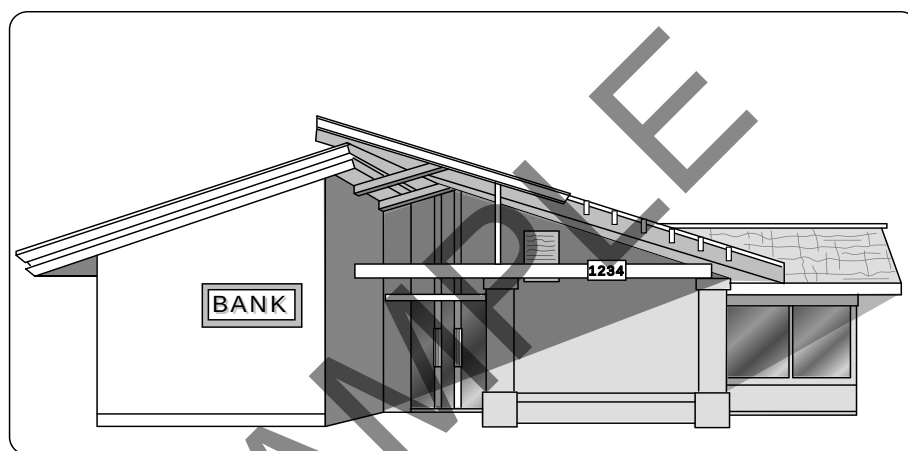
Quality Class	500	750	1,000	1,500	2,000	3,000	4,000	5,000	7,500	10,000	20,000
1, Best	304.03	278.38	263.15	245.08	234.24	221.46	213.91	208.70	200.69	195.86	186.72
1 & 2	287.97	263.66	249.20	232.08	221.89	209.82	202.59	197.68	190.08	185.46	176.90
2, Very Good	274.09	251.08	237.21	220.95	211.24	199.69	192.84	188.16	180.92	176.57	168.33
2 & 3	256.17	234.62	221.68	206.50	197.48	186.64	180.27	175.89	169.12	165.01	157.37
3, Good	241.66	221.30	209.17	194.80	186.28	176.09	170.00	165.86	159.52	155.69	148.42
3 & 4	224.71	205.72	194.45	181.19	173.24	163.77	158.09	154.27	148.29	144.72	137.99
4, Average	211.12	193.35	182.76	170.27	162.67	153.88	148.55	144.95	139.37	136.03	129.66
4 & 5	197.93	181.25	171.29	159.54	152.54	144.26	139.27	135.90	130.61	127.50	121.59
5, Low	184.45	168.89	159.64	148.69	142.16	134.42	129.79	126.61	121.77	118.81	113.32

Banks and Savings Offices – Wood Frame

Length More Than 4 Times Width

Estimating Procedure

1. Establish the structure quality class by using the information on page 120.
2. Compute the building floor area. This should include everything within the building exterior walls and all insets outside the main walls but under the main building roof.
3. Add to or subtract from the square foot cost below the appropriate amount from the Wall Height Adjustment Table on page 124 if the wall height is more or less than 16 feet for the first floor or 12 feet for higher floors.
4. Multiply the adjusted square foot cost by the building area.
5. Deduct, if appropriate, for common walls, using the figures on page 124.
6. Multiply the total cost by the location factor listed on page 7 or 8.
7. Add the cost of heating and cooling equipment, fire sprinklers, exterior signs, elevators, and yard improvements from pages 236 to 248. Add the cost of mezzanines, bank fixtures, external windows, safe deposit boxes and vault doors from page 125.



Bank, Class 4 & 5

First Story – Square Foot Area

Quality Class	2,500	3,000	3,500	4,000	4,500	5,000	6,000	7,500	10,000	15,000	20,000
1, Best	470.26	444.45	425.37	410.59	398.91	389.20	374.23	358.51	341.81	323.44	313.22
1 & 2	444.02	419.61	401.54	387.63	376.55	367.43	353.30	338.50	322.73	305.34	295.72
2, Very Good	420.86	397.79	380.67	367.43	356.92	348.33	334.88	320.86	305.87	289.40	280.27
2 & 3	393.51	371.83	355.94	343.56	333.69	325.67	313.09	300.00	286.01	270.63	262.14
3, Good	370.82	350.41	335.40	323.76	314.50	306.87	295.10	282.69	269.49	254.99	246.97
3 & 4	343.73	324.83	310.92	300.14	291.51	284.47	273.51	262.05	249.83	236.34	228.85
4, Average	321.02	303.39	290.38	280.27	272.25	265.64	255.45	244.74	233.32	220.78	213.81
4 & 5	292.01	275.97	264.12	254.97	247.66	241.65	232.37	222.64	212.22	200.88	194.45
5, Low	262.49	248.05	237.42	229.19	222.59	217.21	208.86	200.08	190.71	180.48	174.81

Second and Higher Stories – Square Foot Area

Quality Class	500	750	1,000	1,500	2,000	3,000	4,000	5,000	7,500	10,000	20,000
1, Best	349.30	312.39	290.39	264.34	248.87	230.53	219.63	212.17	200.61	193.70	180.64
1 & 2	325.74	292.30	272.43	248.88	234.91	218.31	208.43	201.68	191.18	185.00	173.24
2, Very Good	304.59	274.46	256.60	235.40	222.82	207.89	199.00	192.93	183.57	178.00	167.39
2 & 3	279.77	253.24	237.43	218.74	207.57	194.42	186.56	181.25	172.91	167.96	158.66
3, Good	258.41	235.11	221.27	204.88	195.07	183.52	176.61	171.85	164.58	160.22	151.99
3 & 4	236.73	216.22	203.97	189.55	181.03	170.80	164.75	160.58	154.20	150.39	143.17
4, Average	217.90	199.92	189.25	176.67	169.12	160.27	154.99	151.38	145.85	142.51	136.30
4 & 5	200.14	184.57	175.37	164.39	157.93	150.29	145.74	142.54	137.76	134.88	129.45
5, Low	182.29	169.16	161.33	152.09	146.59	140.16	136.33	133.68	129.62	127.19	122.63

Banks and Savings Offices – Wood Frame

Wall Adjustments

Wall Height Adjustment

Add or subtract the amount listed in this table to or from the square foot of floor cost for each foot of wall height more or less than 16 feet, if adjusting for first floor, and 12 feet if adjusting for upper floors.

Square Foot Area

Quality Class	500	750	1,000	1,500	2,000	2,500	3,000	3,500
1, Best	14.64	12.04	10.44	8.58	7.39	6.65	6.07	5.67
2, Very Good	13.19	10.85	9.43	7.70	6.70	6.04	5.49	5.12
3, Good	11.73	9.65	8.36	6.81	5.91	5.27	4.94	4.48
4, Average	7.96	6.56	5.73	4.71	4.06	3.65	3.37	3.03
5, Low	5.26	4.27	3.79	3.07	2.74	2.38	2.18	2.01

Square Foot Area

Quality Class	4,000	4,500	5,000	6,000	7,500	10,000	15,000	20,000
1, Best	5.52	5.10	4.77	4.24	3.80	3.23	2.77	2.44
2, Very Good	4.98	4.58	4.27	3.82	3.37	2.92	2.39	2.18
3, Good	4.35	4.04	3.78	3.41	2.96	2.57	2.18	1.93
4, Average	2.97	2.81	2.64	2.34	2.04	1.77	1.54	1.37
5, Low	2.01	1.88	1.80	1.59	1.37	1.17	0.99	0.85

Perimeter (Common) Wall Adjustment

First Story

Class	For a Common Wall, Deduct Per L.F.	For No Wall Ownership, Deduct Per L.F.	For Lack of Exterior Finish, Deduct Per L.F.
1	\$705	\$1,363	\$672
2	597	1,160	580
3	479	981	389
4	352	698	281
5	162	305	98

Second and Higher Stories

Class	For a Common Wall, Deduct Per L.F.	For No Wall Ownership, Deduct Per L.F.	For Lack of Exterior Finish, Deduct Per L.F.
1	\$420	\$863	\$381
2	357	698	282
3	297	580	185
4	185	368	129
5	129	261	66

Note: First floor costs include the cost of overhang as described on page 120. Second floor costs do not include any allowance for overhang.

Additional Structure Costs

Walk-In Boxes, cost per S.F. of floor area

Temperature Range	50	100	200	300	400	500	600
Over 45°	175	119	92	78	75	68	67
25.50° to 45°	195	139	109	93	83	78	75
0° to 25°	232	172	125	109	93	86	82
-25.50° to 0°	253	206	165	138	119	111	102

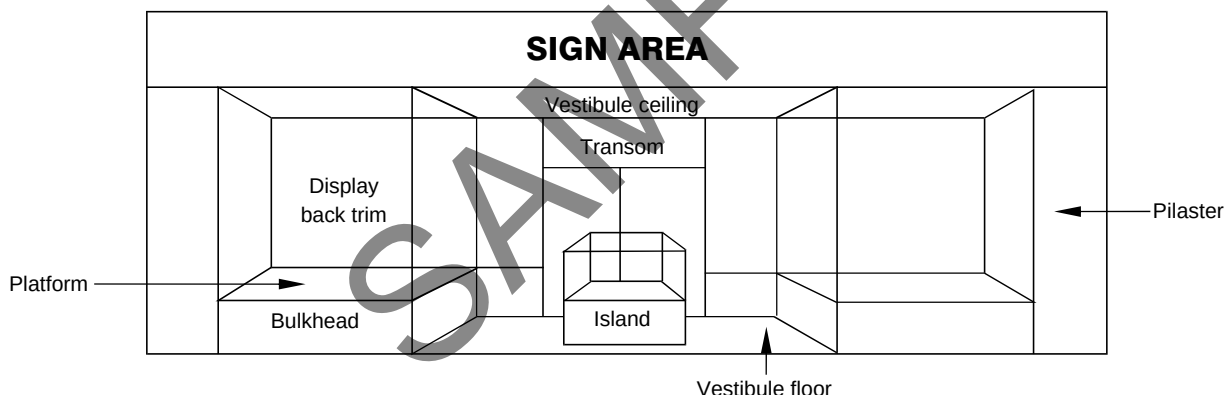
Cost Includes:

Painted wood exterior facing, insulation as required for temperature, interior plaster, one 4 x 7 door per 300 S.F. of floor area. Costs are based upon 8' exterior wall height. Costs do not include machinery and wiring. Figure refrigeration machinery at \$2,000.00 per ton capacity.

Material Handling Systems

Belt type conveyors, 24" wide.	
Horizontal sections, per linear foot	\$226
Elevating, descending sections, per flight	377
Mail conveyors, automatic, electronic.	
Horizontal, per linear foot	1,793
Vertical, per 12' floor	23,200
Mail chutes, cost per floor, 5' x 14", aluminum	1,130
Linen chutes, 18 gauge steel, 30" diameter, per 10' floor	1,860
Disinfecting and sanitizing unit, each	765

Display Fronts

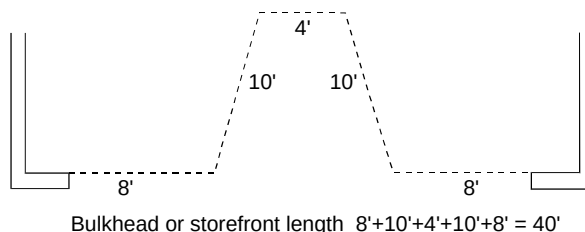


Display front costs may be estimated by calculating the in-place cost of each component or by estimating a cost per linear foot of bulkhead and multiplying by the bulkhead length. This section contains data for both methods. For most fronts, the cost per linear foot method is best suited for rapid preliminary estimates.

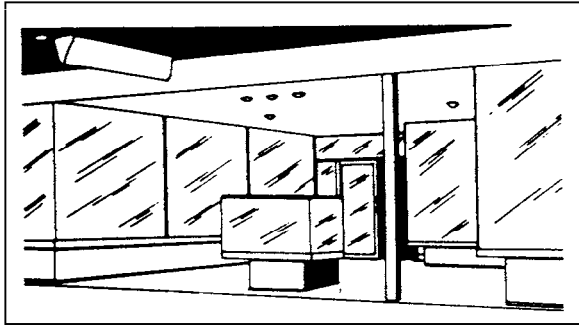
Bulkhead length is the distance from the inside of the pilaster and following along the bulkhead or glass to the inside of the opposite pilaster. This measurement includes the distance across entryways.

The cost per linear foot of bulkhead is estimated using the storefront specifications and costs in this section. This manual suggests linear foot costs for four quality types: low cost, average, good, and very good. Costs are related for each quality type in terms of flat or recessed type fronts.

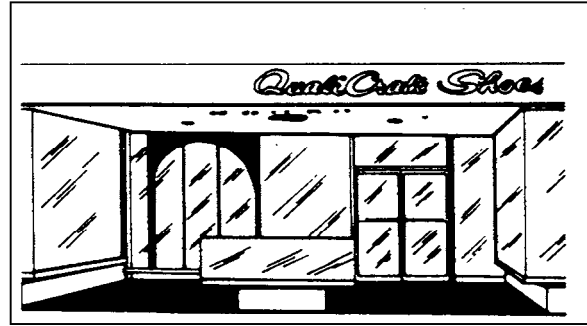
Recessed type fronts include all components described in the specifications. Flat front costs do not include the following components: vestibule floor, vestibule and display area ceiling framing, back trim, display platform, lighting. The cost of automatic door openers is not included in front costs.



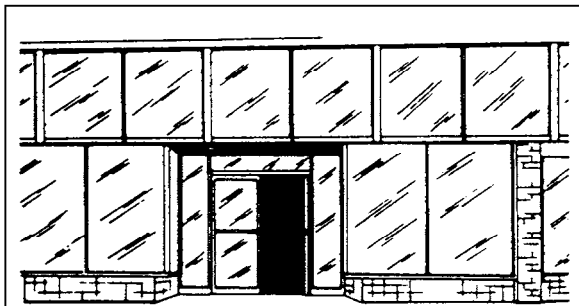
Display Fronts



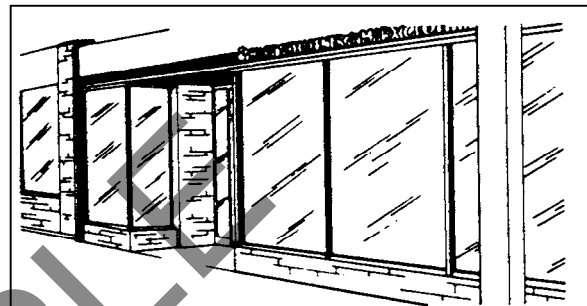
Display Front, Best



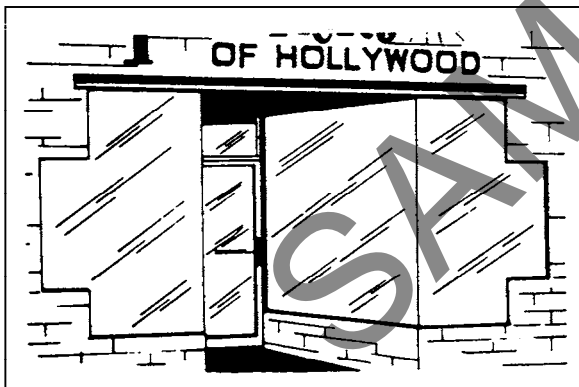
Display Front, Best



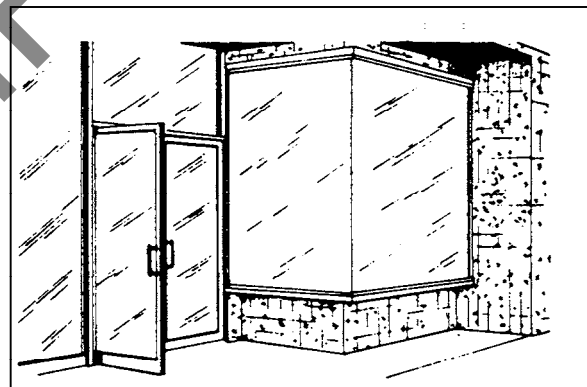
Display Front, Good



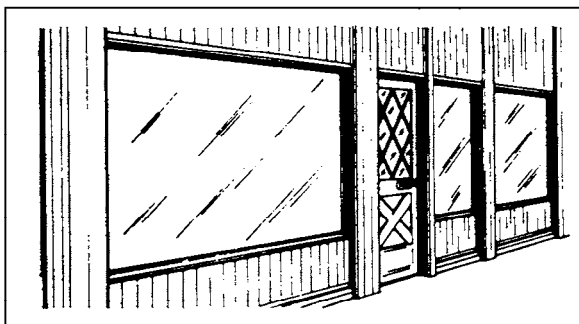
Display Front, Good



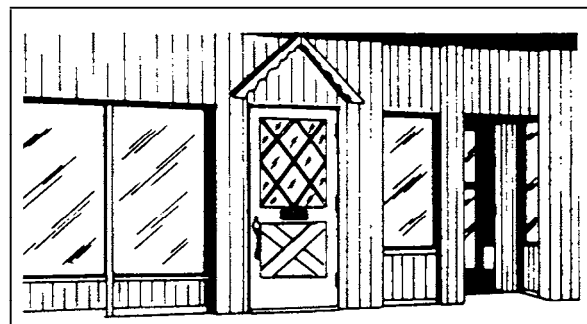
Display Front, Average



Display Front, Average



Display Front, Low Cost



Display Front, Low Cost

Display Fronts

All front costs are based upon a height of 10 feet from the floor level to the top of the display window. Variations from this standard should be adjusted by using the display window height adjustment costs shown with the front foot costs. These amounts are added or deducted for each foot of variation from the standard.

Bulkhead height variations will not require adjustment. Cost differentials, due to variations in bulkhead height, will be compensated for by equal variations in display window height if overall heights are equal.

Sign areas are based upon 4 foot heights. Cost adjustments are given for flat type and for recessed type fronts. A cost range is given for recessed type fronts because deeply recessed fronts will have lower linear foot costs for sign area components than will moderately recessed fronts because this cost is spread over a longer distance when recesses are deep.

Display island costs are estimated by applying 60 to 80 percent of the applicable linear foot cost to the island bulkhead length. Window height adjustments should be made, but sign height adjustments will not be necessary.

Components	Best	Good	Average	Low Cost
Bulkhead (0 to 4' high) (10% of total cost)	Vitrolite domestic marble or stainless steel.	Black Carrera flagstone, terrazzo or good ceramic tile.	Average ceramic tile, Roman brick or imitation flagstone.	Stucco, wood or common brick.
Window Area (30% of total cost)	Bronze or stainless steel. 1/4" float glass with mitered joints.	Heavy aluminum. 1/4" float glass, some mitered joints.	Aluminum. 1/4" float glass.	Light aluminum with wood stops. Crystal or 1/4" float glass.
Sign Area (4' high) (10% of total cost)	Vitrolite, domestic marble or stainless steel.	Black Carrera flagstone, terrazzo or good ceramic tile.	Average ceramic tile, Roman brick or imitation flagstone.	Stucco.
Pilasters (5% of total cost)	Vitrolite, domestic marble.	Black Carrera flagstone, terrazzo or good ceramic tile.	Average ceramic tile, Roman brick or imitation flagstone.	Stucco.
Vestibule Floor* (5% of total cost)	Decorative terrazzo.	Decorative terrazzo.	Plain terrazzo.	Concrete.
Vestibule and Display Area Ceilings* (10% of total cost)	Stucco or gypsum wallboard and texture.	Stucco or gypsum wallboard and texture.	Stucco or gypsum wallboard and texture.	Gypsum wallboard and texture.
Back Trim* (5% of total cost)	Hardwood veneer on average frame.	Gypsum wallboard and texture or light frame.	None.	None.
Display Platform Cover* (10% of total cost)	Excellent carpet.	Good carpet.	Average carpet.	Plywood with tile.
Lighting* (10% of total cost)	1 recessed spot per linear foot of bulkhead.	1 recessed spot per linear foot of bulkhead.	1 exposed spot per 2 linear feet of bulkhead.	1 exposed spot per 4 linear feet of bulkhead.
Doors (5% of total cost)	3/4" glass double doors.	Good aluminum and glass double door or single 3/4" glass door.	Average aluminum and glass double door.	Wood and glass.
Note: Use the percent of total cost to help identify the correct quality classification.				
Costs, Flat Fronts	\$1,142/linear foot.	\$766/linear foot.	\$492/linear foot.	\$430/linear foot.
Costs, Recessed Fronts	\$1,213/linear foot.	\$1,033/linear foot.	\$586/linear foot.	\$476/linear foot.
Display Window <i>Adjustment per Foot of Height</i>	\$52.30/linear foot.	\$48.60/linear foot.	\$46.20/linear foot.	\$45.20/linear foot.
Flat Front, Sign Area <i>Adjustment per Foot of Height</i>	\$51.90/linear foot.	\$32.70/linear foot.	\$12.99/linear foot.	\$4.32/linear foot.
Recessed Front, Sign Area <i>Adjustment per Foot of Height</i>	\$18.30 to \$24.35/linear foot.	\$11.20 to \$14.28/linear foot.	\$4.88 to 6.98/linear foot.	\$2.59 to \$2.87/linear foot.

*Not included in flat front costs.

Display Fronts

Lighting, cost per fixture

Open incandescent	\$60.14 to \$86.92
Recessed incandescent	86.72 to 174.93
Fluorescent exposed, 4' single	188.29 to 278.49
Fluorescent recessed, 4' single	200.59 to 356.80

Bulkhead Walls, cost per S.F. of wall

Up to 5' high, nominal 6" thick	
Concrete	\$16.48 to \$24.44
Concrete block	11.51 to 17.10
Wood frame	7.10 to 12.56

Ceiling, cost per S.F. of floor

Dropped ceiling framing	\$2.39 to \$3.35
Acoustical tile on wood strips	3.71 to 4.61
Acoustical plaster including lath	3.43 to 5.02
Gypsum board, texture and paint	2.67 to 3.94
Plaster and paint including lath	3.82 to 5.25

Entrances, cost per entrance

Aluminum and 1/4" float glass	
Single door, 3' x 7'	\$1,785 to \$2,950
Double door, 6' x 7'	3,160 to 4,360
Stainless steel and 1/4" float glass	
Single door, 3' x 7'	3,520 to 5,530
Double door, 6' x 7'	4,850 to 7,916
3/4" tempered glass	
Single door, 3' x 7'	3,690 to 5,290
Double door, 6' x 7'	6,180 to 7,800

Includes door, glass, lock handles, hinges, sill and frame.

Exterior Wall Finish, cost per S.F. of wall

Aluminum sheet baked enamel finish	\$4.85 to \$7.85
Brick veneer	
Common brick	\$9.56 to \$12.48
Roman	12.39 to 18.21
Norman	12.39 to 18.21
Glazed	15.09 to 22.68
Carrera glass	
Black	23.92 to 36.93
Red	25.70 to 39.01
Flagstone veneer	
Imitation	16.33 to 20.91
Natural	25.18 to 40.05
Marble	
Plain colors	36.97 to 48.82
With color variations	67.36 to 79.40
Stucco	3.74 to 4.88
Terrazzo	24.56 to 33.71
Tile, ceramic	15.50 to 22.68

Display Platforms,

cost per S.F. of platform area

Framing up to 5' high	\$7.43 to \$11.53
Hardwood cover	4.48 to 7.31
Plywood cover	2.99 to 4.12

Glass and Window Frames,

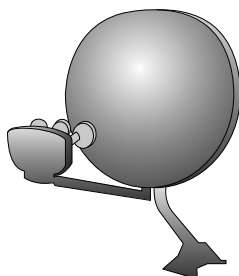
per S.F. of glass

Glass only installed	
1/4" float	\$9.12 to \$12.66
1/4" float, tempered	12.00 to 16.12
1/4" float, colored	9.38 to 16.12
Store front, 1/4" glass in aluminum frame	
Anodized, 8' high	30.24 to 41.37
Anodized, 6' high	36.44 to 48.41
Anodized, 3' high	44.99 to 56.85
Satin bronze, 6' high	42.32 to 55.46
Satin bronze, 3' high	51.66 to 64.68

Satellite Receiver Systems

Satellite receiver systems are common in mountain and rural areas, where TV reception is limited. They are also often installed in residential or commercial areas, for homes, motels or hotels, restaurants and businesses. Installed cost for an all-automatic, motorized system, including wiring to one interior outlet.

Exterior disk plus electronics	\$190 to \$500
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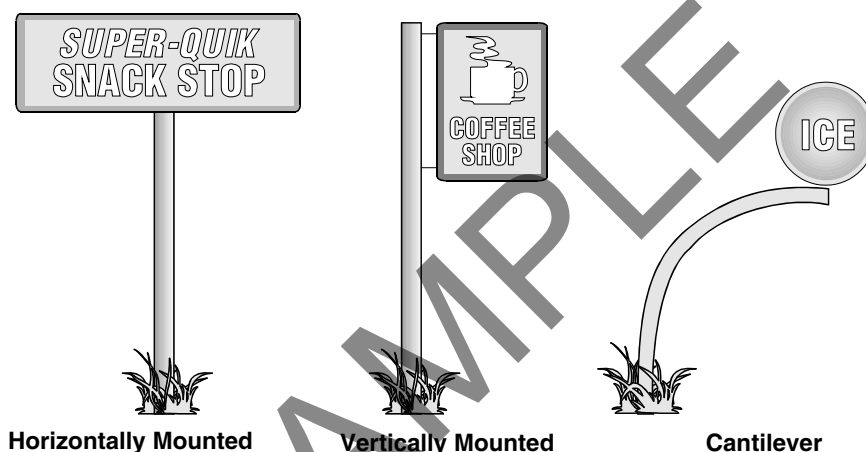
Signs

Lighted Display Signs, Cost per S.F. of sign area

Painted sheet metal with floodlights	\$93.00 to \$119.50
Porcelain enamel with floodlights	99.10 to 134.80
Plastic with interior lights	112.30 to 175.00
Simple rectangular neon with painted sheet metal faces and a moderate amount of plain letters	118.60 to 214.00
Round or irregular neon with porcelain enamel faces and more elaborate lettering	175.00 to 256.00
Channel letters - individual neon illuminated metal letters with translucent plastic faces, (per upright inch, per letter)	14.90 to 22.40

All of the above sign costs are for double-faced signs. Use 2/3 of those costs for single-faced signs. Sign costs include costs of installation and normal electrical hookup. They do not include the cost of a post. If signs are mounted on separate posts, post mounting costs must be added. These costs are for custom-built signs (one-at-a-time orders). Mass-produced signs will have lower costs.

Post Mounting Costs for Signs



Post Mounting Costs

Post Height	Pole Diameter at Base					
	4"	6"	8"	10"	12"	14"
15	\$1,304	\$1,550	\$2,284	\$3,078	\$4,790	\$4,790
20	1,546	1,844	2,640	3,192	5,699	6,410
25	1,772	2,084	2,735	3,798	6,340	7,001
30	1,930	2,480	2,837	4,146	6,698	7,750
35	—	2,697	3,192	4,625	7,578	8,276
40	—	2,863	3,898	4,891	7,882	9,284
45	—	—	4,565	5,570	8,603	9,610
50	—	—	4,891	6,350	9,156	10,530
55	—	—	—	6,699	9,605	11,465
60	—	—	—	7,088	10,310	11,990
65	—	—	—	—	12,050	12,743

If signs are mounted on separate posts, post mounting costs must be added. Post mounting costs include the installed cost of the post and foundation. On horizontally mounted signs, post height is the distance from the ground to the bottom of the sign. On vertically mounted signs, post height is the distance to the top of the post. For cantilevered posts, use one and one-half to two times the conventional post cost.

All of the above post costs are for single posts. Use 90% of the single post costs for each additional post.

Signs

If signs are mounted on buildings or canopies and if, because of the extra weight of the sign, extra heavy support posts or foundations are required, 125% of the post mounting cost should be used.

Sample calculations:

For example, the cost of a 4' x 25' plastic sign mounted on a 15' by 6" post shared by an adjacent canopy might be estimated as follows:

Sign cost 100 S.F. at \$100.00	\$10,000
Post cost \$1,550 x 1/2	775
Total cost	\$10,775

If this sign were mounted on a 8" post 20' high above the canopy with extra supports not needed, the cost might be estimated as follows:

Sign cost	\$10,000
Post cost \$2,640 x 1	2,640
Total cost	\$12,640

Rotators, cost per sign for rotating mount

Small signs	Less than 50 S.F.	\$2,707 to \$2,919
Medium signs	50 to 100 S.F.	2,858 to 5,797
Large signs	100 to 200 S.F.	5,717 to 10,504
Extra large signs	Over 200 S.F.	\$59.50 per S.F. of sign area

Yard Improvements

Bumpers, pre-cast concrete or good quality painted wood.

Typical 4-foot lengths \$11.50 to \$17.00 per linear foot.

Asphaltic Concrete Paving, cost per square foot

	Under 1,000	1,000 to 2,000	2,000 to 5,000	5,000 to 12,000	12,000 or more
2", no base	\$3.92	\$1.93	\$1.66	\$1.45	\$1.31
3", no base	4.31	2.46	2.03	1.85	1.72
4", no base	4.73	3.01	2.57	2.46	2.01
2", 4" base	6.66	3.76	3.10	2.88	2.55
3", 6" base	7.29	4.40	3.76	3.50	3.18

Concrete Paving,

small quantities, per S.F.

4" concrete (without wire mesh) no base	\$3.60
4" concrete (without wire mesh) 4" base	4.10
5" concrete (with wire mesh) no base	4.57
6" concrete (with wire mesh) no base	5.00
Add for color	.51

Gates, coin or card operated

Single gate, 10' arm	\$4,100 to \$6,830
Lane spikes, 6' wide	1,646 to 2,060

Striping

Parking spaces	
Single line between spaces	\$ 7.91 per space
Double line between spaces	12.30 per space
Pavement line marking, 4"	.44 per LF

Curbs, per linear foot

Asphalt 6" high berm	\$7.34 to \$8.83
Concrete 6" wide x 12" high	11.77 to 15.00
Concrete 6" wide x 18" high	14.60 to 18.36
Wood bumper rail 6" x 6"	12.70 to 14.55

Yard Improvements

Lighting

Fluorescent arm-type fixtures

	One arm unit, pole height			Two arm unit, pole height			Add for 3-fixture unit
	12 ft.	16 ft.	30 ft.	12 ft.	16 ft.	30 ft.	
2 tube, 60"	\$1,773	\$1,927	—	\$2,249	\$2,270	—	\$897
4 tube, 48"	1,804	2,131	—	2,328	2,706	—	1,049
4 tube, 72"	2,050	2,270	2,609	2,534	2,731	3,133	1,206
6 tube, 72"	2,270	2,458	2,809	2,796	2,961	3,603	1,416
4 tube, 96"	2,363	2,545	2,950	2,908	3,133	3,595	1,415
6 tube, 96"	2,447	2,704	3,156	2,963	3,455	3,967	1,513

Mercury vapor

	1-fixture unit, pole height			2-fixture unit, pole height			4-fixture unit, pole height		
	12 ft.	16 ft.	30 ft.	12 ft.	16 ft.	30 ft.	12 ft.	16 ft.	30 ft.
400 watt	\$3,564	\$3,706	\$4,996	\$5,015	\$5,375	\$6,626	\$9,007	\$9,924	\$11,268
1,000 watt	—	4,660	5,206	—	6,287	7,921	—	—	13,020

Incandescent scoop reflector

	1-fixture unit, pole height			2-fixture unit, pole height			Add for 3-fixture unit
	12 ft.	16 ft.	30 ft.	12 ft.	16 ft.	30 ft.	
500 watt	\$1,052	\$1,237	\$1,584	\$1,390	\$1,477	\$1,917	\$371
1,000 watt	1312	1475	1907	1765	1840	2267	457

Mall and garden lighting

	1-fixture unit, pole height		
	3 ft.*	5 - 7 ft.	10 ft.
Incandescent 60-200 watt	\$903	\$1,324	\$1,390
Mercury vapor 100-250 watt	1,040	1,710	3,590

*Area lights usually found in service stations.

Chain Link Fences, 9 gauge 2" mesh with top rail line posts 10' on center, per linear foot.

Height	Under 150 LF	150 to 1,000 LF	1,000 to 2,000 LF	Over 2,000 LF	3 strands barbed wire	Add for line posts 8' or less o.c.	Deduct For: No top rail	#11 gauge wire
4'	\$18.91	\$15.73	\$14.68	\$14.20	\$1.56	\$2.18	\$3.30	\$1.79
5'	19.95	16.57	15.48	14.98	1.56	2.48	3.30	1.96
6'	20.89	17.24	16.47	15.69	1.56	2.59	3.30	1.98
8'	22.72	18.93	17.93	16.96	1.56	2.79	3.30	2.18
10'	26.23	21.69	20.21	19.73	1.56	2.98	3.30	2.50
12'	29.93	25.19	23.86	22.66	1.56	3.30	3.30	2.87

Add for gates, per square foot of frame area \$6.90 to \$8.93

Add for gate hardware per walkway gate \$32.40 to \$40.61
per driveway gate \$63.08 to \$77.62

Drainage, per linear foot, runs to 50'

6" non-reinforced concrete pipe	\$8.19 to \$9.49
8" non-reinforced concrete pipe	11.08 to 13.09
10" non-reinforced concrete pipe	11.11 to 22.91
12" non-reinforced concrete pipe	15.10 to 28.16

The cost varies with the depth of the pipe in the ground.

Drainage Items

Size and Type	Cost
Catch basin 4' x 4' x 4' deep	\$2,585 ea.
For each additional foot in depth, add	138 ea.
Drop inlets	609 to 1,050 ea.
Manholes 4' diameter x 6' deep	1,884 ea.
For each additional foot in depth, add	174 per ft.

Wood Fences, per linear foot

4' high Redwood board	\$18.30
6' high Redwood board	23.30
4' basketweave	23.90
6' basketweave	25.00
4' board and batt	13.00
6' board and batt	16.70
3' split rail	6.85
4' split rail	8.20
3' two rail Redwood picket	10.60
5' three rail Redwood picket	12.90
Typical 3' wide gate, 4' to 6' high	123.00

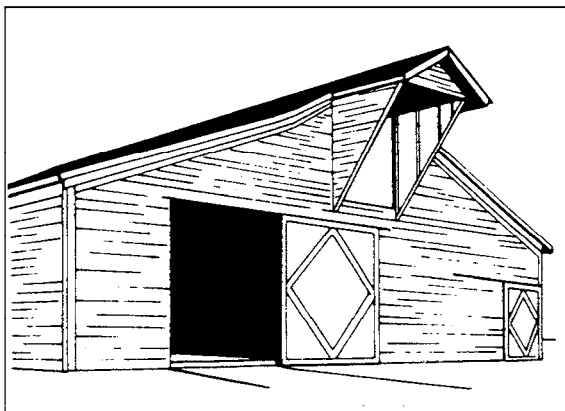
Agricultural Structures Section

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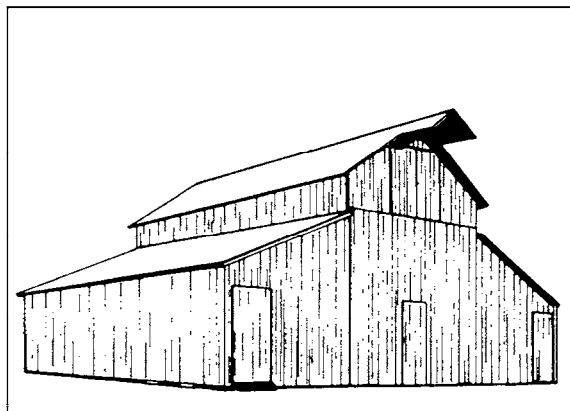
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General Purpose Barns

Quality Classification



General Purpose Barn, Class 1



General Purpose Barn, Class 3

Component	Class 1 Good Quality	Class 2 Average Quality	Class 3 Low Quality
Foundation (20% of total cost)	Continuous concrete.	Concrete or masonry piers.	Redwood or cedar mudsills.
Floor (5% of total cost)	Concrete.	Dirt, leveled & compacted.	Dirt, leveled & compacted.
Wall Structure (25% of total cost)	Good wood frame, 10' eave height.	Average wood frame, 10' eave height.	Light wood frame, 10' eave height.
Exterior Wall Cover (25% of total cost)	Good wood siding, painted.	Standard gauge corrugated iron, aluminum or average wood siding.	Light aluminum or low cost boards.
Roof Construction (9% of total cost)	Medium to high pitch, good wood trusses.	Medium to high pitch, average wood trusses.	Medium to high pitch, 2" x 4" rafters 24" to 36" o.c. or light wood trusses.
Roof Cover (5% of total cost)	Wood shingles.	Standard gauge corrugated iron or aluminum.	Light aluminum.
Electrical (8% of total cost)	Four outlets per 1,000 S.F.	Two outlets per 1,000 S.F.	None.
Plumbing (3% of total cost)	Two cold water outlets.	One cold water outlet.	None.

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

Square Foot Area

Quality Class	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000	11,000
1, Good	44.14	40.66	37.65	36.14	34.67	33.13	32.06	31.34	30.72	30.12	29.59
2, Average	32.75	29.55	27.38	26.30	25.26	24.37	23.65	23.23	22.83	22.46	22.09
3, Low	21.35	18.45	17.13	16.40	15.91	15.58	15.27	15.08	14.87	14.75	14.58

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